DESCRIPTION

The Journal of Sound and Vibration (JSV) is an independent journal devoted to the prompt publication of original papers, both theoretical and experimental, that provide new information on any aspect of sound or vibration. There is an emphasis on fundamental work that has potential for practical application.

JSV was founded and operates on the premise that the subject of sound and vibration requires a journal that publishes papers of a high technical standard across the various subdisciplines, thus facilitating awareness of techniques and discoveries in one area that may be applicable in others. For more detail on subject categories represented in JSV, visit JSV categories.

Benefits to authors
We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our author services.

Please see our Guide for Authors for information on article submission. If you require any further information or help, please visit our Support Center

IMPACT FACTOR

2017: 2.618 © Clarivate Analytics Journal Citation Reports 2018
ABSTRACTING AND INDEXING

Cambridge Scientific Abstracts
Current Contents/Engineering, Computing & Technology
EBSCOhost
Engineering Index Monthly
EI Compendex
Fuel and Energy Abstracts
Gale Academic OneFile
Gale Infotrac Custom
INSPEC
Mathematical Reviews
Mechanical Engineering Abstracts
PubMed
Science Citation Index Expanded
Scopus
TEMA - Technik und Management
Web of Science
Zentralblatt MATH
Science Citation Index
AMS Mathematical Reviews
AMS MathsSciNet
Applied Mechanics Reviews

EDITORIAL BOARD

Contact the Journal
M Howls

Editor-in-Chief
A.V. Metrikine, Fac. of Civil Engineering and GeoSciences (CITG), Delft University of Technology, Stevinweg 1, 2628 CN, Delft, Netherlands

Deputy Editors-in-Chief
L. Cheng, The Hong Kong Polytechnic University, Hong Kong
H. Ouyang, University of Liverpool, Liverpool, England, UK

Subject Editors
R.J. Astley, Inst. of Sound & Vibration Research, University of Southampton, University Road, SO17 1BJ, Southampton, UK
E. Carrera, Dipart. di Ingegneria Aeronautica e Spaziale, Politecnico di Torino, corso Duca Degli Abruzzi 24, 10129, Torino, Italy
E. Chatzi, Institute of Structural Engineering, Department of Civil, Environmental and Geomatic Engineering (D-BAUG), ETH Zürich, HIL E 14.3, Stefano-Flanscini-Platz 5, CH-8093, Zürich, Switzerland
J. Cheer, Inst. of Sound & Vibration Research, University of Southampton, University Road, SO17 1BJ, Southampton, UK
G Degrande, Dept. of Civil Engineering, KU Leuven, Kasteelpark Arenberg 40, B-3001, Leuven, Belgium
S. Felix, Le Mans University, Laboratory of Acoustics, UMR CNRS 6229, Le Mans, France
O. Gottlieb, Nonlinear and Chaotic Dynamical Systems Group, Technion - Israel Institute of Technology, 32000, Haifa, Israel
O. Guasch, Department of Engineering, La Salle Research & Development, Ramon Llull University, Sant Joan La Salle Street, 08022, Barcelona, Spain
L. Huang, Department of Mechanical Engineering, The University of Hong Kong, 7/F, Haking Wong Building, Pokfulam Road, Hong Kong, China
S. Ilanko, School of Engineering, Fac. of Science & Engineering, University of Waikato, Gate 1 Knighton Road, Private Bag 3105, 3240, Hamilton, New Zealand
P. Joseph, Inst. of Sound & Vibration Research, University of Southampton, University Road, SO17 1BJ, Southampton, UK
D. Juvé, Centre Acoustique, LMFA, UMR CNRS 5509, Ecole Centrale de Lyon, 36 Avenue Guy de Collongue, 69134 Cedex, Ecully, France
M.K. Kalkowski, Imperial College London, London, England, UK
I. Kovacic, Faculty of Technical Sciences, University of Novi Sad, 21125, Novi Sad, Serbia
J. Lam, Department of Mechanical Engineering, The University of Hong Kong, 7/F, Haking Wong Building, Pokfulam Road, Hong Kong, China
I. Lopez Arteaga, Dept. of Mechanical Engineering, Technische Universiteit Eindhoven, PO Box 513, 5600 MB, Eindhoven, Netherlands
J. Macdonald, Dept. of Civil Engineering, University of Bristol, Queens Building University Walk, BS8 1TR, Bristol, England, UK
R.E. Musafir, Dept. of Mechanical Engineering and Dept. of Water Resources and Environmental Engineering, Federal University of Rio de Janeiro, 21941-914, Rio de Janeiro, Brazil
E. Pavlovskaia, School of Engineering, Centre of Applied Dynamic Research, University of Aberdeen, Kings College, AB24 3UE, Aberdeen, Scotland, UK
K. Shin, School of Mechanical Engineering, Andong National University, 388 Songcheon-Dong, 760-749, Andong, Kyungbuk, The Republic of Korea
D.J. Thompson, Inst. of Sound & Vibration Research, University of Southampton, University Road, SO17 1BJ, Southampton, UK
P. Tiso, Institute for Mechanical Systems, ETH Zürich, Leonhardstrasse 21, , 8092, Zurich, Switzerland
I. Trendafilova, Dept. of Mechanical Engineering, University of Strathclyde, James Weir Building 75 Montrose Street, G1 1XJ, Glasgow, UK
A. Tsouvalas, Faculty of Civil Engineering and Geosciences (CITG), Delft University of Technology, Stevinweg 1, 2628 CN, Delft, Netherlands
K. Worden, Dept. of Mechanical Engineering, University of Sheffield, Sir Frederick Mappin Building, Mappin Street, S1 3JD, Sheffield, UK
W. Zhu, Department of Mechanical Engineering, University of Maryland, 1000 Hilltop Circle, Baltimore, Maryland, 21250, USA

Assistant Editors
O. Ganilova, University of Strathclyde, Glasgow, Scotland, UK
E. Ntotsios, University of Southampton, Southampton, UK
L.J. Prendergast, University of Nottingham, U.K
P. Sureshkumar, Imperial College London, London, UK

Book Review Editors
J.M. Muggleton, Inst. of Sound & Vibration Research, University of Southampton, University Road, SO17 1BJ, Southampton, UK

Founder
E.J. Richards

Founding Editor
P.E. Doak

Editors Emeritus
C.L. Morfey
M. Petyt
W. Soedel
M.P. Cartmell

Editorial Advisory Board
S. Adhikari, Aerospace Engineering, College of Engineering, Swansea University, Bay Campus, Fabian Way, Crymlyn Burrows, SA1 8EN, Wales, Wales, UK
M. Amabili, Dept. of Mechanical Engineering, McGill University, 817 Sherbrooke Street. West, Montreal, H3A 0C3, Quebec, Canada
F.T.K. Au, Dept. of Civil Engineering, The University of Hong Kong, Pokfulam Road, Hong Kong
J. Awrejcewicz, Department of Automation, Biomechanics and Mechatronics, Lodz University of Technology, 1/15 Stefanowski St, 90-924, Lodz, Poland
J.R. Banerjee, School of Mathematics, Computer Science and Engineering, City, University of London, Northampton Square, EC1V 0HB, London, England, UK
H. Bodén, Sweden
J. Brownjohn, College of Engineering, Mathematics and Physical Sciences, Dept. of Computer Science, University of Exeter, North Park Road, EX4 4QF, Exeter, England, UK
F. Chu, Department of Mechanical Engineering, Tsinghua University, Qinghuayuan, 100084, Beijing, China
P. Culpai, Fac. of Mechanical Engineering and Robotics, AGH University of Science & Technology, Al. Mickiewicza 30, 30-059, Krakow, Poland
W. Desmet, Department of Mechanical Engineering, Katholieke Universiteit Leuven, Celestijnenlaan 300B, B-3001, Belgium
E. Dokumaci, Dokuz Eylül University, 35100, Bornova, Turkey
R.G. Dong, Health Effects Lab. Div., Engineering and Control Technology Branch, National Institute for Occupational Safety and Health (NIOSH), 1095 Willowdale Road, Morgantown, West Virginia, WV 26505, USA
GUIDE FOR AUTHORS

Types of contribution

Original full length articles, review articles, rapid communications, discussions of previously published articles in JSV and commentaries in response to discussions, book reviews and Virtual Special Issue papers. Authors are advised that papers whose contribution is not concerned with fundamental issues in sound and vibration are not normally accepted; such material should be directed to more appropriate publications.

Papers published in JSV should contain new results, of potentially wider application than the specific situation reported; otherwise they should contain new insights of value to the acoustics and vibration community (for example by synthesizing material from traditionally separate fields), or provide authoritative reviews of progress in a defined area. Each paper submitted for publication is normally subject to review and criticism by two independent, anonymous referees, and authors are provided with copies of these reviews so that they can make revisions and improvements to their manuscripts before publication. For more information about how the peer review process is conducted for this journal, please take a look at the 'Peer review policy statement' here The normal time limit for the submission of an author's revised manuscript is three months; revised manuscripts received after this time may be considered as new submissions and subject to full re-review.

Authors should aim to produce a manuscript that can be reviewed on its own, without assuming that earlier or later parts will be published. The Editors strongly encourage authors considering the submission of multiple papers (eg: Part I, Part II, etc.) to instead combine them into one paper - in such cases this is a common recommendation of the reviewer(s). Alternatively, authors may choose to submit the respective parts sequentially, once the outcome of the review of the earlier manuscript is known. Authors in any doubt should contact the editor to whom the submission will be made.

Discussion Comments, of either a specific or a general nature, on work previously published in JSV should be submitted as Discussion items. A discussion should contain a maximum of 10 journal pages, including any figures. Discussion items do not require an abstract. Should the Discussion item be accepted, JSV policy is that the authors of the original article will be offered the opportunity to submit a response to the Discussion in the form of a Commentary. The timescale for authors to submit a response, to ensure publication within the same issue, is approximately 4-6 weeks.

Review Articles The Editors wish to encourage publication of scholarly review articles in the Journal. Review articles are typically 20-40 journal pages in length (about 20,000 words), and may focus on any area of sound or vibration likely to interest JSV readers. They may be relatively broad in scope - thereby serving a tutorial function - or quite specialized, aimed at researchers in the chosen field. Before submitting a review article please contact the Editor-in-Chief with an outline of the proposed manuscript. (jsv@isvr.soton.ac.uk). The proposal should include: List of authors, with credentials that show their standing in the field; A summary of the paper (max A4); Contents of the paper

If the Editor-in-Chief approves an outline please ensure that you make a note of this in the cover letter and/or submission details when you submit your manuscript.

Rapid Communications in the JSV are short papers addressing fundamentally new ideas, novel experimental observations or formulation of new challenging problems. Fast turn-around times are one of the key benefits of Rapid Communications providing a competitive advantage to authors.

Purpose: Rapid Communications are publications, up to four pages in size, and reporting a result likely of impact on the future research in the respective field. Authors are encouraged to submit an extended version of the paper at a later stage.

Scope: Different from full research papers, it does not need to cover either detailed background information or a comprehensive evaluation. Instead, the focus is on quick publication of preliminary results and thoughts that are related to: Fundamentally new ideas, not yet fully proven Novel and Intriguing experimental observations Formulation of new problems of fundamental importance to the field of sound and vibration and/or its application in the emerging industries
Acceptance: The work reported needs to be novel and advancing the state of the art. Papers will be handled by the EiC or one of the Deputy EiCs, who will base their decision on one review.

Format: Short Communications are limited to 2500 words (approx. 4 pages, a figure counts as 200 words) and should have no more than 10 references.

Review Guidelines: Review time will be short, ideally less than four weeks. A decision for acceptance or rejection will be made after the first round, with the option to make minor revisions. The decision is primarily based on (i) novelty, (ii) technical soundness, (iii) expected impact on the state-of-the-art and (iv) overall presentation and readability.

Machine Learning Papers In the last few years, JSV has been receiving a large number of papers relating to machine learning or 'soft computing' applied in a mechanical systems context. Many of these papers are rejected without review as they do not conform to the standards required of a JSV paper. Please click here for further information.

Book Reviews
Book reviews are by invitation only. Books for review should be submitted to the Book Review Editors, Dr Brian Tester (Tel: +44 23 8059 2286, Email: B.J.Tester@soton.ac.uk) or Dr Jen Muggleton (Tel: +44 23 8059 59 7624, Email jmm@isvr.soton.ac.uk) c/o Journal of Sound and Vibration Office, Room 1003, Building 15, Institute of Sound and Vibration Research, University of Southampton, Southampton, SO17 1BJ, UK., (Fax: +44 23 8059 3190)

Virtual Special Issues (VSI)
Nominated Guest Editors will need to submit an outline proposal to Professor Andrei Metrikine (A.Metrikine@tudelft.nl) giving some background to a suggested Virtual Special Issue (VSI) plus the theme of the issue. There are two types of VSI available:

Curated VSI - A selection of up to 12 papers can be selected from past publications in the journal. These will appear on-line only. Papers retain their original DOI and are not re-printed.

New Work VSI - Up to 12 manuscripts describing new work can be submitted to the journal within an agreed theme. Manuscripts are subject to our usual peer review process. Accepted manuscripts will appear together on-line and will also appear in the printed journal.

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 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
BEFORE YOU BEGIN

Ethics in publishing
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

Policy and ethics
The work described in your article must have been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans http://www.wma.net/en/30publications/10policies/b3/index.html; EC Directive 86/609/EEC for animal experiments http://ec.europa.eu/environment/chemicals/lab_animals/legislation_en.htm; Uniform Requirements for manuscripts submitted to Biomedical journals http://www.icmje.org. This must be stated at an appropriate point in the article.

Declaration of interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

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 originality, your article may be checked by the originality detection service Crossref Similarity Check.

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).

Use of inclusive language
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

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.

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 an 'Exclusive License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

Author rights
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 then this should be stated.

Funding body agreements and policies
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online.

Open access
This journal offers authors a choice in publishing their research:

Subscription
• Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs.
• No open access publication fee payable by authors.
• The Author is entitled to post the accepted manuscript in their institution's repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

Gold open access
• Articles are freely available to both subscribers and the wider public with permitted reuse.
• A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:
**Creative Commons Attribution (CC BY)**
Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

**Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)**
For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is **USD 3300**, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

**Green open access**
Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our open access page for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. [Find out more.](#)

This journal has an embargo period of 24 months.

**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 English Language Editing service available from Elsevier's WebShop.

**Submission**
Submission to this journal proceeds totally online. Use the following guidelines to prepare your article. Via the homepage of this journal ([http://www.ees.elsevier.com/jsv](http://www.ees.elsevier.com/jsv)) 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. You will be asked to approve the PDF once it has been built. If equations appear corrupted at this stage please upload a locally made PDF. Please keep source files safe as they 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. When submitting manuscripts please be aware that from July 2016 our electronic system will automatically add line numbers to your manuscript.

**Pre-Screening of Submissions**
Please note that the *Journal of Sound and Vibration* does operate a pre-screening process. Your manuscript, once submitted, will be checked by:

Assistant Editor - checks for clarity, statement of novelty, format, similarity index. Receiving Editor - decides whether the manuscript is potentially publishable, and will either:

Reject without review as being out of scope, insufficiently original, incremental or linked to a submission under consideration or
Assign to an appropriate Subject Editor if the manuscript is possibly publishable.
Subject Editor - handles potentially publishable manuscripts by means of sending to reviewers and making a decision based on the reviewers' comments. They may also reject manuscripts without review in consultation with the Editor-in-Chief, Receiving Editor or Advisors to JSV.

Referees
Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our Support site. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

Additional Information
Authors may select a section heading when submitting their manuscript. If the manuscript is accepted for publication, the Editors will allocate it to the most suitable category, which may be the same or different to the one chosen by the author during submission.

Each manuscript must be accompanied by a cover letter outlining the basic findings of the paper and their significance.

Concise manuscripts are appreciated and aid the review process. See Guidance on keeping manuscripts short

PREPARATION

Peer review
This journal operates a single blind 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. More information on types of peer review.

Use of Word Processing Software
Editors reserve the right to adjust style to certain standards of uniformity. For the main text (including Abstract), a minimum font size of 11 pt and a minimum line spacing of 18 pt are appropriate. Authors should adopt a consistent hierarchy of headings to assist the typesetter; this can be done in LaTeX using Elsevier's document class 'elsarticle'. Authors using other software should try to follow JSV style, as far as is reasonably possible.

LaTeX
You are recommended to use the Elsevier article class elsarticle.cls to prepare your manuscript and BibTeX to generate your bibliography.
Our LaTeX site has detailed submission instructions, templates and other information.

Article structure

Subdivision - numbered sections
Divide your article into clearly defined and numbered sections. The abstract is not to be included in section numbering; the Introduction should not be split into sub-sections. Subsections thereafter should be numbered as 2.1 (then 2.1.1, 2.1.2, ...), 2.2, etc. 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. All sections and subsections should be numbered using Arabic numerals.

Introduction
The introduction sets the tone for the rest of the paper and is therefore very important. It should state the problem in enough detail to maintain and develop the reader's interest. The introduction is also the place to say why the problem is hard and also why it has not been solved before, or it should explain what is deficient about solutions that have previously been proposed. The introduction should contain a sufficiently inclusive and comprehensive literature review to confirm that the new work proposed is properly placed in context, and the literature search should go back as far as possible in order to capture all the really relevant past work. The introduction should conclude with a statement of sufficient depth and clarity that confirms the key components of the approach taken, the importance of the results obtained, and the novelty of the work as a whole.
1. Clearly set out the objectives of the paper and provide an adequate background, avoiding a detailed literature survey or a summary of the results.
2. Make clear what new contribution the present paper offers relative to existing published work.
3. If appropriate, give a brief outline of the structure of the rest of the paper.

Equations
Equations should be referred to as Eq. (1), Eq. (2) etc.

Conclusions
The main conclusions of the paper should be presented in a conclusions section, which should not form a subsection of the discussion or results, but should stand alone.

The Conclusions should:
1. Give a summary of the problem considered and the results obtained.
2. It may also stress the importance of the paper's findings.
3. It is not JSV style to discuss possible future work in depth in the Conclusions but a short statement of intentions can be given if this is felt to be appropriate.

Appendices
If an appendix is required the order at the end of the article should be: Conclusion, Acknowledgement, Appendix, References. 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. 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.
• Please note that changes to the list of contributors are not permitted after the article has been accepted. Authors' affiliations must be the institutions where the research presented in the article took place. Please note that changes to the author affiliations are not permitted once the corrected proof is published online.
• Corresponding author. Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. 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 a short collection of bullet points that convey the core findings of the article. Highlights are optional and 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). You can view example Highlights on our information site.

Abstract
A concise and factual abstract is required in one single paragraph. 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 full publication details should be given. Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. In general an abstract should state the problem, and then explain the approach to obtaining the solution, and then describe the solution itself. It should also summarise key facts relating to the work done, the principal conclusions, and it should convey the overall impact of the work presented. The abstract should be as intelligible to the widest range of technically literate readers possible. Reference citations, figures and tables should not be included in the abstract.

Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online 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. 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. Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images and in accordance with all technical requirements.

**Keywords**
Immediately after the abstract, provide a maximum of 6 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**
Abbreviations that appear in the abstract and the body of the text should be defined when they first appear. 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.) Funding sources may be acknowledged here, as well as individuals who provided help during the research and writing stages of the work.

**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, please 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**

**Units:**
The international system of units (SI) should be used as far as possible. When quantities are expressed in other units, give their equivalent in SI. For unit symbols, follow standard SI conventions. Thus Roman (normal upright) type is used, with spaces after the number. Spaces also separate unit symbols that are to be multiplied, e.g. 5 N m. Superscript powers, e.g. 30 mm$^2$/s$^{-1}$, are preferred (rather than 30 mm$^2$/s).

**Symbols:**
Letter characters should be limited to the Latin and Greek alphabets. Authors wishing to present a table of nomenclature should do so on the second page of their manuscript. The following order should be used within this table: Latin characters should appear first, arranged a, A, b, B etc.; then Greek characters, similarly arranged; sub/superscripts, abbreviations, special functions etc. usually come as a separate final group. More detailed guidance is available here.

**Math Formulae**

**Mathematics** is printed using Latin or Greek symbols. Formatting conventions used in JSV are listed below. In order to assist the copyeditors and typesetters as far as possible, authors are kindly asked to ensure that the mathematical symbols used in the final version of their manuscript sent for typesetting follow JSV conventions. The Editors may request corrections of this nature before the manuscript can be accepted.

For additional guidance and examples, refer to STYLE or to any recent issue of JSV.
• **Use Roman (normal upright) type for**: Total differential operators (e.g. d in differential); i or j (square root of -1); exp or e (base of natural logarithms); Re or Im (real or imaginary part); log, ln, sin, cos, etc.; abbreviations such as c.c. (complex conjugate); multiletter symbols (e.g. TL for transmission loss); subscripts of two or more letters identifiable as words or word-abbreviations (e.g., Apipe, fmax)

• **Use italic (sloping) type for**: all scalar quantities represented by a single letter symbol (Latin-alphabet), except where noted above;

• **Use upright bold for**: vectors, matrices and tensors;

• Script (calligraphic) font may be used for operators, or for variables where the standard form of a Latin character has already been used;

• words like "where" or "with" following equations and explaining the notation used, should not begin with capital letters.

**Figures**

When preparing Figures, authors are reminded that the lettering and symbols, as well as other details, should have proportionate dimensions, so as not to become illegible or unclear after possible reduction. Fonts smaller than 11 pt (or subscripts smaller than 8 pt) should be avoided. Typically, a reduction factor of two to three will be applied. The degree of reduction will be determined by the Publisher. Illustrations will not generally be enlarged.

It will often be helpful to consider the page format of the journal when designing the layout of Figures. Gridlines should be avoided when constructing graphs.

Ensure that each figure has a caption. Multipart figures require a single caption that describes all the parts (see example). Each figure and table file should be uploaded with an editable text caption (including figure/table number) attached, unless such captions already appear in the main text with figures/tables embedded.

Captions should contain sufficient information to allow the reader to interpret the figure, including any legends/keys not already described in the figure itself. No titles should appear above or below the figure; use the caption for this purpose.

Where an author has chosen to split a figure into a number of parts, each part should be clearly labelled with a lower case letter (a), (b),... The caption should be a single paragraph below the figure, mentioning each part of the figure in turn.

Authors are required to embed figures and captions throughout the text of their manuscript to aid the Editors and referees during the peer-review process. Authors should embed their figure and the corresponding caption at the most appropriate point in the manuscript.

In the case of colour figures, there are two options open to authors: (1) Separate figure files are uploaded for (a) the online paper version (colour allowed at no cost), and (b) the print version (black and white figures required). This is the preferred option.

(2) A single set of figures is uploaded, including colour where required for the online version. In this case the captions, choice of colours, and system of line codes must be designed so they function adequately when reproduced in black/white in the print journal. Colour alone will not be enough to differentiate different lines on a graph; different line styles are also needed.

**Footnotes**

Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Many wordprocessors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

**Table footnotes**

Indicate each footnote in a table with a superscript lowercase letter.

**Artwork**

**Electronic artwork**

**General points**

• All figures and the associated captions may be embedded within the text in the initial submission to aid reviewers.

• 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.
• Provide captions to illustrations separately.
• Produce images near to the desired size of the printed version.
• Submit each figure as a separate file for final typesetting of your article.

A detailed guide on electronic artwork is available on our website:
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/half-tone (color or grayscale): a minimum of 500 dpi is required.
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is'.

Please do not:
• Supply files that are optimised for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionately 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.

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.

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

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.
**References in a special issue**

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

**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.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:


When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

**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:

**Journal abbreviations source**

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

**Supplementary material**

Supplementary material such as images, animations 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 correction on a previous version.
**Research data**

This journal encourages 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. To facilitate reproducibility and data reuse, this journal also encourages you to share your 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. If you are sharing data in one of these ways, you are encouraged 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](www.elsevier.com/locate/jsvi).

**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](www.elsevier.com/locate/jsvi).

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).

**Mendeley Data**

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the [Mendeley Data for journals page](www.elsevier.com/locate/jsvi).

**Data in Brief**

You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed and published in the open access data journal, *Data in Brief*. Please note an open access fee of 500 USD is payable for publication in *Data in Brief*. Full details can be found on the [Data in Brief website](www.elsevier.com/locate/jsvi). Please use this template to write your Data in Brief.

**MethodsX**

You have the option of converting relevant protocols and methods into one or multiple MethodsX articles, a new kind of article that describes the details of customized research methods. Many researchers spend a significant amount of time on developing methods to fit their specific needs or setting, but often without getting credit for this part of their work. MethodsX, an open access journal, now publishes this information in order to make it searchable, peer reviewed, citable and reproducible. Authors are encouraged to submit their MethodsX article as an additional item directly alongside the revised version of their manuscript. If your research article is accepted, your methods article will automatically be transferred over to MethodsX where it will be editorially reviewed. Please note an open access fee is payable for publication in MethodsX. Full details can be found on the [MethodsX website](www.elsevier.com/locate/jsvi). Please use this template to prepare your MethodsX article.
Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

Revised manuscripts
Please ensure when submitting revised work that only one copy of the manuscript is uploaded plus responses to the reviewers comments and a list of changes made to the manuscript. We do not accept secondary uploads of manuscripts with highlighted changes at the present time. An original version of your work is stored on our electronic system for comparison purposes.

AUTHOR STYLE CHECKLIST
Before a paper can be accepted for publication the author should download and follow the Author Checklist. This is not a requirement for new submissions, however please note this is mandatory for all revised papers.

Rejected manuscripts
Authors are allowed to resubmit work that has been previously rejected by JSV, provided (a) significant changes have been made relative to the rejected version (b) the authors supply a covering letter explaining what changes have been made; (c) six months have elapsed since the previous submission.

Reject - Resubmission possible
The main differences between this case and the previous one are that (a) resubmission is explicitly offered as an option, with no 6-month minimum delay imposed; (b) authors should note that if they do resubmit, they need to provide details of the previous submission, so that editors can refer to the original reviews and, if appropriate, may use the same reviewers.

AFTER ACCEPTANCE
We encourage all authors of accepted articles to act as reviewers for the Journal of Sound and Vibration

Online proof correction
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. Both corresponding and co-authors may order offprints at any time via Elsevier’s Webshop. 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.