DESCRIPTION

Electronic Commerce Research and Applications aims to create and disseminate enduring knowledge for the fast-changing e-commerce environment. A major dilemma in e-commerce research is how to achieve a balance between the currency and the life span of knowledge.

Electronic Commerce Research and Applications will contribute to the establishment of a research community to create the knowledge, technology, theory, and applications for the development of electronic commerce. This is targeted at the intersection of technological potential and business aims.

E-commerce is a multi-disciplinary area, which should be developed in co-operation with existing fields such as Information Systems and Technology; Marketing, Finance and Supply Chain Management; Business Strategy and Management; Public Policy; Computer Science and Telecommunications; and Legal Studies. We will solicit papers on current technologies from these areas, as well as publish papers on completely new topics. We also seek proposals for special issues on new topics in e-commerce that will create new directions for research.

Electronic Commerce Research and Applications is inviting submission of articles in the following fields:

Agent-based commerce; electronic auctions; e-business models; B2C and B2B EC; consumer behaviour; customer relationship management and data mining; pricing and marketing; digital economy; e-government, public policy and digital divide issues; electronic payment systems; IT and e-services; exchanges and electronic marketplaces; e-commerce in supply chain and inventory management; legal issues in e-commerce; industry studies and case analysis; economic and management science modelling; organizational and theory-building research; empirical studies of e-commerce problems; behavioral studies of e-commerce issues; recommender systems; protocols, technology and process standards for e-commerce; transformation of industries; security and trust; credit card and smart card applications; mobile-commerce and ubiquitous computing; inter-organizational systems in e-commerce; emerging technologies and technological innovation.

We also encourage Methodological studies: these should be complete and ready for implementation, rather than papers that propose new frameworks.
IMPACT FACTOR

2018: 2.911 © Clarivate Analytics Journal Citation Reports 2019

ABSTRACTING AND INDEXING

Scopus
Science Citation Index Expanded
Current Contents
INSPEC
EI Compendex
Social Sciences Citation Index
Social SciSearch
ABI/Inform

EDITORIAL BOARD

Editor-in-Chief
Robert Kauffman, Singapore Management University School of Information Systems, 80 Stamford Road, 178902, Singapore

Co-Editor:
Chris Yang, Drexel University, Philadelphia

Managing Editor:
Kustini Lim-Wavde, PT. Mitra Integrasi Informatika, Indonesia

Editorial Assistants:
Jing Ren, Singapore University of Social Sciences, Singapore
Nancy Xue Ning, University of Colorado Denver, Denver, Colorado, United States

Senior Editors:
Ajit Appari, Worcester Polytechnic Institute, Worcester, Massachusetts, United States
Yoris A. Au, Georgia Southern University, Statesboro, Georgia, United States
Alina Chircu, Bentley University, Waltham, Massachusetts, United States
Jason Dedrick, Syracuse University, School of Information Studies, New York, New York, United States
Juan Feng, City University of Hong Kong, Kowloon, Hong Kong
Gregory Gimpel, Georgia State University, Atlanta, Georgia, United States
Nelson Granados, Pepperdine University, Graziadio School of Business and Management, Irvine, California, United States
He Huang, Chongqing University, Chongqing, China
Atanu Lahiri, University of Texas, School of Architecture, Dallas, Texas, United States
Li Hui Lin, Tsinghua University, Beijing, China
Maurizio Naldi, Università di Roma "Tor Vergata", Italy
David Phang, Fudan University, Shanghai, China
Benjamin Shao, Arizona State University, Tempe, Arizona, United States
Sang-Yong Tom Lee, Hanyang Women’s University, Seoul, Korea, Republic of
Bin Wang, University of Texas-Rio Grande Valley, Dept. of Computer Information Systems and Quantitative Methods, Edinburg, Texas, United States
G. Alan Wang, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, United States
Youwei Wang, Fudan University, Shanghai, China
Thomas Weber, Federal Polytechnic School of Lausanne, Lausanne, Switzerland
Byungjoo Yoo, Seoul National University Graduate School of Business, Seoul, Korea, Republic of
Alejandro Zentner, University of Texas at Dallas, Dallas, Texas, United States
Dongsong Zhang, University of North Carolina at Charlotte, Charlotte, North Carolina, United States
Han Zhang, Georgia Institute of Technology, Atlanta, Georgia, United States
Jennifer Jie Zhang, University of Texas at Arlington, Arlington, Texas, United States
Jie Zhang, Nanyang Technological University, School of Computer Science and Engineering, Nanyang, Singapore
Zhongju Zhang, Arizona State University, Tempe, Arizona, United States
Lina Zhou, University of North Carolina at Charlotte, Charlotte, North Carolina, United States

Advisory Board:
Izak Benbasat, The University of British Columbia, Vancouver, British Columbia, Canada
Guoqing Chen, Tsinghua University, Beijing, China
Jian Chen, Tsinghua University, Beijing, China
Kai-Lung Hui, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong
Nick Jennings, University of Southampton, Southampton, United Kingdom
Jae Kyu Lee, Korea Advanced Institute of Science and Technology College of Business, Seoul, Korea, Republic of
Ting-Peng Liang, National Sun Yat-sen University, Kaohsiung, Taiwan
Jiye Mao, Renmin University of China, Beijing, China
Steven Miller, Singapore Management University, Singapore, Singapore
Jay Nunamaker, Jr., University of Arizona, Tucson, Arizona, United States
Ivan Png, National University of Singapore, Singapore, Singapore
Norman Sadeh, Carnegie Mellon University, Pennsylvania, United States
Christopher Westland, University of Illinois at Chicago, Chicago, Illinois, United States
Andrew Winston, University of Texas at Austin, Austin, Texas, United States
Qiang Ye, Harbin Institute of Technology, Harbin, China
Leon Zhao, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong
Vladimir Zwass, Fairleigh Dickinson University, Madison, New Jersey, United States

Associate Editors:
Nina Baranchuk, University of Texas at Dallas, Dallas, Texas, United States
Maksim Belitski, University of Reading, Reading, United Kingdom
David Bounie, TELECOM ParisTech, Paris, France
Scott Buffett, Conseil national de recherches Canada (CNRC), Inst. for Information Technology (IIT), Fredericton, New Brunswick, Canada
Robin Burke, DePaul University, Chicago, Illinois, United States
Wei-Lun Chang, Tamkang University, Taipei, Taiwan
Kuo-Ming Chao, Coventry University, Coventry, United Kingdom
Bowei Chen, University of Glasgow, Glasgow, United Kingdom
Jessica Hsiao-Fen Chen, National Chi Nan University Information Management, Nantou, Taiwan
Li-Chen Cheng, Soochow University, Taipei, Taiwan
Shih-Fen Cheng, Singapore Management University, Singapore, Singapore
Sunghun Chung, University of Queensland, Queensland, Australia
Stelvio Cimato, Università degli Studi di Milano, Crema, Italy
Qi Zhi Dai, Drexel University, Philadelphia, Pennsylvania, United States
Hui Fang, Shanghai University of Finance and Economics, Shanghai, China
Pedro Ferreira, Carnegie Mellon University, Pittsburgh, Pennsylvania, United States
Tony Garry, University of Otago, Otago, New Zealand
Daniel Gozman, University of Reading, Reading, United Kingdom
Guibing Guo, Northeastern University, Shenyang, China
Juho Hamari, Tampere University of Technology, Tampere, Finland
Kunsoo Han, McGill University, Montreal, Quebec, Canada
Tracy Harwood, De Montfort University, Leicester, United Kingdom
Jonas Hedman, Copenhagen Business School, Frederiksberg, Denmark
Yili (Kevin) Hong, Arizona State University, Tempe, Arizona, United States
Li-Ting Huang, Chang Gung University, Taoyuan, Taiwan
Shih-Chia Huang, National Taipei University of Technology, Taipei, Taiwan
Shi-Li Huang, National Taipei University, Sanxia, Taiwan
Patrick Hur, University of Ontario Institute of Technology, Oshawa, Ontario, Canada
Jhih-Hua Jiang-Li, National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan
Abhishek Kathuria, The University of Hong Kong, Faculty of Business & Economics, Pokfulam, Hong Kong
Dan Jong Kim, University of North Texas, Information Technology and Decision Sciences, Denton, Texas, United States
Jong Min Kim, University of Science and Technology of China, Hefei, China
Jonna Koivisto, Tampere University of Technology, Korkeakoulunkatu, Finland
Dalia Kriksciuniene, Vilnius University, Vilnius, Lithuania
Richard N. Landers, University of Minnesota, Minneapolis, Minnesota, United States
Jiexun Li, Western Washington University, Bellingham, Washington, United States
Weizi Vicky Li, University of Reading, Reading, United Kingdom
Xiaotong Li, University of Alabama in Huntsville, Huntsville, Alabama, United States
Yung-Ming Li, National Chiao Tung University, Hsinchu, Taiwan
Xiwuh Lee, Xi'an Jiaotong University, School of Management, Shaanxi Sheng, China
Hefu Liu, University of Science and Technology of China, Hefei, China
Shan Liu, Xian Jiaotong University, Xian, China
Yipeng Liu, Northern Illinois University, Dekalb, Illinois, United States
Jiefeng Luo, Shanghai Jiao Tong University, Shanghai, China
Patrick Maillé, Institut Mines-Télécom Atlantique, École Mines-Telecom, Rennes, France
David Murungi, Bentley University, Waltham, Massachusetts, United States
Jan Ondrus, ESSEC Business School, Cergy Pontoise, France
Zeyu Peng, University of Science and Technology of China, Hefei, China
Sourav Ray, McMaster University, Hamilton, Ontario, Canada
Carla Ruiz Mafe, University of Valencia, Valencia, Spain
Terence Saldanha, The University of Georgia, Athens, Georgia, United States
Giuseppe Maria Luigi Sarne, University of Reggio Calabria, Reggio Calabria, Italy
Richard Shang, Long Island University, New York, United States
Peijian Song, Nanjing University, Nanjing, China
Pedro Soto-Acosta, University of Murcia, Murcia, Spain
Fumiko Takeda, The University of Tokyo, Bunkyo-Ku, Tokyo, Japan
Xuning Tang, Deloitte Touche Tohmatsu Ltd, London, United Kingdom
Juliana Tsai, Arizona State University, Tempe, Arizona, United States
Cleopatra Veloutsou, University of Glasgow, Glasgow, United Kingdom
Roumen Vragov, Mount Saint Mary College, Newburgh, New York, United States
Kanliang Wang, Renmin University of China, Haidian District, Beijing, China
Qiuhong Wang, Singapore Management University, Singapore
Weiquan Wang, City University of Hong Kong, Kowloon, Hong Kong
Stefan Weber, Trinity College, Distributed Systems Group, Dublin 2, Ireland
Hongyan Xu, Chongqing University, Chongqing, China
Kaiquan Xu, Nanjing University, Nanjing, China
Jonathan Hua Ye, University of Waterloo, Waterloo, Ontario, Canada
Cheng Yi, Tsinghua University, Beijing, China
Wei Thoo Yue, City University of Hong Kong, Kowloon, Hong Kong
Zhongyun Zhou, Tongji University, Shanghai, China

Reviewing Member of Editorial Board:
Fahad Al-Harb
Daniela Buzova, University of Valencia, Valencia, Spain
Kevin K.W. Ho, University of Guam, Mangilao, Guam
Emmy Hoang Ai-Phuong, RMIT University, Viet Nam
Pouwan Lei
Chih-chin Liang
Jing Ren, Singapore University of Social Sciences, Singapore
Danish Saifee, The University of Alabama, Alabama, United States
GUIDE FOR AUTHORS

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

For further information, visit our Support Center.

BEFORE YOU BEGIN

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

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 1900, excluding taxes. Learn more about Elsevier's pricing policy: 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 Author Services.
Submission

General Submissions.
ECRA uses electronic submissions only as a means for reviewing new and revised papers. All manuscripts and any supplementary material should be submitted via the journal's online submission and peer-review system, called the Elsevier Editorial System (EES), at https://www.ees.elsevier.com/ecra. Thereafter, please follow the instructions given on this website to submit your paper.

Special Issues and Special Section Submissions.
If you are submitting a paper to a Special Section or Special Issue of ECRA, then follow these instructions:
1. Author registers in EES, and follows the submission instructions given on the site.
2. Select 'Submit Manuscript' from the 'Main Menu.'
3. When choosing 'Article Type' please select the title of the Special Section or Special Issue to which you wish to submit.

Then follow the steps as laid out in EES. Your manuscript will be submitted to the Editorial Office, which then assigns it to the Guest Editor in charge of that specific Special Section or Special Issue.

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.

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 wordprocessing software
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. If possible, 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, to 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. See also the section on Electronic illustrations. To avoid unnecessary errors you are strongly advised to use the "spell-check" and "grammar-check" functions of your wordprocessor.

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

General.
Manuscripts submitted to ECRA should be prepared for electronic submission to the EES website using single-column, double-spaced 11 or 12 point fonts, with 1 inch or 2.5 centimeter margins. Authors should avoid double justification. Please do not use a constant right-hand margin, since it diminishes readability for the reviewers. Also, ensure that each new paragraph is clearly indicated by indenting the first line. Also to enhance readability, authors should embed tables and figures in the manuscript in places that are near to the text that refers to them. Number all pages consecutively. Consult a
recent issue of the journal to become familiar with layout and other formatting conventions. If you require a sample issue, please click on the 'Free Sample Issue' link under the 'For Readers' menu on the right hand side of this page. Here are some additional requirements related to formatting:

**Title Page.** Authors should include a Title Page as the first page of their submission, containing the article title, author(s) names and affiliations, an abstract not exceeding 150 words, and a list of 5 to 10 keywords that best describe the overall contents of the article for indexing and retrieval purposes. The title page should also contain related footnotes and acknowledgments that pertain to the paper and the authors.

**Corresponding Author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, including post-publication correspondence. Ensure that telephone and fax numbers with country and area code are provided, in addition to the e-mail address and the complete postal address.

**Highlights**
Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article 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.

**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.

**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.

**Artwork**

**Electronic 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, Helvetica, Times,
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files, if you include separate ones.
• Provide captions to illustrations.
• Produce images near to the desired size of the printed version.
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 after your paper has been accepted, 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, DOCX, 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 disproportionately large for the content.

**Figures, Tables and Illustrations**
Provide all figures, tables and illustrations in high-quality format suitable for reproduction, which may include reduction. These should be numbered consecutively in the order in which they are referred to in the main body of the text. Mark all of these with a table or figure number and an explanatory caption or title. For detailed guidelines on electronic figures, please refer to the 'Artwork Instructions' at https://www.elsevier.com/artworkinstructions

**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.

**Reference links**
Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is highly encouraged.

A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. Journal of Geophysical Research, https://doi.org/10.1029/2001JB000884. Please note the format of such citations should be in the same style as all other references in the paper.

**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.

**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:

http://open.mendeley.com/use-citation-style/electronic-commerce-research-and-applications

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

Reference formatting

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

Reference style

**Text:** All citations in the text should refer to:

1. **Single author:** the author's name (without initials, unless there is ambiguity) and the year of publication;
2. **Two authors:** both authors' names and the year of publication;
3. **Three or more authors:** first author's name followed by 'et al.' and the year of publication.

Citations may be made directly (or parenthetically). Groups of references can be listed either first alphabetically, then chronologically, or vice versa.

Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999).... Or, as demonstrated (Jones, 1999; Allan, 2000).... Kramer et al. (2010) have recently shown ...'

**List:** References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

**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:


**Published Materials on the Internet and Foreign Language Sources.**

Provide as complete information as possible, although pages may not be available. Indicate the URL where the materials can be found, and indicate the last data the materials were accessed. Please click [here](#) for examples.
**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.

**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.

**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).

**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.

**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 600 USD is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. 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. 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.

AFTER ACCEPTANCE
Uncorrected Proofs are not to be regarded as ‘drafts,’ and authors should not view them as providing an opportunity to make major content changes. Only minor copy-editing corrections are permitted. No changes in, or additions to the accepted and subsequently edited manuscript will be allowed at the end of this stage. So it is important to ensure that all changes to the Uncorrected Proof are indicated in one communication with the Elsevier Production staff. Subsequent corrections will not be possible. Prior to the Uncorrected Proof stage, an ECRA Co-Editor may request that a paper should be edited for English. Elsevier's Language Editing Service will handle this.

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 Author Services. 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