

Instructions to Authors

Modern systems are becoming increasingly complex and sophisticated in their demand for performance, reliability and increasing autonomy. A wide range of new theories, methodologies and techniques are necessary to enable such systems to deal with these demands. The primary aim of the International Journal of Systems Science is to report on major new results and associated supporting theories based on research and application involving real systems.

The Journal will publish papers that describe significant and important contributions to the general field of systems engineering. Systems, defined in the broadest sense, is taken to include such areas as automation and robotics, civilian and military aerospace, automotive and transport systems, biological and medical, chemical and process control, social economic processes, banking and financial systems. Of particular interest in such systems are the problems posed by complexity; the need to deal with unstructured environments, the need to cope with ill defined and complex dynamics, the methodologies needed to integrate sensors and subsystems to achieve reliability and robustness. Papers that describe significant contributions to both the theory and engineering systems, and which emphasize the development of real systems principles based on real applications is seen to be of major importance in the advancement of the field of systems engineering. The reporting of these is intended to be the main contribution of the Journal.

The Journal will publish both full research papers and short communications articles. Review articles, of major systems engineering projects, or of important and emerging new fields, within the broad scope of systems engineering are encouraged. An important aspect of the Journal is special issues devoted to major, timely research themes such intelligent control, autonomous systems, distributed systems and data fusion. The Journal will operate strict referring procedures but will aim at the shortest possible publication times. This is to ensure that the very best research can be published in a timely manner.

Major Interest Headings

Autonomous Systems

Applied robotics; sensing perception, qualitative and quantitative reasoning, neural networks and fuzzy logic systems, decision making, intelligent control, data fusion, evolutionary and emergent systems.

Complex Systems

Complexity; integration and interfacing, command and control, mission management, extensibility and interoperability, time critical and safety critical systems, conditioning monitoring, reliability engineering.

Results of Major R&D Projects

Description of research prototypes, methodology and experimental lessons, consortium based research, social and economic modelling and its validation, environmental systems.

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Please read these Guidelines with care and attention: failure to follow them may result in your paper being delayed. Note especially the referencing conventions used by International Journal of Systems Science and for all manuscripts, non-discriminatory language is mandatory.

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All papers will be reviewed by anonymous referees. Based on their statement the Editor will decide if your paper is accepted or rejected. If it is accepted, it will in most cases be on the condition that the manuscript is revised according to the referees' instructions.

Writing your paper

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In writing your paper, you are encouraged to review articles in the area you are addressing which have been previously published in the Journal, and where you feel appropriate, to reference them. This will enhance context, coherence, and continuity for our readers.

All manuscripts must contain abstracts (100-200 words).

Four copies of the manuscript for consideration should be submitted.

Manuscripts should be typed on one single side of A4 or 8 x 11 inch white good quality paper, double-spaced throughout, including the reference section.

Authors should include telephone and fax numbers as well as e-mail addresses on the cover page of manuscripts.

Section headings should be concise and numbered sequentially, using a decimal system for subsections.

To submit your paper, create a single PDF file for your complete paper, including figures and bibliography, ensuring that it is printable. The first page should contain the title, authors' names, affiliations, the corresponding author's email address, abstract, and keywords. Email the PDF file along with source files such as LaTeX or Word to ijss@sheffield.ac.uk

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Abstracts

Structured abstracts are required for all papers, and should be submitted as detailed below, following the title and author's name and address, preceding the main text.

For papers reporting original research, state the primary objective and any hypothesis tested; describe the research design and your reasons for adopting that methodology; state the methods and procedures employed, including where appropriate tools, hardware, software, the selection and number of study areas/subjects, and the central experimental interventions; state the main outcomes and results, including relevant data; and state the conclusions that might be drawn from these data and results, including their implications for further research or application/practice.

For review essays, state the primary objective of the review; the reasoning behind your literature selection; and the way you critically analyse the literature; state the main outcomes and results of your review; and state the conclusions that might be drawn, including their implications for further research or application/practice.

Abstracts should be approximately 100-200 words.

Notes on style

All authors are asked to take account of the diverse audience of International Journal of Systems Science. Clearly explain -- or avoid the use of -- terms that might be meaningful only to a local or

national audience. However, note also that International Journal of Systems Science does not aspire to be international in the ways that McDonald's restaurants or Hilton Hotels are international; we much prefer papers that, where appropriate, reflect the particularities of each social and cultural system.

Some specific points of style for the text of articles, research reports, case studies, reports, essay reviews, and reviews follow:

1. We prefer US to 'American USA to 'United States? and UK to 'United Kingdom?
2. We use conservative (British, not US) spelling, i.e. colour not color; behaviour (behavioural) not behavior; [school] programme not program; [he] practises not practices; centre not center; organization not organisation; analyse not analyze, etc.
3. Single 'quotes?are used for quotations rather than double "quotes", unless the 'quote is "within" another quote?
4. Punctuation should follow the British style, e.g. 'quotes precede punctuation?
5. Punctuation of common abbreviations should follow the following conventions: e.g. i.e. cf. Note that such abbreviations are not followed by a comma or a (double) point/period.
6. Dashes (M-dash) should be clearly indicated in manuscripts by way of either a clear dash (? or a triple hyphen (---) (N-dash) should be indicated by a clear dash (? or a double hyphen.
7. We are sparing in our use of the upper case in headings and references, e.g. only the first word in paper titles and all subheads is in upper case; titles of papers from journals in the references and other places are not in upper case.
8. Apostrophes should be used sparingly. Thus, decades should be referred to as follows: 'The 1980s [not the 1980's] saw ...? Possessives associated with acronyms (e.g. PA), should be written as follows: 'The APU's findings that ...? but, NB, the plural is APUs.
9. All acronyms for national agencies, examinations, etc., should be spelled out the first time they are introduced in text or references. Thereafter the acronym can be used if appropriate, e.g. 'The work of the Assessment of Performance Unit (APU) in the early 1980s ...? Subsequently, 'The APU studies of achievement ...? in a reference ... (Department of Education and Science [DES] 1989a).
10. Brief biographical details of significant national figures should be outlined in the text unless it is quite clear that the person concerned would be known internationally. Some suggested editorial emendations to a 'typical?text are indicated in the following with square brackets: 'From the time of H. E. Armstrong [in the 19th century] to the curriculum development work associated with the Nuffield Foundation [in the 1960s], there has been a shift from heurism to constructivism in the

design of [British] science courses?

11. The preferred local (national) usage for ethnic and other minorities should be used in all papers. For the USA, 'African-American', 'Hispanic' and 'Native American' are used, e.g. 'The African American presidential candidate, Jesse Jackson...' for the UK, 'Afro-Caribbean' (not 'West Indian', etc.

12. Material to be emphasized (italicized in the printed version) should be underlined in the typescript rather than italicized. Please use such emphasis sparingly.

13. When using a word which is or is asserted to be a proprietary term or trade mark authors must use the symbol ® or TM or alternatively a footnote can be inserted using the wording below:

This article includes a word which is or is asserted to be a proprietary term or trade mark. Its inclusion does not imply it has acquired for legal purposes a non-proprietary or general significance, nor is any other judgement implied concerning its legal status.

Mathematics

Special care should be taken with mathematical scripts, especially subscripts and superscripts and differentiation between the letter 'ell' and the figure one, and the letter 'oh' and the figure zero. If your keyboard does not have the characters you need, it is preferable to use longhand, in which case it is important to differentiate between capital and small letters, K, k and x and other similar groups of letters. Special symbols should be highlighted in the text and explained in the margin. In some cases it is helpful to supply annotated lists of symbols for the guidance of the sub-editor and the typesetter, and/or a 'Nomenclature' section preceding the 'Introduction'.

For simple fractions in the text, the solidus / should be used instead of a horizontal line, care being taken to insert parentheses where necessary to avoid ambiguity, for example, $I/(n-1)$. Exceptions are the proper fractions available as single type on a keyboard.

Full formulae or equations should be displayed, that is, written on a separate line. Horizontal lines are preferable to solidi.

The solidus is not generally used for units: ms⁻¹ not m/s, but note electrons/s, counts/channel, etc.

Displayed equations referred to in the text should be numbered serially (1, 2, etc.) on the right hand side of the page. Short expressions not referred to by any number will usually be incorporated in the text.

Symbols should not be underlined to indicate fonts except for tensors, vectors and matrices, which are indicated with a wavy line in the manuscript (not with a straight arrow or arrow above) and rendered in heavy type in print: upright sans serif \boldsymbol{r} (tensor), sloping serif \boldsymbol{r} (vector) upright serif \mathbf{r} (matrix).

Typographical requirements must be clearly indicated at their first occurrence, e.g. Greek, Roman, script, sans serif, bold, italic. Authors will be charged for corrections at proof stage resulting from a failure to do so.

Braces, brackets and parentheses are used in the order $\{[()]\}$, except where mathematical convention dictates otherwise (i.e. square brackets for commutators and anticommutators)

Notes on tables and figures

Artwork submitted for publication will not be returned and will be destroyed after publication, unless you request otherwise. Whilst every care is taken of artwork, neither the Editor nor Taylor & Francis shall bear any responsibility or liability for non-return, loss, or damage of artwork, nor for any associated costs or compensation. You are strongly advised to insure appropriately.

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Tables and figures should be referred to in text as follows: figure 1, table 1, i.e. lower case. 'As seen in table [or figure] 1 ...?'(not Tab., fig. or Fig).

2. The place at which a table or figure is to be inserted in the printed text should be indicated clearly on a manuscript:

[Insert table 2 about here]

3. Each table and/or figure must have a title that explains its purpose without reference to the text.

4. All figures and tables must be on separate sheets and not embedded in the text. Original copies of figures should be supplied. All figures should allow for reduction to column width (130 mm) or page width (160mm). Please avoid figures that would require landscape reproduction, i.e., reading from bottom to top of the page. Photographs may be sent as glossy prints or negatives.

Please number each figure on the reverse in pencil.

Do not type the caption to a figure on that figure; the legends to any illustrations must be typed separately following the main text and should be grouped together.

Acknowledgements

Any acknowledgements authors wish to make should be included in a separate headed section at the end of the manuscript.

Citations in text

References should be cited using the author-date, or Harvard, system.

1. 'Ibid.'(and the like) are not used when repeating citations. Simply repeat the original citation verbatim, e.g. (Orwell 1945).
2. Citations should be included in prefatory material to quotes (wherever possible) rather than placing them at the end. Thus, for example, 'Orwell (1945: 23) reduces the principles of animalism to seven commandments, namely, ...'is preferred to 'Orwell reduced the principles of animalism to seven commandments, namely, ... (Orwell 1945: 23)?
3. Multiple citations within parentheses should be divided by a comma, not a semi-colon, and there should be no use of '&'within such multiple references. References to works published in the same year should be cited as, e.g. (Smith 1991a, b).
4. Multiple citations within a text should be ordered by date, not alphabetically by authors name, e.g. (Smith 1902, Jones and Bower 1934, Brown 1955, 1958a, b, Green 1995).
5. '>et al.'may be used in references within the text when a paper or book has three or more authors, but note that all names should be given in the reference itself.
6. Page spans in references should be given in full, e.g. 'Sedgewick (1935: 102-103; emphasis added) outlines them as follows:'

References

International Journal of Systems Science uses the following conventions for references:

1. Reference to a book:

Kidd, P. L., 1994, *Agile Manufacturing, Forging New Frontiers* (Addison-Wesley).

2. Reference to a chapter in a book:

Glover, F., and Laguna, M., 1993, Tabu search. In C. Reeves (ed.) *Modern Heuristic Techniques for Combinatorial Problems* (Oxford: Blackwell), pp. 70-150.

3. Reference to an article in a journal:

Fransoo, J. C., and Rutten, W. G. M. M., 1994, A typology of production control situations in process industries. *International Journal of Operations and Production Management*, 14, (12), 47-57.

4. Conference Proceedings, technical reports and unpublished literature

Wortmann, J. C., 1989, Towards an integrated theory for design, production and production management of complex, one of a kind products in the factory of the future. *ESPRIT'89*, Proceedings of the 6th Annual ESPRIT Conference (Dordrecht: Kluwer), pp. 1089-1099.

Glover, F., and Laguna, M., 1991, Bin packing with tabu search. Technical Report, University of Colorado, Boulder, CO.

5. Reference to a newspaper or magazine

Richards, H., 1996, Republican lite? *The Times Higher Education Supplement*, 1 November, 16.

6. Reference to an Internet source

Give the universal resource locator in full:

<http://acsinfo.acs.org/instruct/instruct.html>

7. Reference to a case in law

In text, italicize names of plaintiffs and defendants:

Miranda v. Arizona 1974

9. Reference to government legislation

US Congress, Senate Committee on Foreign Relations, 1956, *The Mutual Security Act of 1956*, 84th Congress, second session, report 2273.

US Congress, House Committee on Banking & Currency, 1945, *Bretton Woods Agreements Act: Hearings on HR 3314*, 79th Congress, first session, report 452.

United Kingdom Parliament, Committee on the Working of the Monetary System [Radcliffe Committee] 1960, *Principal Memoranda of Evidence*, vol. 2, Cmd 1958.

United Nations General Assembly, Secretariat for Economic Affairs, 1951, *Methods of Financing Economic Development in Less Developed Countries*, report II B 2.

Electronic Processing

We strongly encourage you to send us the final, revised version of your article in both hard (paper) and electronic (disk) forms. This Guide sets out the procedures which will assure we can process your article efficiently. It is divided into three sections:

A guide for authors using standard word-processing software packages

A guide for authors using LaTeX mathematical software packages

A guide for authors using graphics software packages

There are some general rules which apply to all three options.

these guides do not apply to authors who are submitting an article for consideration and peer review; they apply only to authors whose articles have been reviewed, revised, and accepted for publication

print out your hard (paper) copy from the disk you are sending; it is essential that the hard-copy printout is identical to the material on the disk; where versions differ, the hard copy will take precedence. We advise that you maintain back-ups of your files

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If you are not sure about the usability of your disk, contact Luke Williams, Editorial Manager Journals, Taylor & Francis, 4 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN, UK, Luke.Williams@tandf.co.uk

1. A guide for authors using standard word-processing software packages

For the main text of your article, most standard PC or Mac word-processing software packages are acceptable, although we prefer Microsoft Word in a PC format.

Word-processed files should be prepared according to the journal style.

Avoid the use of embedded footnotes. For numbered tables, use the table function provided with the word-processing package.

All text should be saved in one file with the complete text (including the title page, abstract, all sections of the body of the paper, references), followed by numbered tables and the figure captions.

You should send the following to the Editor:

a 3.5-inch disk containing the final, accepted version of the paper
include an ASCII/text only version on the disk as well as the word processed version if possible
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A.N. Author

article.doc

IBM PC

MS Word for Windows 7.0

2. A guide for authors using LaTeX mathematical software packages

Authors who wish to prepare their articles using the LaTeX document preparation system are advised to use `article.sty` (for LaTeX 2.09) or `article.cls` (for LaTeX2e).

The use of macros should be kept to an absolute minimum but if any are used they should be gathered together in the file, just before the `\begin{document}` command.

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Figures must be saved on a separate disk from the text.

Avoid the use of colour and tints for aesthetic reasons. Figures should be produced as near to the finished size as possible.

High quality reproducible hard copy for all line figures (printed out from your electronic files at a minimum of 600 dpi) must be supplied in case the disks are unusable; photographs and transparencies can be accepted as hard copy only. Photocopies will not be accepted.

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The figure captions must be saved as a separate file with the text and numbered correspondingly.

The filename for the graphic should be descriptive of the graphic e.g. Figure1, Figure2a.

Files should be saved as TIFF (tagged image file format), PostScript or EPS (encapsulated PostScript), containing all the necessary font information and the source file of the application (e.g., CorelDraw/Mac, CorelDraw/PC).

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Figures 1-10

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