

## INSTRUCTIONS FOR CONTRIBUTORS

*Editorial policy* The journal publishes *research papers* and *survey papers*

**Research papers** may be in any area of applied mathematics, with especial emphasis on *new mathematical ideas relevant to modelling and analysis in modern science and technology and the development of interesting mathematical methods of wide applicability*. There is no restriction in the scope or style of mathematics as long as the content is presented to be as accessible as possible to the entire community of mathematicians and mathematical scientists. This applies in particular to the Introduction and conclusion. Standard mathematical techniques will only be published if they are associated with novel applications or lead to substantial advances in established problem areas.

**Survey papers** aim to bridge the gap between academia and industry by presenting mathematical methods relevant to industry in its broadest sense, ranging from manufacturing to finance, telecommunications to biotechnology, and describing industrial problems of interest to mathematicians. Coverage includes reviews of techniques in relation to industrial application, new problem areas for which mathematical models and techniques are not yet available, comparison of solution methods, and descriptions of modelling approaches.

*Submission of manuscripts* Papers may be submitted to any of the Editors.

Submission of a paper is taken to imply that it has not been previously published and that it is not being considered for publication elsewhere. **Authors of articles published in the journal assign copyright to Cambridge University Press (with certain rights reserved) and you will receive a copyright assignment form for signature on acceptance of your paper.**

Authors are encouraged to submit papers electronically by sending a pdf file in the first instance, to [ejam@maths.ox.ac.uk](mailto:ejam@maths.ox.ac.uk). On final acceptance of a paper, authors should send the LaTeX source code to the Editors-in-Chief, together with a pdf file derived from these files. The publisher reserves the right to typeset any article by conventional means if the author's TeX code presents problems in production.

*Details of Style Files* The LaTeX 2.09 style file `ejm.sty` together with a guide to its use `ejmguide.tex`, or the corresponding LaTeX 2e file `ejm.cls` are available via anonymous ftp from the Cambridge University Press site at <ftp.cup.cam.ac.uk> in the directories `/pub/texarchive/journals/latex/ejm-sty` or `/pub/texarchive/journals/latex/ejm-cls`. In case of difficulties obtaining these files, there is a help-line available via e-mail; please contact [texline@cup.cam.ac.uk](mailto:texline@cup.cam.ac.uk). The file `readme.txt` contains instructions alternatively, authors may use plain 'article' style.

*Layout of manuscripts* Papers should be typewritten **in double spacing throughout**, on one side of the paper. Please avoid footnotes if possible. Papers must begin with an abstract of not more than 300 words, and they should end with a brief concluding section. The SI system of units must be used throughout. There is no formal restriction on length, but short papers are likely to appear sooner than long ones (over 20 typeset pages) which are likely to be subject to delay.

*Illustrations* Wherever possible figures should be produced and incorporated into the text using a standard LaTeX-compatible package; they will be reproduced with the author's lettering. *Illustrations* Wherever possible figures should be produced and incorporated into the text using a standard LaTeX-compatible package; they will be reproduced with the author's lettering. Colour figures may be published at no charge in the online edition; a charge of £500 for each full page in colour will be levied for authors requesting colour reproduction in the printed version of the journal. All figures and reference to the figures must be equally comprehensible in both colour and greyscale. Exemption from charges for colour reproduction will only be made if referees decide that colour is essential, and if authors make an explicit case to the Editor explaining why they are unable to meet the extra cost. Exemption from charges for colour reproduction will only be made if referees decide that colour is essential, and if authors make an explicit case to the Editor explaining why they are unable to meet the extra cost.

*References* The Harvard system of references is preferred. References should be listed in alphabetical order at the end of the main text. Please include the article title in the reference, which should be in the order: author's surname, initials; year in parentheses; article title; journal name, abbreviated in accordance with the *World List of Scientific Periodicals* (4th Edn); volume number (underlined); inclusive page numbers.

*Citations in the text* Any of the following three ways of citing a 1992 paper by A. European may be used: European (1992); European [Eu]; or European [7]. In the second case, the reference at the end of the text should be preceded by [Eu], and in the third by [7].

*Proof Reading* Typographical or factual errors only may be changed at proof stage. The publisher reserves the right to charge authors for correction of non-typographical errors. No page charge is made.

### *Incremental Publishing and DOIs*

The European Journal of Applied Mathematics now publishes articles incrementally online (at Cambridge Journals Online: [journals.cambridge.org](http://journals.cambridge.org)) as soon as author corrections have been completed and before they join a printed issue. A new reference has now been added to the first page of the article in the journal catchline. This is the DOI—The Digital Object Identifier. This is a global publishers' standard. A unique DOI number is created for each published item. It can be used for citation purposes instead of volume, issue and page numbers. It therefore suits the early citation of articles which are published on the web before they have appeared in a printed issue. <http://www.journals.cambridge.org/ejm>

*Offprints* No paper offprints will be supplied. Each author will have access to electronic offprints in pdf form for distribution.

*Editorial note* Following recent developments in electronic publishing at Cambridge University Press, we are pleased to announce that starting with the Volume 12, Part 5 issue of European Journal of Applied Mathematics, each article and book review will be annotated with a digital object identifier (DOI). A DOI gives each article and book review a code made up of a Cambridge University Press Prefix and a unique numerical identifier number, which is a code increasingly in use for items published on the web. Such articles and book reviews can then be referenced and retrieved as separate items. DOIs will also be useful for citing and identifying individual articles as separate entities, without the need to list specific journal, volume or issue details.

## COPYING

This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA ([www.copyright.com](http://www.copyright.com)). Organisations in the USA who are also registered with the CCC may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to CCC. This consent does not extend to multiple copying for promotional or commercial purposes.

Organisations authorised by the Copyright Licensing Agency may also copy material subject to the usual conditions.

*ISI Tear Sheet Service*, 3501 Market Street, Philadelphia, Pennsylvania 19104, USA, is authorised to supply single copies of separate articles for private use only.

*For all other use*, permission should be sought from the Cambridge or the American Branch of Cambridge University Press.

*European Journal of*  
**Applied Mathematics**

VOLUME 20 · PART 4 · AUGUST 2009

**CONTENTS**

- Stress–elastic strain relation for a two-phase isotropic strain gradient plastic composite 319  
VIET HA HOANG
- Stability of self-similar extinction solutions for a 3D Darcy flow suction problem 343  
ERWIN VONDENHOFF and GEORG PROKERT
- Survey paper*
- A review of computational fluid dynamics analysis of blood pumps 363  
M. BEHBAHANI, M. BEHR, M. HORMES, U. STEINSEIFER, D. ARORA, O. CORONADO and M. PASQUALI

*Printed in the United Kingdom by Latimer Trend & Co Ltd, Plymouth*

**Cambridge Journals Online**  
For further information about this journal  
please go to the journal website at:  
[journals.cambridge.org/ejm](http://journals.cambridge.org/ejm)



**Mixed Sources**  
Product group from well-managed  
forests and other controlled sources  
[www.fsc.org](http://www.fsc.org) Cert no. SGS-COC-005493  
© 1996 Forest Stewardship Council

**CAMBRIDGE**  
UNIVERSITY PRESS