Journal of the Royal Society Interface

Editorial Board

Professor William Bonfield CBE FRS
Publishing Editor Tim Holt

William Bonfield, Editor
Department of Materials Science & Metallurgy, University of Cambridge

Luigi Ambrosio
Centre for Biomaterials, University of Naples “Federico II”

Jonathan Ashmore
Department of Physiology, University College London

Christopher Dobson
Department of Chemistry, University of Cambridge

Francis Doyle III
Department of Chemical Engineering, University of California, Santa Barbara

Anita French
Faculty of Medicine, Imperial College London

Wayne Gatter
Department of Environmental Science, Policy & Management, University of California at Berkeley

Wendy Hall
Department of Electronics and Computer Science, University of Southampton

Stefan Hall
Nanomaterials Unit, Max-Planck-Institut für biophysikalische Chemie, Göttingen

Larry Hench
Department of Materials, Imperial College London

Richard Henderson
MRC Laboratory of Molecular Biology, University of Cambridge

Hiroyuki Hori
Institute for Fundamentals, Johannes Gutenberg-Universität Mainz

Hitoshi Isogai
Sony Computer Science Laboratories, Inc., Tokyo

Richard Kline
Department of Bioengineering, Imperial College London

Michael Kleijn
Laboratory for Research on the Structure of Matter, University of Pennsylvania

Tadashi Kokubo
Department of BioEngineering, Imperial College London

Takahiro Okano
Institute of Medical Engineering, King’s College London

Xingdong Zhang
Institut Laue-Langevin, Grenoble

Professor William Bonfield CBE FRS

Aims and Scope

Interface is a new international journal publishing papers from the interface between the physical sciences, including mathematics, and the life sciences. It provides a high-quality forum to publish rapidly and interact across this boundary in two main ways: interface publishes research applying chemistry, engineering, materials science, mathematics and physics to the biological and medical sciences; it also highlights discoveries in the life sciences that allow advances in the physical sciences. Both sides of the interface are considered equally.

Guidance for Authors

Articles
Articles are contributions up to 8000 words containing original scientific research.

Reports
Reports are short, letter-style contributions (up to 2500 words), which are published rapidly. Preliminary and more speculative work of high quality is strongly encouraged.

Both articles and reports should be written for a wide range of disciplines.

Reviews
Reviews are articles of the highest quality and aim to be of interest to communities working at the physical sciences-life sciences interface. Reviews cover the latest developments in an area of cross-disciplinary research. They put such research into a broader context and are written in a style that makes them accessible to readers in a wide range of disciplines. Reviews are normally published by invitation; however, we are also keen to receive proposals for prospective articles. Complete literature surveys are not encouraged.

Selection criteria
The review process will give equal weighting to sciences on both sides of the interface. The criteria for selection are scientific excellence, originality and potential interest to a wide spectrum of scientists. All papers are peer-reviewed to a high standard and published rapidly under the control of the Editor and his distinguished Editorial Board.

Conditions of Publication
Papers must not have been published previously, not be under consideration for publication elsewhere. The Editor has final authority in all matters relating to publication.

Electronic submission details
The Royal Society’s electronic-submission and peer-review service provides interface authors with the facility to submit their papers online. The service allows you to upload files in a reliable and user-friendly way using a Web-based system. When your paper is received, an immediate acknowledgement is sent that details how you can track your contribution online. Visit publishing.royalsociety.org for further details.

The Royal Society is an independent scientific academy founded in 1660 and self-governing under Royal Charter. The Society has three roles, as the scientific Academy of the United Kingdom, as a learned society, and as a funding body.

Objectives of The Royal Society are to:
- recognise excellence in science
- support leading-edge scientific research and its applications
- stimulate international interaction
- further the role of science, engineering and technology in society
- promote the public’s understanding of science
- provide independent authoritative advice on matters relating to science, engineering and technology
- encourage research into the history of science

For further information on the Society’s activities, please contact the following departments on the extensions listed by dialling +44 (0)20 7839 5561, or visit the Society’s website at www.royalsociety.org.

Research Support (UK grants and fellowships)
Research appointments: 2547
Research grants: 2539
Conference grants: 2540

Science Advice
General enquiries: 2583
Science Communication
General enquiries: 2572

International Exchanges (for grants enabling research visits between the UK and most other countries (except the USA))
General enquiries: 2555

Library and Information Services
Library/archive enquiries: 2606

Copyright © 2007 & 2008 The Royal Society

Except as otherwise permitted under the Copyright, Designs and Patents Act, 1988, this publication may only be reproduced, stored or transmitted, in any form or by any other means, with the prior permission in writing of the publisher, or in the case of reprographic reproduction, in accordance with the terms of a licence issued by the Copyright Licensing Agency. In particular, the Society permits the making of a single photocopy of an article from this issue (under Sections 28 and 33 of this Act) for an individual for the purposes of research or private study.

SUBSCRIPTIONS

In 2008, Journal of the Royal Society Interface (ISSN 1742-5689) will be published monthly, with twelve issues a year. Full details of subscriptions can be obtained by contacting our journal subscription agent, Portland Customer Services, Commerce Way, Colchester CO2 8HP; tel: 44 (0)1206 799331; fax: 44 (0)1206 799333; email: sales@portland-services.com or by visiting our website at publishing.royalsociety.org. From 2008 personal subscriptions are available for this journal—see prices. Full ordering information can be obtained from Portland Customer Services. These rates apply to bona fide individual use only. They must be paid by personal cheque or credit card, and orders cannot be delivered to an institutional address.

The Royal Society is registered Charity No 207043.

Typeset in India by the Alden Group, Oxfordshire. Printed by Latimer Trend, Plymouth.

This paper meets the requirements of ISO 9706:1994) and ANSI/NISO Z39.48-1992 (Permanent of Paper) effective with volume 1, issue 1, 2004.

Journal of the Royal Society Interface (ISSN No: 1742-5689) is published monthly by The Royal Society and distributed in the USA by DSW, 75 Aberdeen Road, Emeryville CA 94608-0437. Periodical postage paid at Emeryville, CA. POSTMASTER: Send address changes to Journal of the Royal Society Interface, PO Box 417, Emeryville CA 94608-0437.

Cover image: A female golden hamster (Mesocricetus auratus) emerging from a lab coat pocket. Photograph courtesy of Dr Matthew Paul, University of Massachusetts Medical School. (See pages 873-883.)