

## Editorial Board

### 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

### Athene M Donald

Cavendish Laboratory, University of Cambridge

### Francis Doyle III

Department of Chemical Engineering, University of California, Santa Barbara

### Neil Ferguson

Faculty of Medicine, Imperial College London

### Wayne Getz

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

### Lorna Gibson

Department of Materials Science and Engineering, Massachusetts Institute of Technology

### Wendy Hall

Department of Electronics and Computer Science, University of Southampton

### Stefan Hell

NanoBiophotonics, Max-Planck-Institut für biophysikalische Chemie, Göttingen

### Larry Hench

Director of Special Projects, University of Central Florida

### Richard Henderson

MRC Laboratory of Molecular Biology, University of Cambridge

### Peter Hunter

Bioengineering Institute, University of Auckland

### C. James Kirkpatrick

Institut für Pathologie, Johannes Gutenberg-Universität Mainz

### Hiroaki Kitano

Sony Computer Science Laboratories, Inc., Tokyo

### Richard Kitney

Department of BioEngineering, Imperial College London

### Michael Klein

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

### Tadashi Kokubo

Research Institute for Science and Technology, Chubu University

### Chwee Teck Lim

Division of Bioengineering & Department of Mechanical Engineering, National University of Singapore

### Teruo Okano

Institute of Advanced Biomedical Engineering and Science, Tokyo Women's Medical University

### Steve Oliver

Department of Biochemistry, University of Cambridge

### Julia Polak

TERM Centre, Division of Investigative Science, Imperial College London

### Patrick Prendergast

Department of Mechanical & Manufacturing Engineering, Trinity College Dublin

### Sir George Radda

University Laboratory of Physiology, University of Oxford

### David Rand

Department of Mathematics, University of Warwick

### Neil Rushton

Orthopaedic Research Unit, University of Cambridge

### John Ryan

Bionanotechnology IRC, University of Oxford

### Simon Tavaré

Department of Biological Sciences, University of Southern California

### Richard Templar

Department of Chemistry, Imperial College London

### Martin Vingron

Computational Molecular Biology, Max-Planck-Institut für molekulare Genetik, Berlin

### Ioannis Yannas

Department of Mechanical Engineering, Massachusetts Institute of Technology

### Joseph Zaccai

Institut Laue-Langevin, Grenoble

### Xingdong Zhang

Engineering Research Center in Biomaterials, Sichuan University

### Publishing Editor: Tim Holt

(tel: +44 (0)20 7451 2649; fax: +44 (0)20 7976 1837;

tim.holt@royalsociety.org)

### Production Editor: Janine Budd

6-9 Carlton House Terrace, London SW1Y 5AG, UK

rsif.royalsocietypublishing.org

ISBN: 978-0-85403-763-6

### Copyright © 2009 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 29 and 38 of this Act) for an individual for the purposes of research or private study.

### SUBSCRIPTIONS

For full details on institutional or personal subscriptions and single issue purchases of *Journal of the Royal Society Interface*, including *Interface Focus*, please contact our journal fulfilment agent, Portland Customer Services, Commerce Way, Colchester, CO2 8HP, Tel: +44 (0) 1206 796351/ Fax: +44 (0) 1206 799331/email: sales@portland-services.com. or by visiting our website at royalsocietypublishing/info/subscriptions. 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 may 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.

### AIMS AND SCOPE

Each issue of *Interface Focus* is devoted to specific topics at the interface of the physical and life sciences. It facilitates cross-disciplinary research across this traditional divide by acting as a forum accessible to all. Each issue aims to include a combination of high quality review and research articles and all contributions are peer-reviewed to the Royal Society's exacting standards. Articles are initially published online and subsequently in a printed supplement to *J. R. Soc. Interface*.

Subscription prices 2009 calendar year	Europe	USA & Canada	All other countries
Printed version			
Institutional subscription	£1012/US\$1922 €1315	£1049/US\$1993	£1071/US\$2034
Personal subscription	£169/€219	US\$340	£182/€345

Typeset in India by Techset Composition Limited, Salisbury, UK. Printed by Latimer Trend, Plymouth.

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

*Journal of the Royal Society Interface* (ISSN No: 1742-5689) is published monthly for US\$1993 per year by the Royal Society, and is distributed in the USA by Pitney Bowes International Mailing Services Inc as mailing agent. Periodicals postage paid at Kerney, NJ. and additional mailing offices. POSTMASTER: Send address changes to PB International Mailing Services Inc. 500 US Hwy 46, Clifton, NJ, 07011.