

# PHILOSOPHICAL TRANSACTIONS A

Continuing its long history of influential scientific publishing, *Phil. Trans. R. Soc. A* publishes high quality theme issues on topics of current importance and general interest within the physical, mathematical and engineering sciences, guest-edited by leading authorities and comprising new research, reviews and opinions from prominent researchers. Each issue aims to create an original and authoritative synthesis, often bridging traditional disciplines, which showcases current developments and provides a foundation for future research, applications and policy decisions.

[rsta.royalsocietypublishing.org](http://rsta.royalsocietypublishing.org)

## EDITOR

C. David Garner

## COMMISSIONING EDITOR

Bailey Fallon

## EDITORIAL COORDINATOR

Ruth Milne

## PRODUCTION EDITOR

Matthew Eland

## EDITORIAL BOARD

Kazuyuki Aihara

Henrik Alfredsson

Chunli Bai

Giu-Qiang Chen

Jack Connor

Athena Coustensis

John Dainton

Caterina Ducati

Baylor Fox-Kemper

Marie-Pierre Gageot

Isabelle Gallagher

Nigel Goldenfeld

Joanna Haigh

Yasuhiro Iwasawa

Nick Jenkins

Bruce Joyce

Brian Kennett

Richard Kerswell

Marta Kwiatkowska

Ying-Cheng Lai

Stephen Liddle

Simon Lilly

Joseph T. C. Liu

Malcolm Longair

Mike Lovell

John Meurig Thomas

Paul Milewski

Nicolas Moussiopoulos

Alfredo Ozorio de Almeida

Richard Patrick

Vincent Poor

Eric Priest

Stuart Robinson

Gordon Semenov

John Shepherd

Ingrid Stairs

Douglas Stephan

Howard Stone

Bill Unruh

Tanja van Mourik

Bryan Webber

Paul Williams

Xuesong Wu

Maohai Xie

Vivian Yam

Hiroshi Yamaguchi

Nan Yao

John Zarnnecki

## SUBSCRIPTIONS

In 2015 *Phil. Trans. R. Soc. A* (ISSN 1364-503X) will be published 26 times a year. For more details of subscriptions and single issue sales please contact our fulfilment agent:

Portland Customer Services  
Charles Darwin House  
12 Roger Street  
London WC1N 2JU  
United Kingdom

T +44 20 7685 2444

F +44 20 7685 2468

E [sales@portlandservices.com](mailto:sales@portlandservices.com)

Alternatively, please contact our customer service team at :

E [sales@royalsociety.org](mailto:sales@royalsociety.org)

## PRICES FOR 2015

	Online only	Online and print
<b>£ UK/Europe and rest of World</b>	£2,507	£3,509
<b>€ Europe</b>	€3,261	€4,565
<b>\$ US/Canada and rest of World</b>	\$4,753	\$6,654

## SUBMISSIONS

For submission guidelines and access to journal content visit:

[rsta.royalsocietypublishing.org](http://rsta.royalsocietypublishing.org)

## *Philosophical Transactions A*

ISSN 1364-503X

© The Royal Society, 2015

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. Open access articles, which are published under a CC-BY licence, may be re-used without permission, but subject to acknowledgement.