

JOURNAL OF THE GEOLOGICAL SOCIETY

EDITORIAL BOARD

Chief Editor: Quentin Crowley (Trinity College, Dublin, Ireland)

Editors

Ian Alsop (University of Aberdeen, UK)	Moonsup Cho (Seoul National University, Korea)	Philip Hughes (University of Manchester, UK)	Ellen Platzman (University of Southern California, USA)
Robert Anczkiewicz (Polish Academy of Sciences, Poland)	Chris Clark (Curtin University, Australia)	Stuart Jones (Durham University, UK)	David Pyle (University of Oxford, UK)
Brian Bell (Glasgow University, UK)	Philip Donoghue (University of Bristol, UK)	Conall Mac Niocaill (University of Oxford, UK)	Tyrone Rooney (Michigan State University, USA)
Bernard Bingen (Geological Survey of Norway)	Gary Hampson (Imperial College, London, UK)	Ian Millar (British Geological Survey, UK)	Ivan Sansom (University of Birmingham, UK)
Erdin Bozkurt (Middle East Technical University, Turkey)	Adrian Hartley (University of Aberdeen, UK)	Tim Needham (University of Leeds, UK)	Igor Villa (University of Bern, Switzerland)
Andrew Carter (Birkbeck College, London, UK)	Jim Hendry (University of Portsmouth, UK)	Richard Phillips (University of Leeds, UK)	Martin Whitehouse (Swedish Museum of Natural History)

Advisory Editors

Jon Blundy (Bristol University, UK)	Haakon Fossen (University of Bergen, Norway)	Victoria Pease (Stockholm University, Sweden)	Carl Stevenson (University of Birmingham, UK)
Stephen Daly (University College Dublin, Ireland)	Dave Harper (University of Copenhagen, Denmark)	Victor Ramos (University of Buenos Aires, Argentina)	Cees van Staal (Geological Survey of Canada)
Trevor Elliot (Liverpool University, UK)	Rajat Mazumder (University of New South Wales, Australia)	Hugh Rollinson (University of Derby, UK)	Mike Watkeys (University of KwaZulu-Natal, SA)
Richard England (University of Leicester, UK)	Peter Kokelaar (Liverpool University, UK)	Karel Schulmann (Université Louis Pasteur, Strasbourg, France)	Wenjiao Xiao (Chinese Academy of Sciences)
Ian Fitzsimons (Curtin University, Australia)	Brendan Murphy (St. Francis Xavier University, Canada)	James Scourse (Bangor University, UK)	

Production Editor: Hannah Sime (e-mail: hannah.sime@geolsoc.org.uk)

The Journal of the Geological Society is published bi-monthly in January, March, May, July, September and November.

Subscriptions: All correspondence relating to trade subscriptions should be addressed to the Journal Subscriptions Department, Geological Society Publishing House, Unit 7, Brassmill Enterprise Centre, Brassmill Lane, Bath, UK, BA1 3JN (tel 01225 445046; fax 01225 442836; e-mail: sales@geolsoc.org.uk). The online + print subscription prices for 2013 to institutions and non-Fellows is: £1193.96 (UK), £1326.62 (EU), £1130/\$2259 (RoW). Prices include tax. More information about subscription options can be found at <http://www.geolsoc.org.uk/LyellCollection>.

Outside Europe, the Journal is dispatched by various forms of airspeeded delivery. Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. US Postmaster: send address corrections to The Journal of the Geological Society, Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Back numbers are normally dispatched by surface mail.

Editorial correspondence and material submitted for publication: see inside back cover.

The Geological Society of London was founded in 1807. It is the oldest national geological society in the world and the largest in Europe. It was incorporated under Royal Charter in 1825 and is Registered Charity 210161. To find out about the Society and how you can join, please visit our website at www.geolsoc.org.uk or e-mail enquiries@geolsoc.org.uk.

© The Geological Society of London 2013. No reproduction, copy or transmission of all or part of this publication may be made without the prior written permission of the publisher. In the UK, users may clear copying permissions and make payment to The Copyright Licensing Agency Ltd, Saffron House, 6-10 Kirby Street, London EC1N 8TS UK, and in the USA to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Other countries may have a local reproduction rights agency for such payments. Full information on the Society's permissions policy can be found at: www.geolsoc.org.uk/permissions

Typeset and printed in the UK by Henry Ling Ltd, The Dorset Press, Dorchester DT1 1HD