

EDITORIAL POLICY

Journal of Developmental Origins of Health and Disease publishes leading research in the field of developmental origins of health and disease (DOHaD), focusing on how the environment during early animal and human development, and interactions between environmental and genetic factors, influence health in later life and risk of disease. The journal includes original research articles, short communications and reviews, and has regular themed issues, with guest editors; it is also a platform for conference/workshop reports, and for opinion, comment and interaction. JDOHaD is multi-disciplinary, with contributions from basic scientists working in the fields of physiology, nutrition, endocrinology and metabolism, developmental biology, molecular biology and epigenetics, human biology and anthropology, evolutionary developmental biology, and clinicians, nutritionists, epidemiologists, social scientists, economists, public health specialists and policy makers.

SUBSCRIPTIONS

Journal of Developmental Origins of Health and Disease (print ISSN 2040-1744, electronic ISSN 2040-1752) is published bimonthly in February, April, June, August, October and December, 6 parts forming a volume, by Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK/Cambridge University Press, 32 Avenue of the Americas, New York, NY 10013-2473, USA. The institutional subscription price (excluding VAT) which includes electronic access of Volume 6 (2015) is £286 net (US \$458 in the USA, Canada and Mexico). Back volumes are also available.

Orders, which must be accompanied by payment, may be sent to a bookseller, subscription agent or direct to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK; or in the USA, Canada and Mexico: Cambridge University Press, Journals Fulfillment Department, 100 Brook Hill Drive, West Nyack, New York 10994-2133. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Japanese prices for institutions are available from Kinokuniya Company Ltd, PO Box 55, Chitose, Tokyo 156, Japan.

DOHaD MEMBERS SUBSCRIPTION

Members of the International Society for Developmental Origins of Health and Disease (DOHaD) receive electronic access to the journal as part of their subscription to the Society (Standard membership rate: £45 / US\$70 / €50; Student membership rate: £20 / US\$30 / €22; Developing Country rate: see www.dohadsoc.org). For membership application details please visit www.dohadsoc.org.

COPYRIGHT AND PERMISSIONS

This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are also registered with C.C.C. may therefore copy material (beyond the

limits permitted by sections 107 and 108 of U.S. Copyright law) subject to payment to C.C.C. of the per-copy fee of \$25.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 2040-1744/2011 \$25.00.

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

Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions.

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

ABSTRACTING AND INDEXING

Journal of Developmental Origins of Health and Disease is covered by Thomson Reuters' Journal Citation Reports, PubMed, Science Citation Index Expanded (also known as SciSearch®), Biosis Abstracts, and Biosis Previews.

ADVERTISING

Advertising queries for all parts of the world except the USA, Canada and Mexico to: ad_sales@cambridge.org

Address enquiries in the USA, Mexico and Canada only to: journals_advertising@cup.org

OTHER BUSINESS CORRESPONDENCE

All other business correspondence should be sent to Dan Edwards, Senior Commissioning Editor: dedwards@cambridge.org

INSTRUCTIONS FOR CONTRIBUTORS

Full Instructions for Contributors are available for download from journals.cambridge.org/doh

INTERNET ACCESS

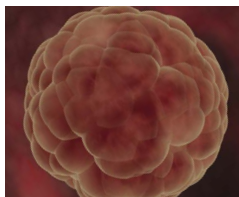
This journal is included in the Cambridge Journals Online service which can be found at journals.cambridge.org. For further information on other Press titles access cambridge.org

DISCLAIMER

The views expressed in this journal represent those of the authors only. In no way can they be construed to necessarily reflect the views of either the Editors, the Publishers, or the Society.

© Cambridge University Press and the International Society for Developmental Origins of Health and Disease 2015

JOURNAL OF DEVELOPMENTAL ORIGINS OF HEALTH AND DISEASE



9th World Congress on Developmental Origins of Health and Disease
8-11 November 2015, Cape Town, South Africa

Guest Editors: Shane Norris and Lisa Micklesfield

Contents

Main Program

Abstracts: Oral Presentations

S1

Poster-Oral Programme

Abstracts: Poster Oral Presentations

S54



Cambridge Journals Online

For further information about this journal

please go to the journal web site at:

journals.cambridge.org/doh

CAMBRIDGE
UNIVERSITY PRESS