



# Oral Health & Preventive Dentistry

## Editors-in-Chief

### Prof. Dr. Dr. h.c., M.S.

**Anton Sculean**  
University of Bern,  
School of Dental  
Medicine, Department of  
Periodontology,  
Freiburgstrasse 7,  
CH-3010 Bern,  
Switzerland  
E-mail: anton.sculean@  
zmk.unibe.ch

### Prof. Dr. Poul Erik Petersen

University of Copenhagen,  
Faculty of Health Sciences,  
School of Dentistry,  
Department for Global Oral  
Health and Community  
Dentistry,  
Oester Farimagsgade 5,  
DK-1014 Copenhagen K,  
Denmark  
E-mail: poep@sund.ku.dk

### Prof. Avijit Banerjee

Chair in Cariology &  
Operative Dentistry,  
King's College London  
Dental Institute,  
Floor 26, Tower Wing,  
Guy's Dental Hospital,  
London Bridge, London  
SE1 9RT. UK.  
E-mail:  
avijit.banerjee@kcl.ac.uk

## Submit the manuscripts and illustrations preferably through:

<http://www.manuscriptmanager.com/ohpd/>  
Or to:

Quintessence Publishing Co., Ltd.,  
Grafton Road, New Malden,  
Surrey KT3 3AB, UK  
info@quintpub.co.uk

## Editorial Board

Patrick Adriaens, Brussels, Belgium  
Thomas Attin, Zürich, Switzerland  
Robert A. Bagramian, Ann Arbor, USA  
Georgios Belibasakis, Zürich, Switzerland  
Kristina Bertl, Malmö, Sweden  
Brian M. Bishop, Perth, Australia  
Noemi Bordoni, Buenos Aires, Argentina  
Nagihan Bostanci, Zürich, Switzerland  
Nurcan Buduneli, Izmir, Turkey  
Yvonne Buischi, Sao Paulo, Brazil  
Antonio Carrassi, Milan, Italy  
C. H. Chu, Hong Kong, China  
Wil Coulter, Belfast, Northern Ireland  
Dominique Declerck, Leuven, Belgium  
James Deschner, Bonn, Germany  
Maria Fidela de Lima Navarro, Bauru, Brazil  
Dan Ericson, Malmö, Sweden  
Jo Frencken, Nijmegen, The Netherlands  
Michael Glick, Buffalo, USA  
Hattice Hasturk, Cambridge, USA  
Elmar Hellwig, Freiburg, Germany  
David Herrera, Madrid, Spain  
Mats Jontell, Göteborg, Sweden  
Rainer Jordan, Köln, Germany  
Moritz Kebschull, Bonn, Germany  
Andrej Kielbassa, Krems, Austria  
Jean-Jaques Lasfargues, Paris, France  
Lim Lum Peng, Singapore  
Edward Lo, Hong Kong, China  
Bruno Loos, Amsterdam, The Netherlands  
Rodrigo Lopez, Aarhus, Denmark  
Francina Lozada-Nur, San Francisco, USA  
Adrian Lussi, Bern, Switzerland

Edward Lynch, Warwick, UK  
Phoebus N. Madianos, Athens, Greece  
Wagner Marceles, London, UK  
Luc Marks, Ghent, Belgium  
Luc C. Martens, Ghent, Belgium  
Hendrik Meyer-Lückel, Aachen, Germany  
Michelle Muller-Bolla, Nice, France  
Hien Ngo, Kuwait City, Kuwait  
Luigi Nibali, London, UK  
Michael Noack, Köln, Germany  
Trisha E. O'Hehir, Tucson, USA  
Mutlu Özcan, Zürich, Switzerland  
G. Rutger Persson, Seattle, USA  
Christoph Ramseier, Bern, Switzerland  
Jesper Reibel, Copenhagen, Denmark  
Stefan Renvert, Kristianstad, Sweden  
Jean-François Roulet, Gainesville, USA  
Mariano Sanz, Madrid, Spain  
Patrick Schmidlin, Zürich, Switzerland  
Keyvan Sohrabi, Seattle, USA  
Christian Splieth, Greifswald, Germany  
Andreas Stavropoulos, Malmö, Sweden  
Jean Suvan, London, UK  
Leonardo Trombelli, Ferrara, Italy  
Svante Twetman, Umeå, Sweden  
Isaac van der Waal, Amsterdam,  
The Netherlands  
Laurie Walsh, Brisbane, Australia  
Clemens Walter, Basel, Switzerland  
Richard Watt, London, UK  
Jiao Yzu, Ann Arbor, USA  
Joanna Zakrzewska, London, UK  
Stefan Zimmer, Witten, Germany

Oral Health & Preventive Dentistry is a quarterly journal conveying scientific progress to clinicians, general practitioners, teachers, researchers and public health administrators in the field of oral health and prevention of caries, periodontal diseases, oral mucosal diseases and dental trauma. It includes oral hygiene, oral epidemiology, oral health promotion and public health aspects as central topics of the scope.

Oral Health & Preventive Dentistry is covered in MEDLINE, Science Citation Index Expanded, Journal Citation Reports/Science Edition, Current Contents/Clinical Medicine, and Cumulative Index to Nursing and Allied Health Literature (CINAHL).

## Subscription Information

Quintessence Publishing Co., Ltd., Grafton Road,  
New Malden, Surrey KT3 3AB, UK  
Phone: +44(0)20 8949 6087 Fax: +44(0)20 8336 1484  
E-mail: info@quintpub.co.uk  
Web site: <http://www.quintpub.co.uk>  
Germany, Austria, Switzerland by  
Quintessenz Verlags-GmbH, Ifenpfad 2-4,  
12107 Berlin, Germany  
Phone: +49-30-761 80-5, Fax: +49-30-761 80-680,  
E-mail: info@quintessenz.de  
Web site: <http://www.quintessenz.de>  
No. and So. America, Australia, New Zealand, Asia by  
Quintessence Publishing Co., Inc., 4350 Chandler Drive,  
Hanover Park, Illinois 60133, USA  
Phone: (630) 736-3600, Fax: (630) 736-3633  
E-mail: service@quintpub.com  
Web site: <http://www.quintpub.com>

**Publisher** Dr. h.c. H. W. Haase  
**Publishing Director** Johannes Wolters  
E-mail: jwolters@quintpub.co.uk

**Editorial Coordinator** Kathleen Splieth

**Production Manager** Petra Jentschke

## Subscription Managers

Angela Köthe Germany, Austria, Switzerland  
Andrew Johnson All other countries

**Advertising Sales Manager** Sue Newbury

**Oral Health & Preventive Dentistry** is published bimonthly by Quintessence Publishing Co., Ltd., Grafton Road, New Malden, Surrey KT3 3AB, UK. Court domicile and place of performance: London, England

## Subscription rates (6 issues per year)

**Europe:** Individual € 212/£ 184;  
Institutional € 460/£ 390;  
Student € 110/£ 94; Single copy € 38/£ 35.

**Airmail:** Individual £ 214; Institutional £ 420; Student £ 124.  
Single copy £ 40. **North America and rest of the world:**  
Individual \$ 270; Institutional \$ 540; Student \$ 135. Single copy \$ 50.

(Student verification must accompany order.)

Subscriptions may begin at any time; cancellations must be received one month prior to expiration date. Please allow 6 weeks for any change of address notification to be processed. Claims for missing journals will be serviced only within 6 months of publication date. Otherwise, single copy price will be charged on missing issues.

**Postmaster:** Send address changes to Quintessence Publishing Co., Ltd., Grafton Road, New Malden, Surrey KT3 3AB, UK; or Quintessenz Verlags-GmbH, Ifenpfad 2-4, 12107 Berlin, Germany.

**Copyright © 2017** by Quintessence Publishing Co., Ltd. All rights reserved. No parts of this journal may be reproduced in any material form (including photocopying or storing it in any medium by electronic means and whether transiently or incidentally to some other use of this journal) without the written permission of the publisher except in accordance with the provisions of the Copyright, Designs and Patents Act 1988 or under the terms of a licence issued by The Copyright Licensing Agency Ltd, 90 Tottenham Court Road, London, W1P 0LP. Application for the copyright owner's written permission to reproduce any part of this journal should be addressed to the publisher. The publisher assumes no responsibility for unsolicited manuscripts. All opinions are those of the authors.

**Permission** to photocopy items solely for internal or personal use and for the internal and personal use of specific clients is granted by Quintessence Publishing Co., Ltd.

**Advertising Policy** All advertising appearing in **Oral Health & Preventive Dentistry** must be approved by the Editors/Editorial Board. The publication of an advertisement is not to be construed as an endorsement of approval by OH & PD or its publisher.

Printed in Germany ISSN: 1602-1622 (Print)  
ISSN: 1757-9996 (Online)

Web edition:  
<http://ohpd.quintessenz.de>