

The International Journal of Prosthodontics

Bridging the Gap Between Science and Clinical Practice

ISSN 0893-2174 (print)
ISSN 1942-4426 (online)

EDITOR-IN-CHIEF

Irena Sailer, Prof Dr Med Dent
Geneva, Switzerland

ASSOCIATE EDITORS

Nikos Mattheos, DDS, MASc, PhD
Hong Kong, China

Daniel Thoma, Prof Dr Med Dent
Zurich, Switzerland

Kenneth Malament, DDS, MScD
Boston, Massachusetts, USA

SECTION EDITORS

Clinical Research

Markus Blatz, DMD, PhD, Dr Med Dent Habil
Philadelphia, Pennsylvania, USA

Stefan Wolfart, Prof Dr Med Dent
Aachen, Germany

Reviews

Luca Cordaro, MD, DDS, PhD
Rome, Italy

Fundamental Research

Petra Gierthmühlen, DDS, PhD
Düsseldorf, Germany

Yu Zhang, MS, PhD
New York, New York, USA

Digital Dental Technologies

Wael Att, DDS, Dr Med Dent, PhD
Boston, Massachusetts, USA

Vincent Fehmer, MDT
Geneva, Switzerland

Marta Revilla-León, DDS, MSD, PHD
Seattle, Washington, USA

Clinical Concepts, #IJP_live

Helena Francisco, DDS, MSc, PhD
Lisbon, Portugal

Iva Milinkovic, MSc, PhD
Belgrade, Serbia

Miha Pirc, DMD Spec (Perio)
Zurich, Switzerland

ABSTRACT EDITOR

Steven Sadowsky, DDS
San Francisco, California, USA

STATISTICAL ADVISOR

Philippe Mojon, Dr Med Dent
Geneva, Switzerland

Board of Reviewers

Tomas Albrektsson, MD, PhD, OD hc, RCPSCG
Limor Avivi-Arber, DMD, MSc, PhD, Dip Prosth

Michael Bergler, MDT

Estevam Bonfante, DDS, MS, PhD
Lawrence Brecht, DDS

Stephen Chu, DMD, MSD, CDT

Lyndon Cooper, DDS, PhD

Anthony Dawson, BDS, MDS

Anthony Dickinson, BDSc, MSD

James Dudley, BDS, MHSM, DCLinDent(Pros)

Joke Duyck, DDS, PhD

Carlo Ercoli, DDS

Jonathan Ferencz, DDS

Yoav Finer, DMD, PhD

Luigi Gallo, PhD, MEng

Klaus Gotfredsen, DDS, PhD

Stefano Gracis, DMD, MSD

David Gratton, DDS, MS

Ingrid Grunert, Prof Dr Med, Dr Med Dent

Jan-Frederik Güth, Prof Dr Med Dent

Adam Hamilton, BDSc, DCD

Jung-Suk Han, DDS, MS, PhD

Arndt Happe, PD Dr Med Dent

Jenni Hjerpe, DDS, PhD

Alexis Ioannidis, Dr Med Dent

Xinquan Jiang, DDS, PhD

Asbjørn Jokstad, DDS, Dr Odont

Ronald Jung, Prof Dr Med Dent, PhD

Matthias Kern, Prof Dr Med Dent Habil

Kenneth Kurtz, DDS

Christel Larsson, DDS, PhD

Danielle Layton, BDSc, MDSc, MSc, DPhil

Dominic Leung, BDS, MSc

Feng Liu, DDS, MS

Kenneth Malament, DDS, MScD

Francesco Mangano, DDS, PhD

William Martin, DMD, MS

Jukka Matinlinna, BSc, MSc, PhD

Konstantinos Michalakis, DDS, MSc, PhD

Eitan Mijiritsky, DMD, Dipl (Prosth)

Michael Moscovitch, DDS

Sven Mühlemann, Dr Med Dent

Frauke Müller, Prof Dr Med Dent

Nadja Nänni, Dr Med Dent

Timo Närhi, DDS, PhD

Rade Paravina, DDS, MS, PhD

Edmond Pow, BDS, MDS, PhD

Harold Preiskel, MDS, MSc

Marta Revilla-León, DDS, MSD

Giovanni Rocca, DMD, PD, PhD

Martin Schimmel, Prof Dr Med Dent, MAS

Marc Schmitter, Prof Dr Med Dent

Nelson Silva, DDS, MSc, PhD

Adam Siu, BDS, MDS(Pros)

Ami Smidt, DMD, MSc, BMedSc

Benedikt Spies, PD Dr Med Dent, PhD

Murali Srinivasan, Prof Dr Med Dent, BDS, MDS, MBA, MAS

Bogna Stawarczyk, Prof Dr Dipl-Ing (FH), MS

Malin Strasding, Dr Med Dent

Esam Tashkandi, BDS, MS, PhD

Thomas Taylor, DDS, MSD

Daniel Thoma, PD Dr Med Dent

Pekka Vallittu, Professor, DDS, PhD

Paul Van Zyl, BChD, MChD

Stefan Vandeweghe, DDS, PhD

Per Vult von Steyern, Professor, Dr Odont, PhD, DDS

Terry Walton, BDS, MDSc, MS, DDSc

Hans-Peter Weber, DMD, Dr Med Dent

Daniel Wismeijer, DDS, PhD

Philip Yeung, BDSc, MSc, Cert(Pros)

Cristina Zarauz, DDS, MSc

Publisher

Christian W. Haase

Publisher Emeritus

H. W. Haase

Managing Editor

Julia Harrison

Production

Nicole McMillan

Subscription Manager

Michelle Hartman

Advertising/subscription information:

Quintessence Publishing Co, Inc, 411 N Raddant Road, Batavia, Illinois 60510, Telephone (630) 736-3600 Toll-free (800) 621-0387, Fax: (630) 736-3633

Advertising email: russell@quintessence-publishing.com

Subscription email: mhartman@quintbook.com

Website: www.quintessence-publishing.com

Subscription rates (includes online version):

Regular rate for North America is \$228 per year; institutional rate is \$596 (Canadian subscribers add applicable GST). International rate (outside North America) is \$268; \$636 institutional. International subscribers add \$40 to international rate for air mail. Student rate \$130 per year (\$170 international); verification should accompany order. Single issue \$45. Subscription may begin at any time. Please allow 6 weeks for any change of address notification to be processed. Claims for missing issues will be serviced only within 6 months of publication date. Otherwise, single copy price will be charged on missing issues.

Copyright © 2024 by Quintessence Publishing Co, Inc. All rights reserved. No part of this journal may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information and retrieval system, without permission of the publisher through the Copyright Clearance Center. Single photocopies of single articles may be made for personal use as allowed by national copyright laws. Please contact the Copyright Clearance Center for permission requests and to pay fees: Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923 (www.copyright.com). The journal's ID number (ISSN) is 0893-2174.

The views expressed herein are those of the authors. Information included herein is not professional advice and is not intended to replace the judgment of a practitioner with respect to particular patients, procedures, or practices. To the extent permissible under applicable laws, Quintessence Publishing Company disclaims responsibility for any injury and/or damage to persons or property as a result of any actual or alleged libelous statements, infringement of intellectual property or other proprietary or privacy rights, or from use or operation of any ideas, instructions, procedures, products, or methods contained in the material therein. The publisher and editors assume no responsibility for unsolicited manuscripts.

Advertising Policy: All advertising appearing in *The International Journal of Prosthodontics* must be approved by the editorial staff. The publication of an advertisement does not constitute on the part of the Journal or publisher a guaranty or endorsement of the quality or value of the advertised products or services or of any of the representations or the claims made by the advertisers.

Manuscript submission:

www.manuscriptmanager.net/ijp

The International Journal of Prosthodontics is abstracted and/or indexed in MEDLINE/PubMed, Current Contents/Clinical Medicine, and Science Citation Index Expanded.

The International Journal of Prosthodontics is published bimonthly by Quintessence Publishing Co, Inc, 411 N Raddant Road, Batavia, Illinois 60510. Printed in the United States.

Postmaster: Send address changes to Quintessence Publishing Co, Inc, 411 N Raddant Road, Batavia, Illinois, 60510.

Official Journal of:

European Association for Osseointegration
International College of Prosthodontists
German Society for Prosthodontics and
Dental Materials Science
Italian Academy of Prosthetic Dentistry

© 2024 BY QUINTESSENCE PUBLISHING CO, INC.

NO PART MAY BE REUSED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM THE PUBLISHER.