

# INTERNATIONAL JOURNAL OF ORAL IMPLANTOLOGY

## Editor-in-Chief

**Craig Misch**, Sarasota, FL, USA

## Associate Editors

**Fouad Khoury**, Olsberg, Germany  
**Hongchang Lai**, Shanghai, China  
**Hom-Lay Wang**, Ann Arbor, MI, USA

## Section Editors: Fundamental Research

**Paulo G Coelho**, New York, NY, USA  
**Lyndon F Cooper**, Chicago, IL, USA  
**Reinhard Gruber**, Vienna, Austria

## Section Editors: Clinical Research

**Leandro Chambrone**, São Paulo, Brazil  
**Reinhilde Jacobs**, Leuven, Belgium  
**Daniel Wismeijer**, Amsterdam, Netherlands

## Section Editors: Clinical Concepts

**Jose M Navarro**, London, UK  
**Dennis Tarnow**, New York, NY, USA  
**Tiziano Testori**, Milan, Italy

## Section Editors: Scientific Reviews

**Asbjørn Jokstad**, Tromsø, Norway  
**Alberto Monje**, Barcelona, Spain  
**Dean Morton**, Indianapolis, IN, USA  
**Andrea Ravidà**, Ann Arbor, MI, USA

## Statistical Advisor

**Wim Coucke**, Leuven, Belgium

## Abstract Editor

**Rodrigo F Neiva**, Philadelphia, PA, USA

*Official publication of*  
 International Congress of Oral  
 Implantologists (ICOI),  
 and Portuguese Society of Implantology  
 and Osseointegration (SOPIO)

## Editorial Review Board

**Eduardo Anitua**, Vitoria-Gasteiz, Spain  
**Wael Att**, Boston, MA, USA  
**Gustavo Avila-Ortiz**, Iowa City, IA, USA  
**Nitzan Bichacho**, Tel Aviv, Israel  
**Markus B Blatz**, Philadelphia, PA, USA  
**Michael Block**, New Orleans, LA, USA  
**Michael M Bornstein**, Basel, Switzerland  
**Luigi Canullo**, Valencia, Spain  
**Daniele Cardaropoli**, Torino, Italy  
**Bruno Chrcanovic**, Malmö, Sweden  
**Stephen J Chu**, New York, NY, USA  
**Luca Cordaro**, Rome, Italy  
**Amir Danesh-Sani**, Chicago, IL, USA  
**Hugo De Bruyn**, Nijmegen, Netherlands  
**Rafael Delgado-Ruiz**, Stony Brook, NY, USA  
**Nikolaos Donos**, London, UK  
**Pablo Galindo-Moreno**, Granada, Spain  
**Scott Ganz**, Fort Lee, NJ, USA  
**Jung-Suk Han**, Seoul, Republic of Korea  
**Arndt Happe**, Münster, Germany  
**Uli Hauschild**, Frankfurt, Germany  
**Soren Jepsen**, Bonn, Germany  
**Ki-Tae Koo**, Seoul, Republic of Korea  
**Georgios Kotsakis**, San Antonio, TX, USA  
**Bach Le**, Los Angeles, CA, USA  
**Nikos Mattheos**, Hong Kong, China  
**Richard Miron**, Davie, FL, USA  
**Emeka Nkenke**, Vienna, Austria  
**Mutlu Özcan**, Zurich, Switzerland  
**Michael Pikos**, New Port Richey, FL, USA  
**Waldemar D Polido**, Indianapolis, IN, USA  
**Bernhard Pommer**, Vienna, Austria  
**Alessandro Pozzi**, Rome, Italy  
**Andrea Rocuzzo**, Bern, Switzerland  
**Georgios E Romanos**, Stony Brook, NY, USA  
**Mariano Sanz**, Madrid, Spain  
**Danilo Schneider**,  
 Novo Hamburgo, Brazil  
**Devorah Schwartz-Arad**, Tel-Aviv, Israel  
**Anton Sculean**, Bern, Switzerland  
**XieQi Shi**, Bergen, Norway  
**Jamil Awad Shibli**, Guarulhos, Brazil  
**Martina Stefanini**, Bologna, Italy  
**Hendrik Terheyden**, Kassel, Germany  
**Ghadeer Thalji**, Chicago, IL, USA  
**Daniel Thoma**, Zurich, Switzerland  
**Tolga Tozum**, Chicago, IL, USA  
**Istvan Urban**, Budapest, Hungary  
**Giovanni Zucchelli**, Bologna, Italy

The *International Journal of Oral Implantology* is published quarterly by Quintessenz Verlags-GmbH, Ifenpfad 2-4, 12107 Berlin, Germany. Director: C. W. Haase, 93 HRB 15582. Court domicile and place of performance: Berlin, Germany.

The *International Journal of Oral Implantology* is listed in MEDLINE, Science Citation Index Expanded and Journal Citation Reports/Science Edition.

Copyright © 2023 Quintessenz Verlags-GmbH. All rights reserved.

No part 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, Saffron House, 6-10 Kirby Street, London EC1N 8TS, UK. 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.

**Advertising Policy:** All advertising appearing in the *International Journal of Oral Implantology* must be approved by the Editors/Editorial Board. The publication of an advert is not to be construed as an endorsement of approval by the journal or its publisher.

**Permission to photocopy** items solely for internal or personal use and for the internal and personal use of specific clients is granted by Quintessenz Verlags-GmbH

**Publisher:** Christian Haase  
**Publisher Emeritus:** Dr h. c. H.-W. Haase  
**Director of Journal Publications:** Dr Marina Rothenbücher  
**Editorial Coordinator:** Elizabeth Ducker  
**Content Editor:** Megan Platt

**Subscription Managers:**  
 Adelina Hoffmann (abo@quintessenz.de): EU Countries  
 Andrew Johnson (ajohnson@quintpub.co.uk): United Kingdom, Asian and African countries  
 Michelle Hartman (mhartman@quintbook.com): North and South America, Australia

**Advertising:** Markus Queitsch  
 (queitsch@quintessenz.de / +49 (0) 172-933 71 33)

**Layout/Production:** Ina Steinbrück  
 Printed in Germany

## Subscription information

Contact your nearest Quintessence office:  
 Quintessenz Verlags-GmbH, Ifenpfad 2-4, D-12107 Berlin, Germany  
 Tel: +49-30-761 80-5; Fax: +49-30-761 80-68-0  
 Email: info@quintessenz.de; www.quintessence-publishing.com

Quintessence Publishing Co. Ltd,  
 Quintessence House, Grafton Road, New Malden,  
 Surrey KT3 3AB, UK.  
 Tel: +44 (0)20 8949 6087; Fax: +44 (0)20 8336 1484  
 Email: abo@quintpub.co.uk; www.quintessence-publishing.com

Quintessence Publishing Co. Inc  
 411 N. Raddant Road, Batavia, Illinois 60510, USA  
 Tel: (630) 736-3600; Fax: (630) 736-3633  
 Email: service@quintpub.com; www.quintpub.com

Subscription rates (includes online version, www.quint.link/ijoi)  
 Europe:

	Surface mail	Air mail
Individual	€198 / £172	£188
Institutional	€400 / £348	£364
Student*	€98 / £85	£101
Single issue	€52 / £45	£49

North America and rest of world:  
 Individual \$216; Institutional \$438; Student\* \$108  
 \*Student verification must accompany order.

Subscriptions may begin at any time. 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.

**Manuscript submission information:** Go to www.manuscriptmanager.net/ijoi to submit online. For more information, see the Guidelines for Authors (<http://ijoi.quintessenz.de>).

**Impact factor 2021** 3.654  
 ISSN 2631-6420 (Print), ISSN 2631-6439 (Online)