Front Matter: Volume 9692
Lasers in Dentistry XXII

Peter Rechmann
Daniel Fried
Editors

14 February 2016
San Francisco, California, United States

Sponsored and Published by
SPIE

Volume 9692
# Contents

| v | Authors |
| vii | Conference Committee |

## SESSION 1 LASERS AND ENDODONTICS, NANOPARTICLE DENTIN CONDITIONING

9692 03 Digital moiré interferometric analysis on the effect of nanoparticle conditioning on the mechanical deformation in dentin [9692-3]

9692 04 Comparing irradiation parameters on disinfecting enterrococcus faecalis in root canal disinfection [9692-1]

## SESSION 2 CO2 LASERS IN ABLATION AND CARiES PREVENTION, Er:YAG FOR DEBONDING

9692 05 Microsecond enamel ablation with 10.6µm CO2 laser radiation [9692-4]

9692 06 A new sealed RF-excited CO2 laser for enamel ablation operating at 9.4µm with a pulse duration of 26µs [9692-5]

9692 08 Er:YAG laser metal and ceramic bracket debonding [9692-7]

## SESSION 3 IMAGING OF DENTAL HARD TISSUES

9692 09 A pilot study on the detection of early proximal and occlusal dental caries using long-wave infrared thermophotonic imaging [9692-8]

9692 0A A system for simultaneous near-infrared reflectance and transillumination imaging of occlusal carious lesions [9692-9]

9692 0B Assessment of remineralized dentin lesions with thermal and near-infrared reflectance imaging [9692-10]

## SESSION 4 LASERS IN ORAL SURGERY

9692 0E Blue diode laser: a new approach in oral surgery? [9692-13]

## POSTER SESSION

9692 0J Evaluation of Vickers hardness of bulk-fill composites cured by different light sources [9692-18]

9692 0K Hard-tissue drilling by short-pulse CO2 laser with controllable pulse-tail energy [9692-19]
Diode λ830nm laser associated with hydroxyapatite and biological membranes: bone repair in rats [9692-20]

Structural changes in the irradiated dentin with Nd:YAG and Er:YAG lasers for cervical hypersensitivity treatment and their influence on the microtensile resistance in resin-dentin interface [9692-21]

Evaluation of microshear bond strength of resin composites to enamel of dental adhesive systems associated with Er,Cr:YSGG laser [9692-22]

Optical coherence tomography investigations of ceramic lumineers [9692-24]

Monitoring the gingival regeneration after aesthetic surgery with optical coherence tomography [9692-25]

A comparative study of shear bond strength of orthodontic bracket after acid-etched and Er:YAG treatment on enamel surface [9692-26]

Selective removal of dental composite with a diode-pumped Er:YAG laser [9692-27]

Enhancement of OCT images with vinyl polysiloxane (VPS) [9692-28]

Selective removal of esthetic composite restorations with spectral guided laser ablation [9692-29]

Assessment of simulated lesions on primary teeth with near-infrared imaging [9692-30]

Evaluation of enamel surface modification using PS-OCT after laser treatment to increase resistance to demineralization [9692-31]

Influence of stains on lesion contrast in the pits and fissures of tooth occlusal surfaces from 800-1600-nm [9692-32]
Authors

Numbers in the index correspond to the last two digits of the six-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first four digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B,...0Z, followed by 10-1Z, 20-2Z, etc.

Akitsu, Tetsuya, 0K
Almaz, Elias C., 0X
Alsaedi, Fahad M., 0J
Araújo, Ana C. S., 0M
Araújo, Natália Costa, 0L
Bakhsh, Turki A., 0J
Benetti, Carolina, 0N
Carneiro, Vanda Sanderana Macêdo, 0L
Cassimiro-Silva, Patricia Fernandes, 0N, 0R
Castro, Roseane F., 0M
Chan, Kenneth H., 06, 0S, 0U, 0W
Cucinotta, Annamaria, 0E
Darling, Cynthia L., 0A, 0B, 0S, 0T, 0U, 0X
de Paula Eduardo, Carlos, 0N
Dostálová, Tatjana, 08
Fernandes, Luana O., 0P, 0Q
Fornaini, Carlo, 0E
Fried, Daniel, 06, 0A, 0B, 0S, 0T, 0U, 0V, 0W, 0X
Fried, William A., 0S
Gerbi, Marleny Elizabeth Martinez, 0L
Gomes, Anderson Stevens Leônidas, 0M, 0N, 0P, 0Q, 0R
Góra, W. S., 05
Graça, Natalia D. R. L., 0P, 0Q
Gülsoy, Murat, 04
Hand, D. P., 0S
Jamlehi, Ahmad, 0J
Jelinková, Helena, 0B
Jew, Jamison M., 06
Jitsuno, Takahisa, 0K
Kang, Habin, 0T
Kim, Jin Wan, 0W
Kishen, Anil, 03
Leão, Juliana C., 0R
Lee, Robert C., 0B, 0V
Li, Fang Chi, 03
Limeira, Francisco de Assis, Jr., 0L
Lin, Brent, 0V
McDonald, A., 05
Melo, Luciana S. A., 0P, 0Q
Menezes, Rebeca Ferraz de, 0L
Merigo, Elisabetta, 0E
Monteiro, Gabriela Queiroz de Melo, 0N
Mota, Cláudia C. B. O., 0M, 0R
Némec, Michal, 08
Ojaghi, Ashkan, 09
Parkhimchyk, Artur, 09
Remiš, Marek, 08
Santos-Neto, Alexandra de Pereira dos, 0L
Sarp, Ayşe Sena, 04
Sasaki, Tatsufumi, 0K
Selleiri, Stefano, 0E
Senia, Tatiane V. H. S., 0M
Shephard, J. D., 05
Silva, Cláudio H. V., 0P, 0Q
Simon, Jacob C., 0A, 0V, 0X
Staninec, Michal, 0U
Šulc, Jan, 08
Tabatabaei, Nima, 09
Tam, Wilson, 0V
Tsui, Grant H., 0U
Uno, Kazuyuki, 0K
Vyhildal, David, 08
Yagmoor, Mohammed A., 0J
Yamamoto, Takuya, 0K
Yi, Ivan, 0U
Zezell, Denise Maria, 0N
Conference Committee

Symposium Chairs

James G. Fujimoto, Massachusetts Institute of Technology (United States)
R. Rox Anderson, Wellman Center for Photomedicine, Massachusetts General Hospital (United States) and Harvard School of Medicine (United States)

Program Track Chair

Brian Jet-Fei Wong, Beckman Laser Institute and Medical Clinic (United States)

Conference Chairs

Peter Rechmann, University of California, San Francisco (United States)
Daniel Fried, University of California, San Francisco (United States)

Conference Program Committee

Gregory B. Altshuler, Palomar Medical Technologies, Inc. (United States)
Tatjána Dostálová M.D., Charles University in Prague (Czech Republic)
Thomas Ertl, Universität Stuttgart (Germany)
David M. Harris, Bio-Medical Consultants, Inc. (United States)
Jörg Meister, Universitätsklinikum Bonn (Germany)
Eric J. Seibel, University of Washington (United States)

Session Chairs

1 Lasers and Endodontics, Nanoparticle Dentin Conditioning
   Peter Rechmann, University of California, San Francisco (United States)

2 CO2 Lasers in Ablation and Caries Prevention, Er:YAG for Debonding
   Daniel Fried, University of California, San Francisco (United States)

3 Imaging of Dental Hard Tissues
   Peter Rechmann, University of California, San Francisco (United States)

4 Lasers in Oral Surgery
   Daniel Fried, University of California, San Francisco (United States)