



Dentistry/Oral and Maxillofacial Session

Saturday, April 17, 2010

2010 Annual Conference
Pre-Conference Courses: April 14-15, 2010
Annual Conference: April 16-18, 2010
Phoenix Convention Center, Phoenix, AZ

Dentistry/Oral and Maxillofacial - North 224 A&B **3:45 pm - 6:10 pm**

Director: *Petra E. Wilder-Smith, D.D.S., Ph.D., Sami Nammour, D.D.S., Ph.D., HDR, Denise Zezell, Ph.D.*

Disclosures
Petra E. Wilder-Smith, D.D.S., Ph.D., Denise Zezell, Ph.D., Sami Nammour, D.D.S., Ph.D., HDR - no disclosure

Educational Needs
Goals of the Dentistry/O&M session include the introduction and validation of novel light-based diagnostic approaches for oral hard and soft tissues, and expert information on the latest laser-based dental procedures in a clinical and pre-clinical setting.

Participants
This session is suitable for dentists, dental specialists, hygienists, ancillary dental staff, researchers, and scientists.

Background Requirements
Participants should have a basic knowledge of oral physiology and lasers.

Instructional Content and/or Expected Learning Outcomes
Topics include an introduction to and validation of novel diagnostic tools for the oral cavity such as optical coherence and Doppler tomography, fluorescence, *in vivo* microscopy, laser speckle imaging, selective dyes and photosensitizers. Dental and oral treatments using various lasers, selective dyes and photosensitizers will also be discussed. It is expected that participants will develop an understanding of novel diagnostic approaches for the oral cavity, including their principles, capabilities and limitations, as well as their readiness for clinical usage. The effective and safe clinical use of dental lasers will be discussed in the light of clinical trials and latest technological developments.

- Hot Topics
- Non-Invasive Diagnostics for Oral Cancer
 - Laser-Assisted Adhesive Dentistry
 - Imaging-Based Evaluation of Orthodontic Tooth Movement
 - Optical Diagnosis of Decay Under Dental Sealants
 - Laser Prosthetic and Soft Tissue Surgery
 - Laser-Based Treatment of Root Fractures

<u>INVITED SPEAKER</u>		
3:45 pm - 4:00 pm	140	LASER USE IN DENTAL PROSTHETIC SURGERY: STATE OF THE ART <i>S. Nammour, University of Liege, Liege, Belgium</i> •Content discusses non-FDA approved device or off-label use
4:01 pm - 4:06 pm	141	CLINICAL TREATMENT OF TEETH HYPERSENSITIVITY <i>D. Heysselaer, M. Tielemans, S. Nammour, University of Liege, Liege, Belgium</i> •Content discusses non-FDA approved device or off-label use
4:07 pm - 4:12 pm (ePoster Available)	142	OPTICAL COHERENCE TOMOGRAPHY AND SCANNING ELECTRON MICROSCOPY ANALYSIS OF MICROABRASION EFFECTS IN DECIDUOUS TEETH ENAMEL <i>Freitas Anderson Zanardi, Marcus Paulo Raele, Hindra Colodetti, Luciana Sanglard, Nuclear and Energy Research Institute-CNEN, São Paulo, Brazil, School of Dentistry, Federal University of Espirito Santo, Vitória, Brazil</i>

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| 4:13 pm - 4:18 pm | 143 | <p>INVESTIGATION OF DENTAL HARD TISSUE AFTER Er:YAG LASER IRRADIATION</p> <p><i>Carmen Todea, Cosmin Balabuc, Gianfranco Semez, Cosmin Locovei, Aurel Raduta, Laura Filip, Cosmin Sinescu, Adrian Bradu, Adrian Podoleanu, School of Dentistry, Victor Babes University of Medicine and Pharmacy of Timisoara, Politechnica University of Timisoara, Timisoara, Romania, University of Parma, Trieste, Italy, School of Physical Sciences, University of Kent, Canterbury, United Kingdom</i></p> <p><i>•Content discusses non-FDA approved device or off-label use</i></p> |
| 4:19 pm - 4:24 pm | 144 | <p>FTIR SPECTROSCOPY MONITORING CHEMICAL CHANGES IN ENAMEL, DENTIN AND BONE DUE TO LASER IRRADIATION</p> <p><i>Denise Maria Zezell¹, Patricia Aparecida Ana¹, Carolina Benetti, Jose Quinto Jr., Viviane Goulart, Thiago Martini Pereira, IPEN - CNEN, São Paulo, Brazil</i></p> <p>¹<i>Research grant from CNPq, Fapesp, Capes</i></p> <p><i>•Content discusses non-FDA approved device or off-label use</i></p> |
| <u>INVITED SPEAKER</u> | | |
| 4:25 pm - 4:40 pm | 145 | <p>Er:YAG LASER AND ADHESIVE DENTISTRY: STATE OF THE ART</p> <p><i>Jean Paul Rocca, CHU de Nice and University of Nice, Sophia, Antipolis, France</i></p> <p><i>•Content discusses non-FDA approved device or off-label use</i></p> |
| 4:41 pm - 4:46 pm | 146 | <p>308nm EXCIMER LASER FOR THE TREATMENT OF ORAL LESIONS: A PILOT STUDY</p> <p><i>Janine Miller, Kaija Hanneman, <u>Elma Baron</u>, University Hospitals Case Medical Center, Cleveland, OH</i></p> |
| 4:47 pm - 4:52 pm
(ePoster Available) | 147 | <p>THE PERFORMANCE OF SHORT LINGUAL FRENULUM SURGERY BY TWO DIFFERENT LASER WAVELENGTHS: A CLINICAL COMPARATIVE STUDY</p> <p><i>Roly Kornblit, Umberto Romeo, Alessandro Del Vecchio, Samir Nammour, Antonella Polimeni, Rome, Italy, Liege, Belgium</i></p> <p><i>•Content discusses non-FDA approved device or off-label use</i></p> |
| 4:53 pm - 4:58 pm | 148 | <p>USE OF Er:YAG LASER TO IMPROVE THE TREATMENT OF DENTAL ROOT FRACTURES</p> <p><i>M. Tielemans, D. Heyselaer, S. Nammour, University of Liege, Liege, Belgium</i></p> <p><i>•Content discusses non-FDA approved device or off-label use</i></p> |
| 4:59 pm - 5:04 pm
(ePoster Available) | 149 | <p>ABILITY OF OPTICAL COHERENCE TOMOGRAPHY TO DETECT CARIES BENEATH COMMONLY USED DENTAL SEALANTS</p> <p><i>Jennifer Holtzman, Jessica Pharar, Kenneth Lee, Yeh-chan Ahn, Travis Tucker, Sharareh Sabet, Zhongping Chen, Kathryn Osann, Petra Wilder-Smith, University of Southern California School of Dentistry, Los Angeles, CA, Beckman Laser Institute and Medical Clinic, University of California, Irvine, CA</i></p> <p><i>•Content discusses non-FDA approved device or off-label use</i></p> |

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		<u>INVITED SPEAKER</u>
5:05 pm - 5:20 pm	150	<p>PERIODONTAL TISSUE CHANGES CAN BE IMAGED DURING ORTHODONTIC TOOTH MOVEMENT</p> <p><i>Jae Baek, Jihoon Na, ByeongHa Lee, Petra Wilder-Smith, Beckman Laser Institute and Medical Clinic, University of California, Irvine, CA, GIST, Gwangju, Korea</i></p> <p>•Content discusses non-FDA approved device or off-label use</p>
5:21 pm - 5:26 pm (ePoster Available)	151	<p>ANALYSIS <i>IN VITRO</i> OF PERIINCISIONAL THERMAL EFFECTS IN ORAL SOFT TISSUES INDUCED BY KTP LASER</p> <p><i>Umberto Romeo, Alessandro Del Vecchio, Roly Kornblit, Gaspare Palaia, Gianluca Tenore, Samir Nammour, Massimo De Luca, Antonella Polimeni, Sapienza University, Rome, Italy, University of Liege, Liege, Belgium</i></p> <p>•Content discusses non-FDA approved device or off-label use</p>
5:27 pm - 5:32 pm (ePoster Available)	152	<p>ASSESSMENT OF PULP VITALITY USING LASER SPECKLE IMAGING</p> <p><i>Charles Stoianovici♣, Joseph Youssef, Petra Wilder-Smith, Bernard Choi, Beckman Laser Institute and Medical Clinic, University of California, Irvine, CA</i></p> <p>•Content discusses non-FDA approved device or off-label use</p>
5:33 pm - 5:38 pm	153	<p>EVALUATION OF PDT CELL KILLING EFFECT IN ORAL MICROBES INCLUDING ANTIFUNGAL RESISTANT CANDIDA</p> <p><i>Thomas Mang, Lynn Mikulski, Scott Mang, Kyle Thorsrud, University at Buffalo, Buffalo, NY, University of Pittsburgh, Pittsburgh, PA</i></p> <p>•Content discusses non-FDA approved device or off-label use</p>
5:39 pm - 5:44 pm	154	<p>MULTIMODAL TISSUE DIAGNOSTIC SYSTEM COMBINING TIME-RESOLVED FLUORESCENCE SPECTROSCOPY, ULTRASOUND AND PHOTOACOUSTIC IMAGING</p> <p><i>Yang Sun, Yinghua Sun, Hongtao Xie, Daniel Elson, Matthew Lam, Gregory Farwell, Jonathan Cannata, Kirk Shung, Laura Marcu, University of California, Davis, Sacramento, CA, Imperial College of London, London, United Kingdom, University of Southern California, Los Angeles, CA</i></p> <p>•Content discusses non-FDA approved device or off-label use</p>
5:45 pm - 5:50 pm		<p>EVALUATION OF INNER-TUBULAR FLUID MOVEMENT AND HYDRAULIC PRESSURE PRODUCED DURING ABLATION WITH AN Er,Cr:YSGG LASER AND DRILL</p> <p><i>Derek-Dunn Rankin, Eric Sung¹, Peter Chueh², Ioana Rizoiu², UCLA School of Dentistry, Los Angeles, CA, University of California, BioLase Technology, Irvine, CA</i></p> <p>¹Received compensation from BioLase / ²Employee of Biolase</p>
5:51 pm - 5:59 pm	155	<p>AN EVALUATION OF OPTICAL APPROACHES TO ORAL CANCER SCREENING AND DIAGNOSIS</p> <p><i>Petra Wilder-Smith, Anh Le, Diana Messadi, Joel Epstein, Beckman Laser Institute and Medical Clinic, University of California, Irvine, CA, University of Southern California, Los Angeles, CA, University of Illinois, Chicago, IL</i></p> <p>•Content discusses non-FDA approved device or off-label use</p>
6:00 pm - 6:10 pm		<p>Q&A</p>

♣Best Student/Resident Dentistry/Oral and Maxillofacial Award Recipient.