22nd Annual
Conference & Exhibition
Program Guide
SOLEA DENTISTS DO MORE PROCEDURES IN A DAY. A LOT MORE.

Solea dentists are reporting revenue gains of 25% - 40%, because they perform more procedures per visit, and as many as six additional procedures per day. Solea, the first CO$_2$ laser to be cleared by the FDA for hard and soft tissue procedures, is virtually eliminating anesthesia and blood from operative dentistry. Without anesthesia or bleeding you save time, a lot of time. No injections, no waiting, you can work in multiple quadrants, squeeze in cavities discovered during a hygiene check and do soft tissue procedures you would have referred out. Patients love it and our dentists do too. We guarantee that 90% of your procedures will be anesthesia-free with Solea in 90 days or your money back*.

Join us at ALD to learn how Solea is transforming dentistry.

FRIDAY, FEBRUARY 6TH

11:00am - 11:20am – Technology Update Track
Benefits and challenges of transitioning from erbium to CO$_2$
Dr. Tony Hewlett

12:10pm - 12:30pm – Technology Update Track
Transitioning from CO$_2$ 10.6 µm for soft tissue to CO$_2$ at 9.3 µm for all tissue
Dr. Mike Kelly

1:00pm - 2:15pm – Pediatric Dentistry Laser Track
Soft tissue surgery using diode, erbium and CO$_2$ at 9.3 µm
Dr. Larry Kotlow

3:00pm - 3:45pm – Pediatric Dentistry Laser Track
Reliably anesthesia-free dentistry: A unique experience for patient, staff and doctor
Dr. Robert Wade

SATURDAY, FEBRUARY 7TH

11:00am - 12:00pm – Lasers in Endodontics Track
Thermal effects on pulp due to laser and hand piece usage
Dr. Gerard Kugel

12:00pm - 12:30pm – Lasers in Clinical Science Track
How computer technology can optimize cutting speed, precision & patient experience
Dr. David Fantarella

12:00pm - 12:30pm – Practice Management Track
$24,000 per month in new profit and 50% efficiency gain by month one as a Solea dentist
Dr. Jeffrey Rohde

1.844.GOSOLEA convergentdental.com
gosolea@convergentdental.com

*Please contact Convergent Dental for details.
It is my honor to personally welcome you...

On behalf of the Academy of Laser Dentistry’s Board of Directors and our entire membership, it is my honor to personally welcome you to our 22nd Annual Conference and Exhibition. We are honored to have your participation in moving the ALD’s mission of promoting the safe and effective use of lasers and light-based technologies in all aspects of oral health care. This year’s theme of “Knowledge, Experience, & Application” embraces this mission.

As healthcare professionals it is our responsibility and obligation to evaluate and understand the science of light technology to determine the benefits and potential enhancements that light and laser energy can bring to the quality of life for patients globally. Our mission as ALD members is to share this knowledge with our fellow colleagues and to use it to enhance patient care on a daily basis throughout the profession.

Today the value of these technologies has expanded from the original surgical applications to additionally aid in prevention, diagnosis, pain management, and healing of a multitude of oral and systemic conditions that did not seem possible at our first conference over 20 years ago. This year’s conference includes several presentations to provide insight and knowledge in these areas which we trust you will find enlightening and beneficial.

Keeping with our mission to promote and facilitate education and research, we are excited about expanding this year’s and future conferences to include programs and forums to assist in developing, expanding, and calibrating the academic offerings in predoctoral and hygiene schools as well as postdoctorate programs on the safe and effective use of lasers and light-based technology.

All of us in the ALD should be proud of our collective efforts for the progress that is being made to incorporate our technologies into mainstream everyday patient care. So sit back, relax, interact, share, learn, and most importantly enjoy your conference and camaraderie with your peers.

In the Interest of Quality Healthcare,

Scott D. Benjamin, DDS
2014-2015 President of the Academy of Laser Dentistry

Knowledge, Experience, Application

Welcome to Palm Springs and ALD’s 22nd Annual Conference!

For 14 years, I have the pleasure of serving in the position of Executive Director of the Academy of Laser Dentistry. I’ve planned 14 of our 22 meetings. Each year ALD strives to plan a meeting that surpasses the previous year. We review past performance and your evaluation forms (send them in – we do rely on your replies). We scan changes in the economy and the educational needs of our members and dentistry overall. This year we have more than 60 speakers sharing their contributions to lasers in dentistry. Please welcome our speakers, some new, some experienced; engage and say hello.

Everyone is friendly and very willing to share.

Whether you are a speaker or an attendee or an exhibitor, YOU ARE PROPELLING DENTISTRY FORWARD. Today, you are an integral part of dentistry. Everyone here is making a contribution to dentistry and to improved patient care. That’s a unique quality and speaks volumes. Together and individually, we are sharing knowledge and gaining experience in the application of lasers in dentistry.

These next 3 days, enjoy with old and new friends. Make ALD your annual place to be for lasers in dentistry. Plans are already in the works for ALD’s 23rd Conference and Exhibition, April 14-16, 2016 in Orlando, Florida.

I welcome you to Rancho Las Palmas and thank you for your commitment to dental laser education. Stop me and introduce yourself, if I don’t get to you first.

It is my distinct pleasure to serve as your Executive Director for an organization in dentistry that gives back their time and knowledge just because they want to.

Sincerely,
Gail S. Siminovsky, CAE
Executive Director
Dear Participants,

A warm and sincere welcome to the 22nd Annual Meeting of the Academy of Laser Dentistry. Since its beginnings, the Academy has been driven by one overriding force: To develop, enhance, and share the phenomenal benefit of lasers in dentistry! My, how far we have come! At this year’s program, experts from all over the world will be sharing the rapid advancements of lasers and light-based therapies for the benefit of all of our patients! Those of us who help plan and put on our meeting take great pleasure in hosting you, our guests. We sincerely take pride in helping you help your patients.

This year’s theme is “Knowledge, Experience, & Application.” We are group of educators and friends getting together to share our laser experiences with others that want to learn. That is the main goal of our organization, “to share our laser knowledge with others.” As Henry Ford said: “Anyone who stops learning is old, whether at 20 or 80. Anyone who keeps learning stays young.”

The three-day program includes concurrent sessions to accommodate the diverse interests (and experience levels) of our membership, panel discussion sessions in advanced laser topics, scientific presentations addressing recent studies, and new developments to help members stay current and cutting-edge in their practices. Because we realize the tremendous value of hands-on personal attention, this year we have 10 participation workshops. These will give the attendees hands-on opportunities in virtually every track during all three days of the conference. They will provide participants an interactive opportunity for hands-on learning filled with tips and techniques that they can apply Monday morning. These include beginning and advanced periodontics, implants, microscopes, pedodontics, dental hygiene, low-level laser therapy, infection control, and digital photography. Once again we are offering a two-day certification program in Standard Proficiency, as well as examinations for Advanced Proficiency candidates.

When I came to my first ALD conference 15 years ago I was surprised and amazed at how friendly and willing to share the members were. It was truly a wonderful learning experience that made me want to continually come back again and again. That is what we as an Academy strive for. This program is jammed with great speakers and exciting presentations. So I hope you will take full advantage of all that is here and see you again at our next conference.

Your Academy resources do not end with this meeting; we offer Web-based programming for members and non-members to enhance their knowledge of light-based benefits of contemporary dental treatment. We encourage all to take advantage of these resources supplied by members of the Academy. And accordingly encourage all to share their unique techniques, cases, and ideas with all of us.

John J. Graeber, DMD
President-Elect and General Chairman

Mel A. Burchman, DDS
General & Scientific Sessions Chairman
Welcome to the Academy of Laser Dentistry’s 22nd Annual Conference!

We are delighted to meet and collaborate with you and looking forward to be an integral part of your growth and learning curve in the use of lasers in dentistry. Every year we have an increasing number of candidates taking their Standard Proficiency and many are now going forward to the Advanced Proficiency from all over the world, making us a truly international academy.

As you are aware the ALD is an independent organization dedicated to supporting your endeavors to reach your full potential as clinicians, innovators, and leaders. We hope that our courses will help you to reach this by growing with us and developing your skills and understanding of laser use. We would like to encourage a meaningful dialogue and build a community with a strong vision for the future with the help of your collaboration.

The certification courses aim to provide knowledge, offer challenges, and help develop skills with certain benchmarks while maintaining clinical freedom. We encourage you to set the standards for your professional success and job satisfaction while embracing the goals of the Academy.

The ALD is dedicated to improving patient care by the safe and effective use of laser technology, by actively supporting education through certification programs and conferences. We would encourage you, as members, to take advantage of all that the Academy has to offer by fostering relationships with colleagues and continued involvement in the committees and leadership opportunities.

We applaud your dedication and commitment to the Academy. Thank you.

Raminta Mastis, DDS and Arun Darbar, BDS
Certification Committee Co-Chairs
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**Academy of Laser Dentistry**  
[www.laserdentistry.org](http://www.laserdentistry.org)
One American Dies Every Hour of It.
Have you been screened?

FREE ORAL CANCER SCREENING

Public Event
Saturday 11:00 am – 1:00 pm
in Desert 3
Executive Officers
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John Graeber, DMD, President Elect, East Hanover, NJ
Gabi Kesler, DMD, Vice President, Tel Aviv, Israel
Charles Hoopingarner, DDS, Treasurer, Houston, TX
Raminta Mastis, DDS, Secretary, St. Clair Shores, MI
Glenda Payas, DMD, Immediate Past President, Tulsa, OK
Gail Siminovsky, CAE, Executive Director, Coral Springs, FL

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Gail Siminovsky, CAE, Coral Springs, FL
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Hosts and Moderators
Mel Burchman, DDS, Chair, Langhorne, PA
Gabi Kesler, DMD, Vice Chair, Tel Aviv, Israel

Executive Director
Gail Siminovsky, CAE
Mission of our ALD 2015 Conference
To provide attendees with a positive educational and recreational experience that will leave them better equipped to provide improved patient care with increased provider satisfaction.

Academy Mission
The Academy of Laser Dentistry is an international, professional membership association of dental practitioners and supporting organizations dedicated to improving the health and well-being of patients through the proper use of laser technology. The Academy actively supports education and research through its certification programs, publications, meetings, and additional activities. The Academy fosters dialogue and seeks to build community among its members and dental organizations, educational institutions, researchers, industry representatives, and others who share this mission.

About the Academy
The Academy’s official incorporation took place in 1993, following the merger of the American Academy of Laser Dentistry, The International Academy of Laser Dentistry, and the North American Academy of Laser Dentistry. The Academy of Laser Dentistry is one of the largest nonprofit international organizations devoted to lasers in dentistry and includes leading clinicians, academicians, and researchers in all laser wavelengths. The Academy is devoted to clinical education, research, and development of standards and guidelines for the safe and effective use of dental laser technology.

General Information

Conference Design and Educational Methods
ALD 2015 Knowledge, Experience, Application, the Academy of Laser Dentistry’s 22nd Annual Conference and Exhibition, is intended for educational and informational purposes to improve dental education, clinical practice, and dental research in the use of lasers in dentistry. Educational methods include lecture, discussion, demonstration, and supervised hands-on participation activities.

Expected Learner Outcomes
Expected learner outcomes include a broad overview of the research and clinical aspects of lasers in dentistry. Presentations encompass applications in virtually all laser wavelengths for general dentistry, periodontics, aesthetic dentistry, restorative dentistry, pediatric dentistry, implantology, endodontics, and oral surgery. Practice management topics are also offered. By means of didactic lectures, panel discussions, and participation courses, all attendees will have exposure to basic science and clinical laser use in many areas of dentistry. In addition, the specialty nature of this conference provides a networking between practitioners, researchers, and academicians leading to new interest and scientific breakthroughs in the fields of dentistry.

Laser Certification Program
The educational objective of the Academy’s Laser Certification Program is to provide candidates with an overview of the scientific fundamentals of lasers, the instruments themselves, safety issues, and clinical guidelines in accordance with the Curriculum Guidelines and Standards for Dental Laser Education. Four levels of certification are available.

Intended Audience and Background Requirements
The intended audience includes dentists in all disciplines, hygienists, dental assistants, office staff, industry representatives, government professionals, and anyone interested in learning about lasers in dentistry. The meeting is geared toward both novice and experienced laser practitioners who will share information about the use of lasers in dentistry. Unless specified otherwise for certain sessions, individuals attending the conference are not required to have any previous knowledge or experience in laser dentistry, medicine, or surgery.

Responsibility of Program Selection
The Academy’s General and Scientific Sessions Committee is solely responsible for the review of submitted abstracts, selection of faculty and presenters, and approving the specific content of all continuing education (CE) activities.

Continuing Education Credit
Continuing education credit is available to all eligible participants. The Academy of Laser Dentistry is an ADA CERP Recognized Provider and an AGD Accepted Program Provider (FAGD/MAGD Credit). The amount of CE credit to be granted is determined according to the individual educational content of each presentation and course. Up to approximately 33 CEUs are possible for the duration of this meeting.

Up to approximately 33 CEUs are possible:

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The Academy of Laser Dentistry is an ADA CERP Recognized Provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry.

Concerns or complaints about a CE provider may be directed to the provider or to ADA CERP at ADA.org/CERP.
Disclosures of Speaker and Faculty Commercial Relationships

According to the Academy’s Conflict of Interest and Disclosure Policy, faculty and speakers for this conference are expected to disclose any economic support, personal interests, or potential bias that may be perceived as creating a conflict related to the material being presented. Disclosure statements are printed in the conference program and announced by moderators or individual speakers at the beginning of each presentation. This policy is intended to alert the audience to any potential bias or conflict so that participants may form their own judgments about the material being presented.

Disclaimer

The views expressed and materials presented represent the personal views of the individual participants and do not necessarily represent the opinion of the Academy of Laser Dentistry. While the General and Scientific Sessions Committee of the ALD is responsible for the selection of faculty and presenters and approving the specific content of all CE activities, the Academy assumes no responsibility for the content of the presentations made by individual participants or groups of participants. Selected presentations may include exploratory research or experimental procedures and are intended for informational purposes that may lead to new interest and scientific breakthroughs in the fields of dentistry.

Copyright

All proceedings of the Conference are intended solely for dissemination of knowledge relative to the art and science of lasers in dentistry. Any statement of presentation made is to be regarded as limited publication only and all property rights in the material presented, including common law copyright, are expressly reserved to the speaker or to the ALD. Any sound reproduction, transcript, or other use of the materials presented in the conference without written permission of the Academy of Laser Dentistry or the individual speaker is prohibited to the full extent of common law copyright in such material. Audio and video taping is strictly prohibited unless prior permission is given by the Academy of Laser Dentistry.

Name Badges (Mandatory)

Registrants are required to wear name badges at all times to all conference events, both educational and social receptions, with the exception of the optional guest activities that are off the property. This badge serves as verification of your paid conference registration.

Tickets

Registrants are required to present tickets for the President’s Awards Banquet on Friday. Badges are required to receive meals during the 3 conference days.

Attire

You will want to be comfortable while your mind is abuzz; so resort casual dress is highly recommended for all educational sessions. Speakers should wear professional business attire while presenting.

Conference Children’s Policy

Children are not allowed in the lecture hall or exhibit hall. Tickets for optional events and activities may be purchased at the registration desk. Childcare, nanny, or companion services may be arranged through Guest Services.

The Academy of Laser Dentistry (ALD) is a not-for-profit organization qualifying under Section 501(c)(3) of the U.S. Internal Revenue Code. The Academy of Laser Dentistry is an international professional membership association of dental practitioners and supporting organizations dedicated to improving the health and well-being of patients through the proper use of laser technology. The Academy is dedicated to the advancement of knowledge, research, and education and to the exchange of information relative to the art and science of the use of lasers in dentistry. The Academy endorses the Curriculum Guidelines and Standards for Dental Laser Education.

Abstracts, presenter biographies, disclosure information, and product descriptions are published for educational purposes as submitted by the respective presenters and exhibitors. They do not necessarily represent the views of the Academy of Laser Dentistry. ALD is not responsible for the opinions expressed by the presenters, exhibitors, and advertisers.

Written permission must be obtained by the Academy to audiotape, videotape, duplicate, and/or distribute any portion of the conference program or proceedings. Photography of any kind during any session is prohibited without prior consent.

Practitioners are advised to investigate and consider which medical devices and materials are cleared by the U.S. Food and Drug Administration for safety and efficacy and which are considered experimental, and which procedures are within the applicable scope of their license, competence, skills, and abilities, as established by their education, training, and experience. Clinicians are advised to review the specific indications for use of their devices and to review their operator manuals for guidance on operating parameters before attempting similar techniques on their patients.

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BE SURE NOT TO MISS!

Spouse and Guest Breakfast
Thursday, Friday & Saturday
8:00 a.m. – 9:00 a.m.
ALD Registration Desk Foyer
Gather each morning for a light breakfast, catch up with long-time friends, meet new friends, discuss activities and select something fun to do together. There’s so much to do within walking distance or just a short drive. Come on down!
Guest & Spouse Daily Breakfast

Thursday, Friday, & Saturday
8:00 am - 9:00 am

Registration Foyer
Be sure not to miss!

Wednesday, 7:00 p.m. - 7:30 p.m. Salon 5
Conference Orientation: How to Get the Most Knowledge and Enjoyment as a First-Time Attendee
John Graeber, DMD, East Hanover, New Jersey, USA
John G. Sulewski, MA, Huntington Woods, Michigan, USA

This presentation provides a guide to help attendees maximize their experience over the course of the conference and exhibition. It is designed for all participants, whether you are attending the conference for the first time, a new Academy of Laser Dentistry (ALD) member, considering purchasing your first laser, or a veteran user wishing to keep up with the latest developments. No previous knowledge of lasers is necessary. Maximize your experience during the annual conference and exhibition by targeting your attendance and participation in programs that meet your specific needs.

Thursday, Friday, Saturday 6:30 a.m. – 7:00 a.m.
Meet near the ALD Registration Desk Foyer
Morning Nature Walks and Yoga Daily
Are you an early riser? Daily at sunrise, enjoy an easy guided nature walk and yoga stretch outside. No previous experience necessary. Hear about the natural area, local plant knowledge, and desert survival. Each day will be different. No fees required. Meeting location and time will be announced on site. It will be early enough to change and get to the meetings. Casual wear and good walking shoes (no open sandals) are recommended. Take in the beautiful, cool desert sunrise. Enjoy the continental breakfast on your return to the hotel. Sign-up is NOT required.

FEATURED SOCIAL EVENT
Friday 6:00 p.m. – 8:30 p.m. Salon 5 and BluEmber Patio
President’s Awards Ceremony, Reception & Dr. Eugene Seidner Charity Appeal

Everyone is welcome to honor our 2015 ALD members of distinction with continuing education honors holding Fellowship and Mastership, our Dr. Eugene Seidner Student Scholars, certification candidates, ALD’s Leon Goldman Award for clinical excellence honoree Dr. Claus Neckel, and our John G. Sulewski Distinguished Service Award honoree Dr. Mitch Lomke. Installation of Officers and honors for outgoing and incoming board members will take place in our one-hour ceremony followed by a lively President’s Reception. Come and enjoy a glass of champagne with your ALD friends. Everyone is welcome to enjoy music, tasty hors d’oeuvres, and a one-hour complimentary bar with drinks courtesy of the ALD and the Rancho Las Palmas Resort. Dress is cocktail party attire. Bring a sweater or jacket; we’re going outside to enjoy Palm Springs night air! No tickets necessary.

Cost: $112 Additional individual daily tee times are available at special ALD rates.

Payment will be made the morning of the outing, individually, at the pro shop. Sign-up required.

ALD Golf Outing
Saturday, 10:30 a.m
TAKE A SWING AT OUR WORLD-CLASS PALM SPRINGS GOLF RESORT

The ALD GOLF OUTING for 2015 will be held Saturday morning, February 7 at 10:30 at the Omni Rancho Las Palmas course conveniently located on the grounds of the Rancho Las Palmas Resort. All are invited to play!

The golf outing includes 18 holes of the championship 27-hole course and we will feature longest drive, closest to the pin and longest putt competitions. Random selections of teams of two will play and score in a “quota” format that will be explained at the course. Sign up to play by contacting Dr. Jim Clayton at Office@jclaytondmd.com. Use the SUBJECT LINE: “Golf ALD”. Include the names of your golfers and your handicap, if you have one. When you arrive for ALD registration please acknowledge that you are golfing on Saturday and pick up your entry card. Payment of $112 will be made the morning of the outing, individually, at the pro shop.

At the course you will meet 6,400 yards of golf pleasure when you take to two of the three distinct courses at Omni Rancho Las Palmas Resort & Spa. 27 holes of championship golf on three distinct rotations - North, South and West - wind through palm tree-lined fairways and gently rolling terrain, surrounded by amazing views of the San Jacinto and San Bernardino mountains. Six lakes and the infamous Ted Robinson bunkers raise the stakes for amateurs and professionals alike.

Sponsored by ALD and Rancho Las Palmas Resort

See more at: http://www.omnihotels.com/hotels/palm-springs-rancho-las-palmas/golf#sthash.k6Itvzfr.dpuf
Academy of Laser Dentistry
Dr. Eugene M. Seidner
STUDENT SCHOLARSHIP PROGRAM

Wine Toss for Charity

Elieza Tang
2015 Student Scholar Honoree

Erica Lavere
2015 Student Scholar Honoree

DON’T MISS!!!!
Dr. Eugene Seidner Student Scholarship Charity Event

Laser Jeopardy: The Musical – *Purchase a lucky square and win!*

**Game 1** Regular Jeopardy $25 per square

**Game 2** Double Jeopardy $45 per square

**President’s Reception**
Make your pledge and donate today!

Sponsored by

Henry Schein Dental
Academy of Laser Dentistry General Membership Meeting
Omni Rancho Las Palmas Resort, Friday, February 6, 2015 | Salon 4-5 at 10:15 am

Agenda

• Call to Order, Establish Quorum, Dr. Scott Benjamin, President
• Thank you and Introduction of Current Board and Chairs
• Election of Officers and Board of Directors, Dr. Gabi Kesler, Nominations Chair

The Nominations Committee has nominated these ALD members to serve as elected leaders:
Nominated Officers 2015-16
Gabi Kesler, DMD, President Elect
Charles Hoopingarner, DDS, Vice President
Raminta Mastis, DDS, Treasurer
Mel Burchman, DDS, Secretary

Nominated Board Members 2015-2018
Juliana Barros, DDS, MS
Ed Kusek, DDS
Sam Low, DDS, MS, MEd
Jeanette Miranda, RDH

The President and Immediate Past President, as follows, pass automatically into these seats.
John Graeber, DMD, President
Scott Benjamin, DDS, Immediate Past President

Continuing Directors-at-Large
Arun Darbar, BDS, 2014-2017
Douglas Gilio, DDS, 2013-2016
Shigeyuki Nagai, DDS, 2013-2016
Rishita Jaju, DMD, 2013-2016
Gary Remillong, DDS, 2014-2017
Grace Sun, DDS, 2014-2017

Appointed Member: Stuart Coleton, DDS, Editor-in-Chief

• Introduction of 2015 Committee Chairs, Dr. John Graeber
• New Business
• Adjournment, Dr. Scott Benjamin
THANK YOU for your support!

Doctor.com • Joyco Multimedia
Salvin Dental Specialties
Straumann • Geislich

Thank you for providing products, supplies and services for ALD’s Palm Springs conference.

Thank you to
Convergent
for your generous sponsorship of the Mobil AP and lanyards.

Thank you to
Doctor.com
for your lunch sponsorship on Thursday.

Thank you to
Tinman Dental
for providing disposables for workshops.

ALD
Academy of Laser Dentistry
ALD Award Recipients 2015

Many of the members of the Academy of Laser Dentistry (ALD) submerge themselves in the dynamics of laser dentistry on a day-by-day basis. They put in long days at the office serving their patients, and in their “free time” dedicate themselves in even deeper ways. They spend time in research, developing new treatment techniques, write journal articles, teach at seminars, mentor colleagues, and spend countless hours volunteering on Academy committees. They do this without the thought of being given an award.

The ALD has three awards to celebrate the hard work of its members: The T.H. Maiman Award for Excellence in Dental Laser Research, The Leon Goldman Award for Clinical Excellence, and The John G. Sulewski Distinguished Service Award for Outstanding Commitment and Contributions to the Academy.

Because of the level of sacrifice our members are committed to, they understand the criteria required when nominating another member for one of these prestigious awards. Their nominees are above the standard and show such dedication and passion. Not every award is given each year.

In 2015, ALD honors Dr. Claus Neckel as the recipient of The Leon Goldman Award for Clinical Excellence.

Claus Neckel, MD, DDS
Private Practice, Bad Neustadt, Germany

Dr. Dr. Neckel has attended Dental and Medical School at the University of Würzburg, Würzburg, Germany, and completed clinical training in Neurosurgery, ENT, and Maxillo-Facial Surgery at the University of Würzburg. He is a former member of the Clinic for Maxillo-Facial Surgery at the University of Würzburg. Dr. Neckel works in private practice limited to maxillo-facial surgery, periodontics and implant surgery together with Dr. B. Kubik. The office is associated with the dental group practice of Drs. B. Neckel, H. Streit, C. Kubik, V. Lazutin, and T. Lazutin and the orthodontic practice of Dr. B. Orth, covering all fields of dentistry. He is a graduate of the Master class in advanced Periodontology and Implantology of the University of California Los Angeles and has achieved mastership in implant dentistry at the Advanced Center of Excellence (ACE). He is a Visiting Lecturer at the University of Genoa, Italy.

“I was first informed by e-mail of my selection for the Leon Goldman Award by Dr. Gabi Kesler, the Chair of the nomination committee. I think every one of us who are long-standing members and attendees of the annual meeting have participated in the award ceremonies, and all have longed one day to be part of this ceremony as a recipient of the award. This has motivated me and many others to regularly submit and present our work. It is therefore a great honor for me as a foreigner to receive this distinguished award. I can remember when I first presented our experience with the diode laser, a laser at that time unknown to most colleagues in the United States. Everybody was just shaking their heads about the crazy European. And this award, it is unbelievable. This award is not only an acknowledgement for my clinical work, but should also serve as a motivation for our younger colleagues to push the envelope further, so that we can say in near future: “Yes we can!” I am honored to receive the 2015 ALD Leon Goldman Award for Clinical Excellence. Thank you.”

Dr. Claus Neckel
Mitchell Lomke, DDS  
Private Practice, Olney, Maryland, USA

Dr. Mitch Lomke graduated cum laude from the University of Maryland, College Park in 1976. He graduated from the University of Maryland, School of Dentistry in 1979 where he earned his DDS degree. His General Practice Residency was as a 2nd lieutenant in the United States Public Health Service in 1980. Mitch has been in private general practice for over 35 years in Montgomery County, Maryland. He is a clinical instructor in laser dentistry at Maryland Dental School as a member of their part-time postgraduate faculty. Dr. Lomke serves as a member of the Maryland State Dental Association CE Committee and is a special advisor to the Maryland State Board of Dental Examiners on Laser Dentistry.

Dr. Lomke earned his Standard Proficiency at the ALD 1998 conference and has attended every ALD annual conference since. He has been active on many ALD committees through the years. He has served as Chair of our Membership Committee and Chair of our Education Committee. Dr. Lomke earned his advanced proficiency in 2000 and went on to attain the level of Recognized Course Provider after attending the ALD Educator course at UCSF in 2000.

Dr. Lomke has conducted many laser dentistry lectures and hands-on courses at our annual conferences as well as to audiences around the United States. He has volunteered as mentor to many colleagues seeking Advanced Proficiency as well as Recognized Course Provider levels. Dr. Lomke has served as an examiner for our membership seeking SP and AP levels during our conferences. He earned his ALD Mastership in 2008.

Dr. Lomke was honored to serve as a member of the ALD Board of Directors for 2 three-year terms. In addition, Dr. Lomke has conducted SP courses representing the American Dental Association, Academy of General Dentistry, Yankee dental conferences, among many other venues. Dr. Lomke has published several articles on laser dentistry, including some peer-reviewed. Dr. Lomke is currently Chair of our Honors Review Committee and is now honored to serve as Chair of our General and Scientific Sessions Committee for our 2016 Conference to be held in Orlando, Florida.

“I am truly humbled and honored being recognized by my peers at the ALD with our John G. Sulewski Distinguished Service Award. This is a rare moment that even renders me speechless. There are many other of my ALD colleagues that I feel deserve this award as much or even more than I do. When friends and family ask me why I volunteer my time and energy to our Academy, my response is — ‘No matter how much I give back to our Academy, it will never come close to how much I’ve received in return’. It is really our work as a team that makes our Academy so great, not any one of us. My heartfelt thanks to the awards committee and to our membership.”

Dr. Mitch Lomke
The Academy of Laser Dentistry opens application enrollment for the Fellowship & Mastership program May 15 - December 31 annually. This program honors members who have shown extraordinary commitment to the use of lasers in dentistry by awarding the designations of Fellow of the Academy of Laser Dentistry and Master of the Academy of Laser Dentistry. Fellows and Masters are honored each year during the Awards Ceremony at the Annual Conference. Join us to honor your colleagues on Friday evening.

Congratulations to our 2015 Fellows and Masters!

2015 Fellowship Award Recipients:
• Dr. James Clayton
• Dr. Mike Hsieh
• Jeanette Miranda, RDH
• Dr. Annette Skowronsiki

2014 Mastership Award Recipient:
• Dr. Walid Altayeb
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August 20–22, 2015
September 8–10, 2016

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### Conference Schedule

**Update: 01/28/15**  

**Schedule Subject to Change**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 pm - 8:30 pm</td>
<td>President's Appreciation Reception for Board, Chairs, and Volunteers</td>
</tr>
<tr>
<td>7:30 pm - 9:30 pm</td>
<td>Pre-Conference Program Sponsored by THOR: Photomedicine Low-Level Laser Training</td>
</tr>
</tbody>
</table>

### Tuesday, February 3, 2015 - Pre-Conference

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 Noon - 2:00 pm</td>
<td>Board of Directors Meeting</td>
</tr>
<tr>
<td>1:30 pm - 4:30 pm</td>
<td>ALD Standard Proficiency Course</td>
</tr>
<tr>
<td>5:00 pm - 7:00 pm</td>
<td>Registration Open - Registration Happy Hour – Have a light beverage while picking up your registration materials</td>
</tr>
</tbody>
</table>

### Wednesday, February 4, 2015 - Pre-Conference

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am - 8:00 am</td>
<td>Continental Breakfast for Board of Directors and Certification Candidates</td>
</tr>
<tr>
<td>9:00 am - 9:45 am</td>
<td>2015 Open Conference Committee Meeting</td>
</tr>
<tr>
<td>9:45 am - 10:00 am</td>
<td>7:30 pm - 8:30 pm International Reception – International Attendees Welcome by Invitation Only</td>
</tr>
<tr>
<td>11:30 am - 1:00 pm</td>
<td>Lunch for Standard Proficiency Certification Board of Directors</td>
</tr>
<tr>
<td>1:30 pm - 4:30 pm</td>
<td>Advanced Proficiency Part 3 Oral Examination Presentations</td>
</tr>
<tr>
<td>4:30 pm - 6:30 pm</td>
<td>Advanced Proficiency Part 1 Online Examination Presentations</td>
</tr>
</tbody>
</table>

**Note:** Schedule subject to change.
## Thursday Schedule

**Conference Schedule**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am</td>
<td>Conference Committee Meeting</td>
</tr>
<tr>
<td>6:30 am–7:00 am</td>
<td>Morning Nature Walk and Yoga</td>
</tr>
<tr>
<td>7:00 am–7:45 am</td>
<td>Speaker Meeting &amp; Technology Check – Salons 4 &amp; 5</td>
</tr>
<tr>
<td>7:00 am–8:00 am</td>
<td>Continental Breakfast – Registration Foyer</td>
</tr>
<tr>
<td>7:00 am–4:00 pm</td>
<td>Registration Open</td>
</tr>
<tr>
<td>7:30 am</td>
<td>Meetings: Laser Safety Volunteers (Salon FGH), Host and Moderators (Desert 2), Examiners (Salon FGH)</td>
</tr>
<tr>
<td>8:00 am–9:00 am</td>
<td>Spouse/Guest Continental Breakfast in Registration Foyer</td>
</tr>
<tr>
<td>12:30 pm–9:00 pm</td>
<td>Exhibits Open</td>
</tr>
<tr>
<td>10:00 am–2:00 pm</td>
<td>General Session Salons 4 &amp; 5</td>
</tr>
<tr>
<td>10:00 am–11:45 am</td>
<td>Demonstration Dr. van As: Magnification and Lasers: Seeing the Light!</td>
</tr>
<tr>
<td>10:00 am–12:30 pm</td>
<td>Workshop Dr. Gianni: Laser Fundamentals and Why They Matter (Prerequisite for Laser Safety Officer Training Course on Saturday)</td>
</tr>
<tr>
<td>10:00 am–12:30 pm</td>
<td>Workshop Drs. Gilio and Lomke: Getting Started Using Lasers for Periodontal Surgery (for New Users) (Sign-up required. Limited to 14. This course repeats on Saturday morning.)</td>
</tr>
<tr>
<td>11:45 am</td>
<td>Lunch</td>
</tr>
<tr>
<td>11:45 am–12:30 pm</td>
<td>Demonstration Dr. Selig: Implant Placement Surgeries Utilizing a Superpulsed 10,600-nm CO2 Laser</td>
</tr>
<tr>
<td>11:45 am–12:30 pm</td>
<td>Demonstration Dr. Arany: Regenerative Dentistry - Using Laser Treatments to Direct Dental Stem Cell Differentiation</td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>2:00 pm–4:30 pm</td>
<td>Certification Program: Standard Proficiency Clinical Simulation Exams (Salons FGH)</td>
</tr>
<tr>
<td>2:00 pm–4:30 pm</td>
<td>Workshop Drs. van As and Graeber: Magnification and Lasers: Seeing the Light! (Sign-up required. Limited to 14.)</td>
</tr>
<tr>
<td>2:15 pm</td>
<td>Workshop Dr. Arany, ALD University and Academia Relations Committee and ADEA SIG on Lasers: Joint Session: Education for Lasers in Dentistry: Collaborative Initiatives Between ADEA and ALD</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Workshop Mr. Carroll: LLLT Dose - How Much Is Enough, How Much Is Too Much?</td>
</tr>
<tr>
<td>2:30 pm</td>
<td>Workshop Mr. Carroll: LLLT Dose - How Much Is Enough, How Much Is Too Much?</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Wednesday LTT Session (continued)</td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Wednesday LTT Session (continued)</td>
</tr>
<tr>
<td>3:30 pm–4:30 pm</td>
<td>Conference Committee Meeting</td>
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<tr>
<td>3:30 pm–4:30 pm</td>
<td>Conference Committee Meeting</td>
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</tbody>
</table>

**Program Schedule (subject to change)**
Friday schedule continued on next page

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am – 9:00 am</td>
<td>General Session: Laser Oral Cancer Survivor Study (Salons 4-5)</td>
</tr>
<tr>
<td>9:00 am – 9:30 am</td>
<td>Dr. Margolis: Introduction to Oral Cancer and Laser Physics</td>
</tr>
<tr>
<td>9:30 am – 10:15 am</td>
<td>Mr. Whitman (Oral ID Sponsor): Sex, Drugs, and Oral Cancer</td>
</tr>
<tr>
<td>10:15 am – 10:30 am</td>
<td>ALD General Membership Meeting: Election and ALD Report - Salon 4-5</td>
</tr>
<tr>
<td>10:30 am – 11:00 am</td>
<td>Morning Break – Exhibit Hall</td>
</tr>
<tr>
<td>11:00 am – 12:00 pm</td>
<td>Exhibitors Meeting in Exhibit Hall</td>
</tr>
<tr>
<td>12:00 pm – 2:00 pm</td>
<td>Lunch Time and Trade Show</td>
</tr>
<tr>
<td>2:00 pm – 2:30 pm</td>
<td>Conference Committee Meeting</td>
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</tbody>
</table>

Saturday schedule continued on next page
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:45 am</td>
<td>Breakfast and Exhibits Open</td>
</tr>
<tr>
<td>9:30 am</td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td>10:00 am</td>
<td>Workshop: Introduction to Low-Level Laser Therapy for Dental Hygienists</td>
</tr>
<tr>
<td>10:30 am</td>
<td>Workshop: Laser-Assisted Periodontics and Implantology</td>
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<tr>
<td>11:00 am</td>
<td>Workshop: Laser-Assisted Endodontics</td>
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<tr>
<td>11:30 am</td>
<td>Workshop: Laser-Assisted Restorative Dentistry</td>
</tr>
<tr>
<td>12:00 pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 pm</td>
<td>Workshop: Laser-Assisted Oral Surgery</td>
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<tr>
<td>2:00 pm</td>
<td>Workshop: Laser-Assisted Orthodontics</td>
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<tr>
<td>3:00 pm</td>
<td>Workshop: Laser-Assisted Prosthodontics</td>
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<tr>
<td>3:30 pm</td>
<td>Workshop: Laser-Assisted Periodontics and Implantology</td>
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<tr>
<td>4:00 pm</td>
<td>Workshop: Laser-Assisted Endodontics</td>
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<tr>
<td>4:30 pm</td>
<td>Workshop: Laser-Assisted Restorative Dentistry</td>
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<tr>
<td>5:00 pm</td>
<td>Workshop: Laser-Assisted Oral Surgery</td>
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<tr>
<td>5:30 pm</td>
<td>Workshop: Laser-Assisted Orthodontics</td>
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<td>6:00 pm</td>
<td>Workshop: Laser-Assisted Prosthodontics</td>
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<td>6:30 pm</td>
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<tr>
<td>11:30 pm</td>
<td>Workshop: Laser-Assisted Orthodontics</td>
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<tr>
<td>12:00 am</td>
<td>Closing Ceremony</td>
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Note: All sessions are subject to change.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td>Opening Remarks and Introductions</td>
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<tr>
<td>9:00 am</td>
<td>Breakfast</td>
<td></td>
</tr>
<tr>
<td>9:30 am</td>
<td>Session Session 1: Oral Surgery</td>
<td>Salon 4</td>
</tr>
<tr>
<td>10:30 am</td>
<td>Session Session 2: Periodontics and Dental Hygiene</td>
<td>Salon 5</td>
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<tr>
<td>11:30 am</td>
<td>Session Session 3: Pediatric Dentistry</td>
<td>Salon 7</td>
</tr>
<tr>
<td>12:30 pm</td>
<td>Lunch</td>
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<tr>
<td>1:30 pm</td>
<td>Oral Surgery Session 1: Dr. Chartrand</td>
<td>Salon 4</td>
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<tr>
<td>2:00 pm</td>
<td>Oral Surgery Session 2: Dr. Romanos</td>
<td>Salon 5</td>
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<tr>
<td>2:30 pm</td>
<td>Oral Surgery Session 3: Ms. Smukowski</td>
<td>Salon 8</td>
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<tr>
<td>3:00 pm</td>
<td>Oral Surgery Session 4: Dr. Kotlow</td>
<td>Salon 4</td>
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<tr>
<td>3:30 pm</td>
<td>Oral Surgery Session 5: Dr. Colonna</td>
<td>Salon 5</td>
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<tr>
<td>4:00 pm</td>
<td>Oral Surgery Session 6: Ms. Miranda, Mott, LeBeau, Monzon, Smith, Smukowski</td>
<td>Salon 5</td>
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<tr>
<td>4:30 pm</td>
<td>Oral Surgery Session 7: Dr. Margolis, Dr. Neckel, Dr. Romeo</td>
<td>Salon 5</td>
</tr>
<tr>
<td>5:00 pm</td>
<td>Oral Surgery Session 8: Dr. Wade</td>
<td>Salon 5</td>
</tr>
<tr>
<td>5:30 pm</td>
<td>Oral Surgery Session 9: Dr. Payas</td>
<td>Salon 5</td>
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<tr>
<td>6:00 pm</td>
<td>Closing Remarks and Wrap-Up</td>
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<tr>
<td>Time</td>
<td>Event Description</td>
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<tr>
<td>6:30 am</td>
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<td>7:00 am–2:00 pm</td>
<td>Registration Open</td>
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<tr>
<td>7:00 am–2:00 pm</td>
<td>Exhibits Open</td>
<td></td>
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<tr>
<td>8:00 am–9:00 am</td>
<td>Spouse/Guest Continental Breakfast in Registration Foyer</td>
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<tr>
<td>9:00 am–9:30 am</td>
<td>Dr. Altshuler: Laser-Patterned Microcoagulation and Microablation and Microcoagulation and Microablation</td>
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<tr>
<td>9:00 am–9:30 am</td>
<td>Dr. Linden: Superpulsed 10,600-nm CO₂ Laser-Assisted Soft Tissue Procedures in Periodontics</td>
<td></td>
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<tr>
<td>9:00 am–9:30 am</td>
<td>Dr. Walinski: Novel Er,Cr:YSGG Laser Applications on Failing Implant Surfaces</td>
<td></td>
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<tr>
<td>9:00 am–9:10 am</td>
<td>Dr. R. Darbar: Lasers for the Orthodontic Patient: From Start to Finish</td>
<td></td>
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<tr>
<td>9:10 am–9:40 am</td>
<td>Dr. Benedicenti: Dental Lasers and Microscopes in Endodontics</td>
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<tr>
<td>9:30 am–10:00 am</td>
<td>Dr. Graeber: Light-Based Diagnostic Devices – An Update</td>
<td></td>
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<tr>
<td>9:30 am–10:00 am</td>
<td>Dr. Braswell: New Approach for Periodontitis Treatment Using 975-nm Diode Laser-Patterned Microcoagulation – A Pilot Clinical Study</td>
<td></td>
</tr>
<tr>
<td>9:30 am–10:10 am</td>
<td>Dr. Vitruk: Microbial Decontamination of Three Different Implant Surfaces Using a Superpulsed 10,600-nm CO₂ Laser: An In Vitro Study</td>
<td></td>
</tr>
<tr>
<td>9:40 am–10:10 am</td>
<td>Dr. Watanabe: Root Canal Irrigation Activated by a New 980-nm Diode Laser System and an Er:YAG Laser: Pressure Generated Outside the Apex and Temperature Changes</td>
<td></td>
</tr>
<tr>
<td>9:00 am–12:30 pm</td>
<td>Desert 2: SPECIAL PROGRAM: LASER SAFETY – Ms. LeBeau and Dr. Brewster: Laser Safety Officer Training Course</td>
<td></td>
</tr>
<tr>
<td>9:00 am–12:30 pm</td>
<td>Salon 6: PERIODONTICS WORKSHOP REPEATED FROM THURSDAY – Drs. Gilio and Lomke: Getting Started Using Lasers for Periodontal Surgery (for New Users) (Sign-up required. Limited to 14.)</td>
<td></td>
</tr>
<tr>
<td>9:00 am–12:30 pm</td>
<td>Salon FGH: PEDIATRIC DENTISTRY LASER HANDS-ON WORKSHOPS (Sign-up required. Limited to 15 per session.) – Drs. Kotlow and Margolis: Session 1: 9:00–10:30 am, Session 2: 11:00 am–12:30 pm</td>
<td></td>
</tr>
<tr>
<td>9:00 am–9:30 am</td>
<td>Posters: Clinical Science Salon 4, Orthodontic Salons 7-8, Endodontics Salons 1-2</td>
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<tr>
<td>Time</td>
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<tr>
<td>10:00 am</td>
<td>Dr. Mastis: Laser Safety Concerns in Orthodontics</td>
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<tr>
<td>10:10 am</td>
<td>Dr. Hashemi: Direct Pulp Capping in Adults with an Er,Cr:YSGG Laser</td>
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</tr>
<tr>
<td>10:30 am</td>
<td>Dr. Vitruk: Myths and Physics of Soft Tissue Dental Lasers</td>
<td></td>
</tr>
<tr>
<td>11:00 am</td>
<td>Dr. Levine: Laser-Assisted Dental Procedures Utilizing the LightScalpel LS-1005 SuperPulse 10,600-nm CO₂ Laser in Special Needs Dentistry</td>
<td></td>
</tr>
<tr>
<td>11:10 am</td>
<td>Dr. Romanos: Key Role of Tip Initiation in the Quality of Soft Tissue Surgery</td>
<td></td>
</tr>
<tr>
<td>11:30 am</td>
<td>Dr. Rohde: Increase Profit and Efficiency by Integrating the 9.3-μm CO₂ Dental Laser into Your Practice (Return on Investment)</td>
<td></td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Dr. Fantarella: How Computer Technology Can Optimize Cutting Speed, Precision, and Patient Experience with 9.3-μm CO₂ Dental Lasers</td>
<td></td>
</tr>
<tr>
<td>3:00 pm</td>
<td>Dr. Boutoussov: Multiwavelength Approach: Is There a Synergetic Effect for Different Clinical Applications?</td>
<td></td>
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<tr>
<td>3:15 pm</td>
<td>Dr. Kugel: Thermal Effects on Pulp Due to Laser and Conventional Handpiece Usage Technology</td>
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</tr>
<tr>
<td>3:30 pm</td>
<td>Dr. Culcuoglu: Stimulating Dental Pulp Tissue Stem Cells and Gingival Fibroblasts with 1064-nm Low-Level Laser Irradiation</td>
<td></td>
</tr>
<tr>
<td>4:00 pm</td>
<td>Mr. Tyler: Obtaining More Clients Through Inbound Marketing: Building a Virtual Fence Around Your Clients – Prevent Poaching, Protect Your Personal and Professional Reputation</td>
<td></td>
</tr>
<tr>
<td>4:15 pm</td>
<td>Dr. Gallegos: Direct vs. Indirect Laser Approaches: The Right Choice for Your Practice</td>
<td></td>
</tr>
<tr>
<td>4:30 pm</td>
<td>Dr. Culcuoglu: Special Needs Dental Surgery – The Latest Innovations in Technology and Equipment</td>
<td></td>
</tr>
<tr>
<td>4:45 pm</td>
<td>Dr. Hashemi: Direct Pulp Capping in Adults with an Er,Cr:YSGG Laser</td>
<td></td>
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<tr>
<td>5:00 pm</td>
<td>Dr. Mastis: Advanced Proficiency Review and Case Presentations</td>
<td></td>
</tr>
<tr>
<td>5:15 pm</td>
<td>Dr. Gilio: DNA Testing – A Lecture and Demonstration</td>
<td></td>
</tr>
<tr>
<td>5:30 pm</td>
<td>Ms. Canham: HIPAA Privacy, Security, and the Final Omnibus Rule: What's New and What Do I Have to Do?</td>
<td></td>
</tr>
</tbody>
</table>

**Conference Schedule**
THE BEST IN
Comprehensive Cosmetic Dentistry

The American Academy of Cosmetic Dentistry’s annual scientific session delivers more hands-on workshops than any dental conference. In addition, this year’s educational lineup incorporates innovative and progressive learning opportunities that will help you and your team perform at a higher level.

- Hear from cosmetic dentistry’s next generation and share their passion for dentistry
- Blended Education incorporates online learning with a live lecture to maximize CE
- Learn treatment perspectives at the International Summit—a showcase for dental educators from around the world
- Understand the laboratory technician’s pivotal role in smile design at Lab Day
- Engage in a broad range of comprehensive cosmetic dentistry education from minimally invasive dentistry, implants, esthetics, digital smile design, and more from the industry’s leading educators
- Maximize your practice’s profitability and attract new patients with practice management and marketing sessions

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Register at www.AACDconference.com

Conference Kick-Off
with Dr. Drew LIVE!

AACD 2015 Educator Headliners

Dr. Christian Coachman  
Dr. Eric Van Dooren  
Dr. Didier Dietschi  
Dr. Galip Gurel  
Dr. Dwayne Karateew  
Dr. Dennis Tarnow  
Mr. Peter Pizzi  
Mr. Nondas Vlachopoulos  
Mr. Michel Magne
**SCHEDULE BUILDER**

Use this worksheet to plan your schedule. Refer to the detailed program schedule and check mark the boxes next to the sessions or events you plan to attend. Use this as a reference to make the most of your own schedule in Palm Springs.

### Wednesday, February 4, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am–8:00 am</td>
<td>Continental Breakfast Board of Directors and Certification Candidates</td>
</tr>
<tr>
<td>7:00 am–2:00 pm</td>
<td>Registration OPEN</td>
</tr>
<tr>
<td>7:30 am–6:30 pm</td>
<td>ALD Standard Proficiency Course</td>
</tr>
<tr>
<td>8:00 am–3:00 pm</td>
<td>Board of Directors Meeting</td>
</tr>
<tr>
<td>9:00 am–5:00 pm</td>
<td>Pre-Conference Program Sponsored by THOR: Thor Photomedicine Low-Level Laser Training</td>
</tr>
<tr>
<td>12:00 pm–1:00 pm</td>
<td>Lunch for SP Certification, Board of Directors</td>
</tr>
<tr>
<td>3:30 pm–6:30 pm</td>
<td>Advanced Proficiency Part 1 Online Exam Examination</td>
</tr>
<tr>
<td>3:30 pm–6:30 pm</td>
<td>Advanced Proficiency Part 3 Oral Examination Presentations</td>
</tr>
<tr>
<td>4:00 pm–6:00 pm</td>
<td>Speaker Meeting &amp; Technology Check</td>
</tr>
<tr>
<td>5:00 pm–7:00 pm</td>
<td>Registration Open - Happy Hour – Have a light beverage while picking up registration material</td>
</tr>
<tr>
<td>7:00 pm–7:30 pm</td>
<td>Conference Orientation: How to Get the Most Knowledge &amp; Enjoyment as a First-Time Attendee</td>
</tr>
<tr>
<td>7:30 pm–8:30 pm</td>
<td>International Reception (by invitation only)</td>
</tr>
</tbody>
</table>

### Thursday, February 5, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am</td>
<td>Conference Committee Meeting</td>
</tr>
<tr>
<td>6:30 am–7:00 am</td>
<td>Morning Nature Walk and Yoga</td>
</tr>
<tr>
<td>7:00 am–7:45 am</td>
<td>Speaker Meeting &amp; Technology Check</td>
</tr>
<tr>
<td>7:00 am–8:00 am</td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td>7:00 am–4:00 pm</td>
<td>Registration Open</td>
</tr>
<tr>
<td>7:30 am</td>
<td>Meetings: Laser Safety Volunteers, Host and Moderators, Examiners</td>
</tr>
<tr>
<td>8:00 am–9:00 am</td>
<td>Spouse/Guest Continental Breakfast</td>
</tr>
<tr>
<td>8:00 am–8:45 am</td>
<td>Keynote Speaker: Myers: Getting Lasers Cleared for Marketing in USA</td>
</tr>
<tr>
<td>8:45 am–10:15 am</td>
<td>Keynote Speaker: Hamblin: Photodynamic Therapy and LLLT</td>
</tr>
<tr>
<td>10:15 am–10:45 am</td>
<td>Morning Break</td>
</tr>
<tr>
<td>10:45 am–11:45 am</td>
<td>DEMONSTRATION van As: Magnification and Lasers: Seeing the Light!</td>
</tr>
<tr>
<td>10:45 am–11:45 am</td>
<td>Anders: Scientific Basis and Efficacy of Photobiomodulation for Nerve Regeneration: Translation to Dental Applications</td>
</tr>
<tr>
<td>10:45 am–12:30 pm</td>
<td>Gianni: Laser Fundamentals and Why They Matter</td>
</tr>
<tr>
<td>10:45 am–12:30 pm</td>
<td>WORKSHOP Gilio &amp; Lomke: Getting Started Using Lasers for Periodontal Surgery (for New Users)</td>
</tr>
<tr>
<td>11:45 am–12:30 am</td>
<td>Seigler: Implant Placement Surgeries Utilizing a Superpulsed 10,600-nm CO₂ Laser</td>
</tr>
<tr>
<td>11:45 am–12:30 am</td>
<td>Arany: Regenerative Dentistry - Using Laser Treatments to Direct Dental Stem Cell Differentiation</td>
</tr>
<tr>
<td>12:30 pm–1:30 pm</td>
<td>Lunch Break in Exhibit Hall</td>
</tr>
<tr>
<td>12:45 pm–1:20 pm</td>
<td>Own the Internet. Own YOUR Market. From Dominating Search Engines to Generating Positive Reviews! Bryan Edelstein, Doctor.com</td>
</tr>
</tbody>
</table>

### Program Schedule (subject to change)

- **1:30 pm–2:00 pm** Arany: Laser Activated Latent TGF-β1: A Photobiomodulation Mechanism
- **1:30 pm–2:00 pm** Meditz: How Dentists Become Patient Advocates for Their Patients
- **1:30 pm–2:15 pm** ALD Science & Research Committee Gimbel: The New ALD Position Papers
- **1:30 pm–4:30 pm** WORKSHOP van As: Magnification and Lasers: Seeing the Light!
- **2:00 pm–2:30 pm** Ross: LLLT in Treatment of Trigeminal Neuralgia and Neuropathic Pain
- **2:00 pm–3:00 pm** WORKSHOP Canham: Infection Control: A Hands-On Workshop
- **2:15 pm–3:00 pm** Joint Session - Education for Lasers in Dentistry: Collaborative Initiatives Between the ADEA and ALD
- **2:30 pm–3:00 pm** Carroll: LLLT Dose - How Much Is Enough, How Much Is Too Much?
- **3:30 pm–3:45 pm** Hooper Garner: The Temporomandibular Joint and Related Structures: What Are We Really Treating?
- **3:30 pm–4:00 pm** Smith & Arany: Research for the Busy Clinician: Where to Find the Science (Part 1)
- **3:45 pm–4:15 pm** Darbar & Darbar: LLLT Treatment for TMD
- **4:00 pm–4:20 pm** Seidner Scholar Tang: Mechanism of Antimicrobial Effects of Laser
- **4:15 pm–4:40 pm** Del Vecchio: LLLT in Managing Burning Mouth Syndrome
- **4:20 pm–4:40 pm** Seidner Scholar Lavere: Antimicrobial Effects of the Diode Laser in Treatment of Peri-Implantitis - A Pilot Study
- **4:40 pm–5:30 pm** PANEL LLLT Session Speakers: How to Use Light Energy for LLLT: An Interactive Panel Discussion
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am-9:00 am</td>
<td>Spouse/Guest Continental Breakfast</td>
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<tr>
<td>8:00 am-9:00 am</td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td>9:00 am-11:00 am</td>
<td>Smith: Nonsurgical Periodontal Therapy with 10,600-nm CO2 Laser</td>
</tr>
<tr>
<td>11:00 am-12:30 pm</td>
<td>PEDO Margolis: Introduction, Laser History, Laser Physics</td>
</tr>
<tr>
<td>11:00 am-12:30 pm</td>
<td>Hewlett: Benefits and Challenges of Transitioning from Erbium to 9.3-µm CO2 Lasers</td>
</tr>
<tr>
<td>12:00 pm-1:00 pm</td>
<td>PEDO Margolis: Hard Tissue Laser Dentistry for Pediatrics</td>
</tr>
<tr>
<td>12:00 pm-1:00 pm</td>
<td>Pediatric Hygiene Forum</td>
</tr>
<tr>
<td>1:30 pm-2:10 pm</td>
<td>Chartrand: Lip Surgery: From Haemangioma Treatment to Scar Removal. The Laser Therapy Approach</td>
</tr>
<tr>
<td>1:30 pm-2:15 pm</td>
<td>Smukowski: Blending the Science of Lasers with Business Acumen and the Art of Communication</td>
</tr>
<tr>
<td>1:30 pm-3:30 pm</td>
<td>TECHNOLOGY WORKSHOP Brauron: Photo Documentation: Simplifying Photography and Case Presentation - A Live Demonstration</td>
</tr>
<tr>
<td>1:30 pm-3:30 pm</td>
<td>PERIO WORKSHOP Gilio &amp; Lomke: Advanced Periodontics Using Lasers in Periodontal Surgery (Advanced Users)</td>
</tr>
<tr>
<td>2:15 pm-3:00 pm</td>
<td>Colonna: Buffered Anesthetics and Laser User: Efficiency in Scheduling and Productivity</td>
</tr>
<tr>
<td>2:15 pm-3:15 pm</td>
<td>PEDO Margolis: Pulp Therapy Utilizing Dental Lasers</td>
</tr>
<tr>
<td>2:30 pm-3:00 pm</td>
<td>Neckel: The 810-nm Diode Laser in Preprosthetic Surgery</td>
</tr>
<tr>
<td>2:35 pm-5:30 pm</td>
<td>IMPLANTOLOGY WORKSHOP Kusek: The Management of Soft Tissues Around Dental Implants with the Use of Light Energy</td>
</tr>
<tr>
<td>2:55 pm-3:15 pm</td>
<td>Payas: Tori Removal Using an Er:YAG Laser</td>
</tr>
<tr>
<td>3:00 pm-3:45 pm</td>
<td>PEDO Wade: Reliably Anesthesia-Free Dentistry with 9.3-µm CO2 Dental Laser: A Unique Experience for the Patient, Staff, and Doctor</td>
</tr>
<tr>
<td>3:45 pm-4:05 pm</td>
<td>Li: Oral Laser Applications in Dental Implantology</td>
</tr>
<tr>
<td>3:45 pm-4:15 pm</td>
<td>Rosenberg: Surgery and Synergy – Er,Cr:YSGG Laser-Assisted Endodontia and Implant Placement</td>
</tr>
<tr>
<td>3:45 pm-4:15 pm</td>
<td>PEDO Kaplan: Infant Frenulectomies with a Superpulsed 10,600-nm CO2 Dental Laser</td>
</tr>
<tr>
<td>3:45 pm-5:00 pm</td>
<td>HYGIENE WORKSHOP: Give ‘Em a Hand! Hands-On Laser Hygiene</td>
</tr>
<tr>
<td>4:05 pm-4:30 pm</td>
<td>Altayeb: Gingival Depigmentation with Different Laser Techniques</td>
</tr>
<tr>
<td>4:15 pm-5:30 pm</td>
<td>Shiffman: Nightlase™ A Unique New Approach to the Management of Snoring and Sleep Apnea</td>
</tr>
</tbody>
</table>
### Saturday, February 7, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am-8:00 am</td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td>7:00 am-8:00 am</td>
<td>Registration / Exhibits Open</td>
</tr>
<tr>
<td>8:00 am-8:45 am</td>
<td>GENERAL SESSION: Key Opinion Leaders Answer Your Questions: “Dr., Dr., Can You Help Me with My Laser Questions?” A Panel Discussion</td>
</tr>
<tr>
<td>9:00 am-9:10 am</td>
<td>POSTER Yao: Apical Extrusion of Root Canal Irrigants During Root Canal Irrigation Activated by a New 980-nm Diode Laser System and Er:YAG Laser</td>
</tr>
<tr>
<td>9:00 am-9:30 am</td>
<td>Altschuler: Laser-Patterned Microcoagulation and Microablation (LPM) Technology</td>
</tr>
<tr>
<td>9:00 am-9:30 am</td>
<td>Linden: Superpulsed 10,600-nm CO₂ Laser-Assisted Soft Tissue Procedures in Periodontics</td>
</tr>
<tr>
<td>9:00 am-9:30 am</td>
<td>Walinski: Novel Er,Cr:YSGG Laser Applications on Failing Implant Surfaces</td>
</tr>
<tr>
<td>9:00 am-9:30 am</td>
<td>Darbar R: Lasers for the Orthodontic Patient: From Start to Finish</td>
</tr>
<tr>
<td>9:00 am-10:30 am</td>
<td>SPECIAL PROGRAM Canham: OSHA – What’s New &amp; What Do I have to Do?</td>
</tr>
<tr>
<td>9:00 am-12:30 am</td>
<td>SPECIAL PROGRAM Le Beau &amp; Brewster: Laser Safety Officer Training Course</td>
</tr>
<tr>
<td>9:00 am-12:30 pm</td>
<td>PERIO WORKSHOP Gilio &amp; Lomke: Getting Started Using Lasers for Periodontal Surgery (for New Users)</td>
</tr>
<tr>
<td>9:00 am-10:30 pm</td>
<td>PEDIATRIC DENTISTRY LASER HANDS-ON WORKSHOPS Kotlow &amp; Margolis</td>
</tr>
<tr>
<td>9:10 am-9:40 am</td>
<td>Benedicenti: Dental Lasers and Microscopes in Endodontics</td>
</tr>
<tr>
<td>9:30 am-10:00 am</td>
<td>Graeber: Light-Based Diagnostic Devices – An Update</td>
</tr>
<tr>
<td>9:30 am-10:00 am</td>
<td>Braswell: New Approach for Periodontitis Treatment Using 975-nm Laser-Patterned Microcoagulation – A Pilot Clinical Study</td>
</tr>
<tr>
<td>9:30 am-10:00 am</td>
<td>Vitruk: Microbial Decontamination of Three Different Implant Surfaces Using a Superpulsed 10,600-nm CO₂ Laser: An In Vitro Study</td>
</tr>
<tr>
<td>9:30 am-10:10 am</td>
<td>Darbar &amp; Darbar: Laser Therapy and TMJ / TMD Problems Associated with Orthodontic Treatment</td>
</tr>
<tr>
<td>9:30 am-10:10 am</td>
<td>Watanabe: Root Canal Irrigation Activated by a New 980-nm Diode Laser System and an Er:YAG Laser: Pressure Generated Outside the Apex and Temperature Changes</td>
</tr>
<tr>
<td>10:00 am-10:30 am</td>
<td>Sirivut: Role of Infrared Diode Laser Wavelengths in Soft Tissue Cutting Using Pre-Initiated Disposable Tips</td>
</tr>
<tr>
<td>10:00 am-10:30 am</td>
<td>Nordquist: Efficacy of the 10,600-nm CO₂ Laser to Ablate the Bacterial-Laden Epithelial Lining of the Diseased Gingival Sulcus</td>
</tr>
<tr>
<td>10:00 am-10:30 am</td>
<td>Mastis: Laser Safety in Orthodontics</td>
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<tr>
<td>10:00 am-10:30 am</td>
<td>Hashemi: Direct Pulp Capping in Adults with an Er,Cr:YSGG Laser Compared with Conventional Methods</td>
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<tr>
<td>10:00 am-10:30 am</td>
<td>Implantology &amp; Prosthetics Panel Discussion</td>
</tr>
<tr>
<td>10:30 am-11:00 am</td>
<td>Morning Break Exhibit Hall</td>
</tr>
<tr>
<td>11:00 am-11:30 am</td>
<td>Vitruk: Myths and Physics of Soft Tissue Dental Lasers</td>
</tr>
<tr>
<td>11:00 am-11:30 am</td>
<td>Levine: Laser-Assisted Dental Procedures Utilizing the LightScalpel LS-1005 SuperPulse 10,600-nm CO₂ Laser in Special Needs Dentistry</td>
</tr>
<tr>
<td>11:00 am-12:00 pm</td>
<td>Tyler: Obtaining More Clients Through Inbound Marketing: Building a Virtual Fence Around Your Clients – Prevent Poaching, Protect Your Personal and Professional Reputation</td>
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<tr>
<td>11:00 am-12:00 pm</td>
<td>Kugel: Thermal Effects on Pulp Due to Laser and Conventional Handpiece Usage</td>
</tr>
<tr>
<td>11:30 am-12:00 pm</td>
<td>Romano: Key Role of Tip Initiation in the Quality of Soft Tissue Surgery</td>
</tr>
<tr>
<td>11:30 am-12:00 pm</td>
<td>Cucuoglu: Stimulating Dental Pulp Tissue Stem Cells and Gingival Fibroblasts with 1064-nm Low-Level Laser Irradiation</td>
</tr>
<tr>
<td>12:00 pm-12:30 pm</td>
<td>Endodontics Panel Discussion</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
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<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12:00 pm-12:30 pm</td>
<td>Rohde: Increase Profit and Efficiency by Integrating the 9.3-μm CO₂ Dental Laser into Your Practice (Return on Investment)</td>
</tr>
<tr>
<td>12:00 pm-12:30 pm</td>
<td>Fantarella: How Computer Technology Can Optimize Cutting Speed, Precision, and Patient Experience with 9.3-μm CO₂ Dental Lasers</td>
</tr>
<tr>
<td>12:00 pm-12:30 pm</td>
<td>Boutoussov: Multiwavelength Approach: Is There a Synergetic Effect for Different Clinical Applications?</td>
</tr>
<tr>
<td>12:30 pm-1:30 pm</td>
<td>Lunch Break</td>
</tr>
<tr>
<td>1:30 pm-3:00 pm</td>
<td>Canham: HIPAA Privacy, Security, and the Final Omnibus Rule: What's New and What Do I Have to Do?</td>
</tr>
<tr>
<td>1:30 pm-3:00 pm</td>
<td>Cudahy: How to Use Social Media and Digital Marketing to Grow Your Practice</td>
</tr>
</tbody>
</table>

Program Schedule (subject to change)

Use the ALD 2015 Conference mobile app for managing your schedule, connecting on social media, viewing the exhibitor list, and much more. The free app is compatible with smartphones and tablets. Download the app now! Thank you to Convergent for sponsoring the app.

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2015

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Exhibit Dates
November 29 - December 2

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Sponsored by the Second District and New York County Dental Societies

Jacob K. Javits Convention Center,
New York City
Standard Proficiency Certification Course

Wednesday, February 4, 2015 7:30 a.m. – 6:30 p.m. Salon 5 • Thursday, February 5, 2015 1:30 p.m. – 5:30 p.m., Salons FGH
Friday, February 6, 2015 7:00 a.m. – 8:00 a.m. Salon 8

Mitch Lomke, DDS1, Rishita Jaju, DMD2, Art Levy, DMD3, Mary Lynn Smith, RDH4, Mel Burchman, DDS5
1 Private Practice, Olney, Maryland, USA, 2 Private Practice, Ashburn, Virginia, USA
3 Private Practice, Glendale, Arizona, USA, 4 Private Practice, McPherson, Kansas, USA
5 Private Practice, Langhorne, Pennsylvania, USA

This is ALD’s Standard Proficiency Certification Program. Separate fees and prerequisites apply. Clinical Simulation Examinations take place on
Thursday afternoon 1:30 p.m. – 5:30 p.m. Candidates must complete their separate Online Written Examination within 90 days (by May 5, 2015).

This two-day program provides a standard proficiency course according to the Curriculum Guidelines and Standards for Dental Laser Education. This
course contains both lecture and hands-on learning opportunities and includes a comprehensive overview and basic understanding of all dental laser
devices, laser-tissue interactions, and safety and operation of a variety of dental lasers. The full range of diagnostic and therapeutic applications for soft
tissue and hard tissue will be discussed. The most frequent specific indications for use with sound scientific and clinical rationale for dental laser use will
be addressed. There is a written examination and hands-on clinical simulation proficiency examination. A variety of dental lasers will be utilized with
support from dental manufacturers.

A detailed course schedule is provided in the Standard Proficiency Course Manual at the beginning of the course. Attendees may chose to take the online
exam while in Palm Springs. You may do that anytime after the course on your own, or you may chose to take the exam on Friday morning at 7:00 a.m. in
Salon 8. Successful candidates will be announced during the Awards Ceremony on Friday evening at 6:30 p.m.

Upon completion of this course, participants successfully completing both the written and clinical simulation proficiency examinations will be recognized
as having completed the certification program for a standard proficiency dental laser course. A certificate of completion for specific dental laser devices
will be sent to current or new ALD members.

Prior Skill Knowledge – Attendance at an introductory course prior to participating in Standard Proficiency Certification examinations is strongly
encouraged. Access to laser devices on a regular basis will aid successful exam outcomes.
Advanced Proficiency Certification

Co-Chairs Arun Darbar, BDS, and Raminta Mastis, DDS

This level represents advanced knowledge and clinical experience with the dental laser. Learners for advanced level recognition will demonstrate knowledge of all laser wavelengths via an Online Written Examination, demonstrate advanced clinical proficiency using the dental laser of their choosing in the Clinical Simulation Examination, plus dental practitioners who use the laser for treatment must also prepare five (5) clinical case studies and be prepared to present a minimum of two of them to examiners at an ALD annual conference. These should be the cases with the highest degree of difficulty following the Clinical Case Study Guidelines that are provided to candidates upon application. Successful participation in all 3 parts of Advanced Proficiency (AP) is required to meet this level of education. Separate application fees and requirements apply for each part. Advanced Proficiency exceeds the standard of care for the dental professional. Laser Safety Officers do not participate in the Clinical Case Presentation section.

Application Requirements for Advanced Proficiency

- Applicant must be a licensed dentist, hygienist, dental assistant, office manager, industry representative, educator, or researcher wishing to attain Advanced Proficiency recognition.
- Applicants must have achieved Standard level recognition approved by the Academy of Laser Dentistry.
- Applicant must be a member of the Academy of Laser Dentistry. Candidates must maintain ALD membership during the AP process and, of course, we hope well beyond!
- Candidates must attend a minimum of 2 ALD Annual Conferences during the Advanced Proficiency process before the award can be earned.
- Successful participation in all 3 parts of Advanced Proficiency is required to meet this level of education. Passing mark of 85% is required on each part. Separate applications for each part are required.

Advanced Proficiency Criteria

1. The Online Written Examination passing mark is 85%. The Online Written Examination is administered via computer. Questions are set on any aspect of the Curriculum Guidelines. The Advanced candidate is expected to have a level of knowledge above that required for the Standard level examination. This part is administered in a proctored setting at the ALD annual conference.
2. As a courtesy to the individual study required for success, ALD provides an Online AP Review Course. Applicants may apply for the Online Review Course and Online Written Examination and the Clinical Simulation Examination at the same time. The next online written exam will be administered in a proctored setting in conjunction with the ALD 22nd Annual Conference in Palm Springs, California, February 4-6, 2015.
3. The Clinical Simulation Examination passing mark is 85%. The Clinical Simulation Examination is administered in person during ALD’s annual conference. Please reference the Clinical Simulation Guideline documents, Exam Grade Sheets, and DVD provided upon application. Candidates should be able to address all the points on the Clinical Simulation Examination grade sheet within a 30-minute time frame. This part is timed to 30 minutes. Candidates are notified of their time slot approximately 1 week prior to the exam date. The next exam takes place in conjunction with the ALD 22nd Annual Conference in Palm Springs, California.
4. Candidates may present their Clinical Cases any time it is offered after successful completion of both the Online Written Examination and the Clinical Simulation Examination. (This means there is a minimum of a 2-year preparation period before one may present clinical cases if one begins case selections when applying for AP. Most candidates take 3 years to complete this level of proficiency status.)
5. Clinical Case Presentations must be completed within a 3-year time limit after completing the Online Written Examination and the Clinical Simulation Examination.

Upon registering for the Advanced Proficiency program, candidates are required to download extensive preparation instructions including a suggested timetable, and will be assigned a mentor who has Advanced Proficiency recognition and who will be available to the candidate for the 2 years required to complete the Advanced Proficiency process.

Clinical Case Presentation of Advanced Proficiency Criteria

1. Clinical Case Presentation Examination passing mark is 85%. The Clinical Case Presentation Examination is administered in person during ALD’s annual conference. Clinical Case Submission Guidelines, Checklists, and Exam Grade sheets are provided upon application.
2. Passing the Online Written Examination AND the Clinical Simulation Examination is a prerequisite for presenting the Clinical Case Examination.
3. Applicants may begin documenting clinical cases and obtaining the required photographs as soon as they apply for the Advanced Proficiency Program. Close contact with one’s assigned mentor is strongly suggested as one prepares clinical cases. Strict adherence to the level of difficulty of selected cases is required.
4. Candidates may present their Clinical Cases any time it is offered after successful completion of both the Online Written Examination and the Clinical Simulation Examination. (This means there is a minimum of a 2-year preparation period before one may present clinical cases if one begins case selections when applying for AP. Most candidates take 3 years to complete this level of proficiency status.)
5. Clinical Case Presentations must be completed within a 3-year time limit after completing the Online Written Examination and the Clinical Simulation Examination.

2015 Online Written Examination, Wednesday 3:30 p.m. – 6:30 p.m. Salon 8
2015 Clinical Case Presentations, Wednesday 3:30 p.m. – 6:30 p.m. Desert 2 and Desert 3
2015 Clinical Simulation Examinations, Friday 7:00 a.m. – 8:00 a.m. Salons FGH

Saturday, 1:30 p.m. – 3:00 p.m. Salon 4
ALD Advanced Proficiency Review & Discussion

Raminta Mastis, DDS, Private Practice, St. Clair Shores, MI, USA

Join Dr. Mastis in a discussion on the preparation for Advanced Proficiency Certification. Several candidates will present their clinical cases to demonstrate successful methodology in obtaining this advanced level of certification from the Academy of Laser Dentistry.
Thank you for supporting ALD’s certification program and participation workshops with your lasers.
Workshops

The 2015 Annual Conference includes 10 Workshops that are designed to allow participants to acquire didactic information and an opportunity to actually try a new method or device in an educational setting before either buying it or using it on a patient. Workshops are offered in Implantology, Periodontology, Periodontal Maintenance, Pediatric Dentistry, Low-Level Laser Therapy Photobiomodulation, Photography and Microscopes and Lasers. Some have limited attendance. The list of workshops appears below; refer to their respective program track and time slot on the preceding pages for a more detailed description.

Thursday, 10:45 am – 12:30 pm, Salon 6 + FGH
PERIODONTOLOGY & PERIODONTAL MAINTENANCE
Getting Started Using Lasers for Periodontal Surgery (for New Users)
Douglas Gilio, DDS & Mitchell Lomke, DDS
Sign-up required. Attendance is limited to 14. This program repeats on Saturday morning.

Thursday, 1:30 pm – 4:30 pm, Salons 2-3
TECHNOLOGY WORKSHOP: LASERS & MICROSCOPES
Magnification and Lasers: Seeing the Light!
Glenn van As, DDS and John Graeber, DMD
Sign-up required. Attendance is limited to 14.

Thursday, 2:00 pm – 3:00 pm, Salon 6
PRACTICE MANAGEMENT: INFECTION CONTROL
Infection Control: A Hands-On Workshop
Leslie Canham, CDA, RDA, CSP
Sign-up required. Attendance is not limited.

Friday, 11:00 am – 12:30 pm, Salon 4
LOW-LEVEL LASER WORKSHOP
How to Use LLLT in Routine and Some Complex Cases in Everyday Dentistry Including Pain Management, Gag Reflex Suppression, Orthodontic Treatment Acceleration
Arun Darbar, BDS, DGDP , Rita Darbar, BDS, DOorth RCS, Gerry Ross, DDS
Sign-up required. Attendance is not limited.

Friday, 1:30 pm – 3:00 pm, Desert 2
TECHNOLOGY WORKSHOP: PHOTOGRAPHY
Photo Documentation: Simplifying Photography and Case Presentation – A Live Demonstration
Dennis Braunston, BS
Sign up required. Attendance is limited to 14.

Friday, 1:30 pm – 3:30 pm, Salons FGH
PERIODONTOLOGY & PERIODONTAL MAINTENANCE
Advanced Periodontics Using Lasers in Periodontal Surgery (for Advanced Users)
Douglas Gilio, DDS, Mitch Lomke, DDS

Friday, 1:30 pm – 4:30 pm, Salon 3
IMPLANTOLOGY WORKSHOP
The Management of Peri-Implantitis Around Dental Implants with the Use of Light Energy
Ed Kusek, DDS
Sign up required. Attendance is limited to 14.

Friday, 3:45 pm – 5:00 pm, Salons FGH
DENTAL HYGIENE WORKSHOP
Give ‘Em A Hand! Hands-On Laser Hygiene Workshop
Jeanette Miranda, RDH, Angela Mott, RDH, Jan LeBeau, RDH, BS, Gloria Monzon, RDH, Shannon Richkowski, RDH, Mary Lynn Smith, RDH, BM, Gwen Smukowski, RDH
Sign-up required. Attendance is not limited.

Saturday, 9:00 am – 12:30 pm, Salon 6
PERIODONTOLOGY & PERIODONTAL MAINTENANCE
Getting Started Using Lasers for Periodontal Surgery (for New Users)
Douglas Gilio, DDS & Mitchell Lomke, DDS
Sign-up required. Attendance is limited to 14.

Saturday, 9:00 am – 10:30, Salons FGH
Saturday 11:00 am - 12:30 pm, Salons FGH
PEDIATRIC DENTISTRY LASER HANDS-ON WORKSHOP
Fred Margolis, DDS, Larry Kotlow, DDS
Sign-up required. Attendance is limited to 15 in each session.
Registration opens Jan. 20!

AGD 2015 is your golden opportunity to experience:

- The latest in innovative technologies and treatment techniques
- An opening keynote address by Travelocity.com founder Terry Jones
- Special exhibit hall features
- Dedicated dental team education
- Networking and exciting social events

To register for AGD 2015, visit www.agd2015.org
The mission of the ADEA Special Interest Group on Lasers in Dentistry is to promote the teaching and learning of all aspects on the use of lasers in clinical dentistry. Presently, the major focus of this group is to assimilate the current state of curricular development in North America’s dental schools. The session will present the current state of lasers in dentistry education and highlight the various avenues of how this education is being imparted. The major purpose of this session is to bring together various stakeholders and discuss future paths forward.
We’re Going To:

2016 Orlando, FL
April 14-16, 2016
Dentistry’s Laser Meeting

DON’T MISS OUT
REGISTER NOW

Network and Learn with other Dental Professionals in Beautiful Orlando
AND EARN CEUs

$100
SAVE
register by Nov. 1, 2015

ADA C.E.R.P.® Continuing Education Recognition Program

www.LaserDentistry.org
The Trials, Frustrations, and Successes of Getting Lasers Cleared for Marketing in the United States by the U.S. Food and Drug Administration

Terry Myers, DDS
Bloomfield Hills, Michigan, USA

As clinicians and related professionals, we are well versed in operating and maintaining our dental devices. All of these had to be cleared to market by the U.S. Food and Drug Administration (FDA) prior to being sold in the United States. This sounds pretty straightforward. Manufacturers submit the required paperwork to the FDA indicating that their devices are safe and effective. The FDA may ask for more supportive documents and in a few weeks the process is successfully concluded, and we can purchase the device. However, this is not always the case. The lecturer will give an informative and entertaining firsthand account of his dealings with the FDA over the course of more than 20 years.

Educational Objectives
Better understand the composition of the U.S. Food and Drug Administration.
Identify the different types of FDA applications.
Appreciate who is safer, the public or the FDA.
Determine whether it is better to be last rather than first.

Photodynamic Therapy and Low-Level Light Therapy: Antimicrobial, Antitumor Immunity, and Photobiomodulation Effects

Michael Hamblin, PhD
Harvard Medical School, Boston, Massachusetts, USA

Visible and near-infrared (NIR) light can treat most human diseases and disorders. Light plus nontoxic dyes is commonly used in photodynamic therapy (PDT). The appropriate choice of photosensitizers and light source can kill cancer cells and destroy pathogenic microorganisms regardless of antibiotic resistance or biofilm presence. When PDT is employed to destroy a tumor, it has the remarkable ability to activate the host immune system to recognize, track down, and destroy tumor cells that may have escaped or even distant deposits of metastatic tumor. In contrast, light alone (low-level light therapy or photobiomodulation) can reduce inflammation, stimulate healing, and aid tissue repair. Transcranial NIR laser therapy can penetrate the scalp and skull to reach the brain where it can prevent death of injured brain cells and even stimulate the growth of new replacement brain cells to repair injury and help neurodegenerative and psychiatric disease.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
Better appreciate the effect of light therapies and photosensitizers on cancer cells and pathogenic microorganisms.
Summarize the effects of photobiomodulation on inflammation, healing, and tissue repair.
Friday, 8:00 a.m. – 9:30 a.m. Salons 4-5

Tongue-Tied: A Story NOT Silenced by Oral Cancer

Eva Grayzel
Easton, Pennsylvania, USA

Eva Grayzel, a nationally recognized Master Storyteller and performance artist, was diagnosed at age 33 with stage IV oral cancer and given a 15% chance of survival. After regaining her deep vibrant voice, Eva applied her stage skills to communicate the depth of her experience in a unique and powerful way. For over a decade, Eva has captivated dental professionals worldwide using story as a catalyst for change. A champion for early detection, Eva founded the Six-Step Screening oral cancer awareness campaign.

One American dies every hour of every day from oral cancer. Eva Grayzel came close to being the ‘one’ in this statistic. The riveting details of Eva’s delayed diagnosis stimulate thinking about enhanced patient care and education. Eloquent and engaging, Eva reveals the devastating effects of treatment, driving listeners to take responsibility for early intervention. Putting a face to the disease, Eva inspires audiences with her firsthand account of hardships unanticipated and overcome; courage unknown and discovered; a mother’s love tested and triumphant. Eva speaks from heart to heart: audiences don’t just hear her story, they experience it.

Educational Objectives
Integrate oral cancer screenings with education.
Optimize screening techniques and patient care.
Motivate passion to save lives via early detection.

Friday, 9:30 a.m. – 10:15 a.m. Salons 4-5

Sex, Drugs, and Oral Cancer

Robert Whitman, MSE
Oral ID, Stafford, Texas, USA

Recent trends in oral cancer have heightened the importance of a proper oral cancer screening protocol for all medical and dental professionals. The incidence of oral cancer has risen in each of the past seven years, and the deforming disease is now affecting patients with no traditional risk factors. Due to a 225% increase in human papillomavirus (HPV)-related oropharyngeal cancers, oral cancer is occurring in younger populations, changing the perception of who to screen.

With the need for a new oral cancer screening protocol, adjunctive screening options will be covered in detail. This lecture will introduce recent and emerging technologies for early discovery of oral cancer, including fluorescence technology and quantitative cytology along with the importance of proper implementation. Clinical examples of these procedures will be provided.

Educational Objectives
Understand oral cancer rates and risk factors.
Realize the role of HPV in oral cancer.
Ascertain proper oral cancer screening protocols.
Determine how to incorporate adjunctive technologies for oral cancer screening.
Dr., Dr., Can You Help Me with My Laser Questions? A Panel Discussion

Key Opinion Leaders Answer Your Questions

Mel Burchman, DDS1; Arun Darbar, BDS, DGDP (UK)2; Douglas Gilio, DDS3; Larry Kotlow, DDS4; Edward Kusek, DDS5; Angie Mott, RDH6; Gerry Ross, DDS7; Mary Lynn Smith, RDH8

1Private Practice, Langhorne, Pennsylvania, USA
2Smile Creations Private Practice, Leighton Buzzard, Bedfordshire, United Kingdom
3Private Practice, Visalia, California, USA, and Central California Veterans Hospital, Fresno, California, USA
4Private Practice, Albany, New York, USA
5Private Practice, Sioux Falls, South Dakota, USA
6Private Practice, Tulsa, Oklahoma, USA
7Private Practice, Tottenham, Ontario, Canada
8Private Practice, McPherson, Kansas, USA

Do you have a laser question that’s been bothering you? Can’t get a satisfactory answer? Want to learn a more effective laser technique? Wondering about a particular finding from the scientific literature? Looking for an evidenced-based approach to a particular laser application? Or did you hear a laser topic during the conference that needs clarification? Bring your laser questions and take advantage of this engaging, lively, entertaining, and educational expert panel discussion to get the answers you are seeking!

Note: Attendees are encouraged to jot questions down on index cards provided throughout the meeting and turn them into the host, moderator, or at the registration desk. The panel will select questions from those gathered during the meeting as well as from the audience on Saturday morning. If you have submitted a question, please be sure to attend the Saturday Panel Discussion!

Educational Objectives

Receive answers to dental laser questions from a panel of expert laser clinicians.

Enjoy a fun, interactive, educational discussion forum on what sometimes can be challenging topics.

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Featured Lunch Presentation

Own the Internet. Own YOUR Market. From Dominating Search Engines to Generating Positive Reviews!

Bryan Edelstein
Doctor.com, Gainesville, Florida, USA

If you want to know how the most successful dentists receive so many patients online, this might be the most valuable lecture you ever attend. Discover how to get your Web site to the top of the search engines, protect and enhance your reputation online, have the most popular and “liked” Social Media presence in your town, and track your return on all of your Internet marketing investments to spend less and generate more patients online.

Educational Objectives

Generate more positive reviews and improve your online reputation.

Effortlessly manage your listings on every Web site that matters.

Showcase your practice on Web and mobile devices.

Design your Web site so patients will choose you FIRST out of every other specialist Web site they visit.

Outrank competitors in every area of search – organic, paid, and local.

Save money by “marketing smarter” instead of just “spending more.”
Doctor.com
for Thursday’s Lunch

Take your lunch into Salon 4 on Thursday, 12:45 pm - 1:20 pm

Special lunch presentation
Own the Internet. Own YOUR Market.
From Dominating Search Engines to Generating Positive Reviews!
by Bryan Edelstein, Doctor.com
Special Programs

Wednesday, 7:00 p.m. – 7:30 p.m. Salon 5

Conference Orientation: How to Get the Most Knowledge and Enjoyment as a First-Time Attendee

John Graeber, DMD1, John G. Sulewski, MA2
1Private Practice, East Hanover, New Jersey, USA
2The Institute for Advanced Dental Technologies and Millennium Dental Technologies, Huntington Woods, Michigan, USA

This presentation provides a guide to help attendees maximize their experience over the course of the conference and exhibition. What are the new attractions for 2015? What are the types of educational programs available on-site? Which ones offer an interactive, hands-on experience? Which ones present experimental usage, scientific findings, practice integration issues? What questions should you ask about instruments before purchasing? What opportunities are available for more casual and individualized interaction? What exactly does laser certification involve? For an objective view of these and other questions, plan to attend this informal session. It is designed for all participants, whether you are attending the conference for the first time, a new Academy of Laser Dentistry (ALD) member, considering purchasing your first laser, or a veteran user wishing to keep up with the latest developments. No previous knowledge of lasers is necessary.

Educational Objective
Maximize your experience during the annual conference and exhibition by targeting your attendance and participation in programs that meet your specific needs.

Thursday, 10:45 a.m. – 11:45 a.m. Salons 2-3

Magnification and Lasers: Seeing the Light! Lecture & Demonstration

Glenn van As, DMD
Private Practice, North Vancouver, British Columbia, Canada

In this lecture/demonstration, the topic of magnification and its vital role with hard-tissue erbium lasers will be covered. The focus will be on introductory concepts of magnification in laser dentistry, resolution of the human eye and its limitations, and why noncontact erbium laser dentistry requires a visual "feel" as opposed to a "tactile" feel. During the lecture portion attendees will see clinical cases documented in high-definition video and still photography from the dental operating microscope (Global Surgical, St. Louis, Mo., USA) that demonstrate the value of magnification for improved treatment outcomes, and improvements in ergonomics as well as documentation. In part 2 of the session, attendees will see real-time live video of the operating microscope used with an Er,Cr:YSGG laser (WaterLase iPlus, Biolase, Irvine, Calif., USA) for soft tissue and hard tissue procedures. The highly visual presentation will show how the dental operating microscope and hard-tissue lasers act in synergy to truly help us "See the Light!"

This demonstration is followed by an additional hands-on course in the afternoon 1:30 - 4:30 pm on this same topic. Attendance is limited to 14. Advance registration is required. Dr. John Graeber will assist Dr. van As with the hands-on course.

Educational Objectives
Gain an introductory understanding of the resolution of the human eye and how magnification affects the visual resolution that is possible.

Learn through clinical cases showing video and still photography from the dental operating microscope how magnification can improve treatment outcomes.

Gain an appreciation in real time through a demonstration on stage how the synergy between the microscope and erbium lasers can help improve treatment outcomes.
Thursday, 10:45 a.m. – 12:30 p.m. Salon 5

**Lasers Fundamentals and Why They Matter**

Will Gianni, DDS  
Private Practice, Twain Harte, California, USA

A good understanding of the scientific fundamentals of lasers provides a fresh appreciation of the technological advancements in this field and how they affect applications. Laser technology is exploding: new wavelengths are being introduced to the marketplace, a wider range of parameters are available than ever before, low-level laser therapy (LLLT) is becoming more prevalent. A solid understanding of the physics is central to absolutely knowing what is happening on and inside the tissue being treated, how to manipulate parameters for various conditions and results, and why preset parameters are not always the best option.

This program is a crash course in laser physics focused on filling a need for a basic understanding of laser-tissue interactions, but also presents more advanced topics in the key principles of the physical and biophysical part of laser dentistry.

This course will cover from how a laser is constructed (and we are light years ahead of Maiman’s first ruby laser...) to what determines the laser’s power, intensity, energy, wavelength, spot size, laser pulses, beam divergence, efficiency. Topics include the transmission of light, its effect on tissues, and unique characteristics of various lasers.

**Note:** This course serves as a prerequisite for those attending the Laser Safety Officer Training Course by Jan LeBeau, RDH, BS, and Keith Brewster, DDS, on Saturday 9:00 am -12:30 pm. A basic understanding of how a laser operates helps in understanding the hazards when using a laser device.

**Educational Objectives**

- Acquire sufficient fundamental knowledge in order to more appropriately assess a laser’s usefulness for a specific purpose and to understand its limitations.
- Compile basic information on many of the latest types of lasers.
- Progress logically from the basics of laser action to advanced topics in laser physics.
- Illuminate one’s mind with the science of illumination.

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Thursday, 1:30 p.m. – 2:00 p.m. Salon 6

**How Dentists Become Patient Advocates with Their Physician**

Leona Meditz  
Health Care Professionals Wellness Network, Phoenix, Arizona, USA

An advocate is “one who speaks, pleads, or argues in favor of.” Daily, 12,500 Americans turn 50 years old. Two in three will contract heart disease, one in four will become diabetic, and six of 10 will manage more than one disease which doubles needed doctor visits and worsens the physician shortfall. At least 50% have periodontitis. Periodontitis is a bacterial infection that can cause chronic inflammation. Patients are twice as likely to become diabetic if they have periodontitis and at least double their chance for cardiovascular disease (CVD). Because 70% of Americans will see their dentist this year, dentists have the opportunity as health advocates by co-managing care with the patient’s physician with laser-assisted periodontal therapy.

Learn how 174,100 U.S. hygienists can impact the health of 74 million lives when the patient’s physician co-manages the patient with dentists. Most understand the oral-systemic connection and many have added laser-assisted periodontal therapy to their perio patients. Few understand the protocols needed to create periodontal health for the patient beyond insurance reimbursement. Real cases from real dentists will be presented, modeling protocols that team dentistry, physicians, and patients for consistent outcomes, no matter what insurance pays.

**Educational Objectives**

- Show how to change routine hygiene visits into patient wellness assessments by relating how to use patient health histories, family health histories, new bacterial testing, and probing to diagnose inflammatory health risks, not just periodontal disease.
- Show how to treatment-plan and present 3-, 6-, and 12-month perio programs that change patient behaviors to help guarantee periodontal disease remission. (Patients will pay out-of-pocket costs 70% of the time if followed.)
- Explain how to get full team support creating healthy patients and take the “selling” out of hygiene. (Patients will ask for treatment and refer their family members before they even know the cost.)
- Ascertain how to use wellness assessment review of findings to involve physician support via patient care co-management, which also improves case acceptance.
Celebrating the 2015 International Year of Light and Light-based Technologies

The American Society for Laser Medicine and Surgery is the largest multi-disciplinary professional organization dedicated to the development and application of lasers and related technology for health care applications.

Our mission is to promote excellence in patient care by advancing biomedical application of lasers and other related technologies world wide.

Our vision is to be the world's preeminent resource for biomedical laser and other energy based technologies, research, education, and clinical knowledge.

For more information visit www.aslms.org
Thursday, 2:00 p.m. – 3:00 p.m. Salon 6

**PARTICIPATION COURSE: Infection Control: A Hands-On Workshop**

Leslie Canham, CDA, RDA, CSP  
*Leslie Canham & Associates, Copperopolis, California, USA*

Infection control breaches in dentistry are BIG NEWS lately. Learn how to update infection control practices to meet the current U.S. Centers for Disease Control and Prevention (CDC) Guidelines. Examples of infection control “DOs and DON’Ts” and “hands-on” demonstrations will provide the participant with memorable tips. This program will motivate the participant to strive for infection control excellence. Takeaways include an infection control checklist, instrument processing protocol, and top resources for infection control and safety.

**Educational Objectives**

- Recognize gaps in infection control and patient safety.
- Understand how to incorporate the CDC Guidelines in one’s practice and learn what the newest CDC recommendations are.
- Ascertain how to achieve a culture of infection control and safety compliance through teamwork.
- Explain how to select appropriate infection control products.

Saturday, 9:00 a.m. – 10:30 a.m. Desert 3

**OSHA – What’s New and What Do I Have to Do?**

Leslie Canham, CDA, RDA, CSP  
*Leslie Canham & Associates, Copperopolis, California, USA*

A dental office Occupational Safety and Health Administration (OSHA) safety program must include training on both the blood-borne pathogen and hazard communication standards. This program is designed to help the participant understand how to comply with these two standards to protect the dental team from biological and chemical hazards. Take-home tools include checklists for conducting one’s own OSHA inspection and designing a “personalized” safety plan, tips for organizing an OSHA safety meeting, a sample exposure incident plan, and other helpful resources.

This program meets the annual OSHA training requirements.

**Educational Objectives**

- Recognize hazards in the dental office.
- Explain how to manage an exposure incident.
- Understand the new globally harmonized hazard communication standard including label and safety data sheets (SDS) requirements.
- Determine how to maintain all OSHA record-keeping requirements and update the office OSHA and SDS manuals.

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Saturday, 9:00 a.m. – 12:30 p.m. Desert 2

**Laser Safety Officer Training Course**

Jan LeBeau, RDH, BS¹, Keith Brewster, DDS²  
¹Pacific Dental Services, Irvine, California, USA  
²Private Practice, Dallas, Texas, USA

This course will address the specific duties of a Laser Safety Officer (LSO) as described in the ANSI Z136.1 - “American National Standard for Safe Use of Lasers” and ANSI Z136.3 - “American National Standard for Safe Use of Lasers in Health Care” Standards. This course is designed specifically for dental care settings and will help guide participants in developing and implementing a laser safety program. It emphasizes current standards in hazard identification and safe work practices that apply to all laser operators.

**Educational Objectives**

- Summarize the responsibilities of the Laser Safety Officer and provide specific guidelines for developing a laser safety program.
- Provide the required knowledge and understanding of laser systems, nominal hazard zone (NHZ), maximum permissible exposure (MPE), and the optical density (OD) of protective eyewear.
- Examine laser hazard class details and discuss laser hazard evaluations.
- Provide guidance for appropriate audit and record keeping requirements, including training.
Special Programs

Saturday, 9:00 a.m. – 10:30 a.m. Salons FGH (Session 1)
Saturday, 11:00 a.m. – 12:30 p.m. Salons FGH (Session 2)

**PARTICIPATION COURSE: Pediatric Dentistry**

**Laser Hands-On Workshops**

Fred Margolis, DDS¹, Larry Kotlow, DDS²

¹University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA
²Private Practice, Albany, New York, USA

This hands-on course will give the participant the opportunity to try various diode, erbium, and CO₂ lasers available today. You will learn how to perform hard and soft tissue laser surgical procedures including laser analgesia in 30 seconds, frenectomies on infants, cavity preparations, gingivectomies, operculectomies, mucocele and fibroma excisions. This is an excellent review for the current laser user and a way to "revolutionize" your practice. This 90-minute program will be taught by pediatric laser dentists who have Mastership from the ALD, assisted by advanced laser users who have been using lasers in their practices for more than a decade. This limited-attendance workshop is intended for laser dentists who would like to learn how to excel in their knowledge and use of lasers for infants and children.

Attendance for the workshops is limited to 15 so that each participant has ample time with a seasoned pediatric dentist to experience deeper hands-on learning. Attendees will sign up for 1 of 2 programs, each as a repeated session to allow for the small class size. Advanced registration is required.

**Note:** This workshop discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Enhance one’s knowledge and practice of laser dentistry for children.
- Ascertain how to use one’s current laser(s) more efficiently and productively.
- Discover knowledge and techniques for providing better care for pediatric patients using lasers.

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Saturday, 1:30 p.m. – 3:00 p.m. Salons 7-8

**HIPAA Privacy, Security, and the Final Omnibus Rule: What’s New and What Do I Have to Do?**

Leslie Canham, CDA, RDA, CSP
Leslie Canham & Associates, Copperopolis, California, USA

The purpose of this course is to familiarize the participant with the basic concepts of the Health Insurance Portability and Accountability Act (HIPAA) as the regulations apply to dentistry. Information will include how to implement HIPAA Privacy and Security programs, and organize and conduct staff training. This program will also cover the new final Omnibus Rule.

**Educational Objectives**

- Ascertain how to set up a HIPAA Privacy and Security Program and understand how HIPAA regulations apply to a typical dental office.
- Recognize breaches in privacy or security and understand breach notification requirements.
- Understand how the Health Information Technology for Economic and Clinical Health (HITECH) Act and new Omnibus Rules affect dental practices.
- Create the required logs to support compliance with these regulations.
Saturday, 1:30 p.m. – 3:00 p.m. Salons 1-3

How to Use Social Media and Digital Marketing to Grow Your Practice

Michael Cudahy
Big Brand Boost, Atlanta, Georgia, USA

The world of marketing has changed over the last decade, providing the practicing dentist with new challenges and opportunities. While the effectiveness of traditional marketing channels like radio, television, print, and direct mail continue to fall, the success found in digital and social media channels is on the rise. More than 54% of American consumers now check their social media every day. There is a great opportunity for the dental practice that embraces these digital channels to increase their growth by highlighting the benefits of good dental health and adding value to their patients. Both art and science – the benefits of learning the online basics and putting them to use are a must for the modern dental marketer.

Educational Objectives

Ascertain how to develop an effective digital marketing strategy and identify the tools and techniques that will grow your practice.

Discover how to identify what is important to your patients and potential patients through social listening.

Learn where to put your efforts online. Discover the unique strengths and weaknesses across the digital landscape, and how to make them work for you.

Maximize new patient acquisition and improve patient retention and word-of-mouth referrals by learning how to provide value and leverage your practice’s unique capabilities.

Special Interest: Advanced Proficiency Review

Saturday, 1:30 p.m. – 3:00 p.m. Salon 4

Advanced Proficiency Review and Case Presentations

Raminta Mastis, DDS
Private Practice, St. Clair Shores, Michigan, USA

Dr. Raminta Mastis will lead a discussion on the preparation for Advanced Proficiency Certification. Several candidates will present their clinical cases to demonstrate successful methodology in obtaining this advanced level of certification from the Academy of Laser Dentistry.

Educational Objectives

Learn the proper documentation and planning for compiling advanced proficiency clinical cases for presentation.

Address questions about the advanced proficiency certification level.
TIME TO GET SOCIAL!

Saturday - 1:30 pm - 2:00 pm

How to Use Social Media and Digital Marketing to Grow Your Practice
Michael Cudahy, Big Brand Boost, Atlanta, GA, USA

Profitable Social Media Marketing is not Difficult!
Growing your practice with social media marketing is easier than you think.

• Discover the few simple basics that pay, and never change
• Achieve your goals by putting your patients to work for you
• Improve your level of patient care and your bottom line by improving your perceived value
• Experience hassle-free social media by using templates and turn key procedures
• Do it all in less than 20 minutes a day by establishing the right strategy at the start
Periodontics Workshop
Thursday, 10:45 a.m. – 12:30 p.m. Salons 6 + FGH

**PARTICIPATION COURSE: Getting Started Using Lasers for Periodontal Surgery (for New Users)**

Douglas Gilio, DDS¹, Mitchell Lomke, DDS²
¹Central California Veterans Hospital, Fresno, California, USA
²Private Practice, Olney, Maryland, USA

This course will provide both valuable didactic lecture material and the experience of hands-on training from both a periodontist’s and general dentist’s perspective for laser-assisted periodontal surgical procedures, including both soft-tissue and hard-tissue procedures. The proper clinical use of erbium, Nd:YAG, and diode lasers will be included.

(This course will repeat on Saturday. Attendance is limited to 14. Advance registration is required.)

**Educational Objectives**
- Ascertain how to select the proper laser wavelengths to perform periodontal soft tissue crown lengthening procedures.
- Select the proper laser wavelengths to perform periodontal hard tissue crown lengthening procedures.
- Learn the proper technique to use when performing both hard and soft tissue crown lengthening procedures.
- Manage patient issues that may arise both during surgery and post-surgery.

Technology Workshop
Thursday, 1:30 p.m. – 4:30 p.m. Salons 2-3

**PARTICIPATION COURSE: Magnification and Lasers: Seeing the Light!**

Glenn van As, DMD¹, John Graeber, DMD²
¹Private Practice, North Vancouver, British Columbia, Canada
²Private Practice, East Hanover, New Jersey, USA

This hands-on workshop is a follow-on to the morning demonstration on concepts of magnification in laser dentistry. Under guided supervision, attendees will use lasers to perform procedures on tissue specimens under operating microscopes. Attendance is limited to 14. Advance registration is required. Dr. John Graeber will assist Dr. van As with the hands-on course.

**Educational Objectives**
- Perform laser-assisted procedures on tissue specimens as viewed through operating microscopes under controlled supervision.
- Gain an appreciation of how the synergy between the microscope and lasers can help improve treatment outcomes.

Infection Control Workshop
Thursday, 2:00 p.m. – 3:00 p.m. Salon 6

**PARTICIPATION COURSE: Infection Control: A Hands-On Workshop**

Leslie Canham, CDA, RDA, CSP
Leslie Canham & Associates, Copperopolis, California, USA

Infection control breaches in dentistry are BIG NEWS lately. Learn how to update infection control practices to meet the current U.S. Centers for Disease Control and Prevention (CDC) Guidelines. Examples of infection control “DOs and DON'Ts” and “hands-on” demonstrations will provide the participant with memorable tips. This program will motivate the participant to strive for infection control excellence. Takeaways include an infection control checklist, instrument processing protocol, and top resources for infection control and safety.

**Educational Objectives**
- Recognize gaps in infection control and patient safety.
- Understand how to incorporate the CDC Guidelines in one’s practice and learn what the newest CDC recommendations are.
- Ascertain how to achieve a culture of infection control and safety compliance though teamwork.
- Explain how to select appropriate infection control products.

Photo Documentation Workshop
Friday, 1:30 p.m. – 3:30 p.m. Desert 2

**PARTICIPATION COURSE & DEMONSTRATION: Photo Documentation: Simplifying Photography and Case Presentation – A Live Demonstration**

Dennis Braunston, BS
Dental Learning Centers, Issaquah, Washington, USA

Mastering dental photography is a major element in patient education, expanding cosmetic services, treatment planning, legal documentation, and laboratory communication. See with a live video feed the step-by-step procedures to help make clear the process from photography to presentation. The program reviews “what you need to know,” from camera to presentation.

**Educational Objectives**
- Learn how to adjust and test your camera for optimal performance including color calibration, depth of field, and exposure.
- Understand, through demonstration, how to make the seven standard dental photo series.
- From the images that you made, describe how to input, organize, edit, and create patient education presentations.
- Summarize the four essentials for superior laboratory photography.
Low-Level Laser Workshop
Friday, 11:00 a.m. – 12:30 p.m. Salon 4

PARTICIPATION COURSE: How to Use LLLT in Routine and Some Complex Cases in Everyday Dentistry Including Pain Management, Gag Reflex Suppression, Orthodontic Treatment Acceleration

Arun Darbar, BDS, DGDP (UK)¹, Rita Darbar, BDS, DOrth RCS,¹
Gerry Ross, DDS²
¹Private Practice, Leighton Buzzard, United Kingdom
²Private Practice, Tottenham, Ontario, Canada

The purpose of this hands-on program is to demonstrate how low-level laser therapy (LLLT) has improved the patient experience. As clinicians we continue to strive to treat our patients with minimum discomfort and get predictable, good-quality outcomes. As it has been shown that low-level lasers can affect the redox balance of the cell, we hypothesize that if we can change this balance favorably by preconditioning before any intervention, it is possible that we can promote even better quality healing and prepare the tissue to respond more favorably. Techniques used with different laser systems and their attachments will be discussed and demonstrated for different modalities such as temporomandibular dysfunction (TMD) treatment, pain management, gag reflex suppression, orthodontic treatment acceleration.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
- Understand doses of low-level laser therapy to use clinically.
- Calculate doses relevant to the type of laser handpiece.
- Provide low-level laser therapy safely, effectively, and efficiently.

Implantology Workshop
Friday, 1:30 p.m. – 4:30 p.m. Salon 3

PARTICIPATION COURSE: The Management of Peri-Implantitis Around Dental Implants with the Use of Light Energy

Edward Kusek, DDS
Private Practice, Sioux Falls, South Dakota, USA and University of South Dakota, Vermillion, South Dakota, USA

This hands-on course will discuss steps that will aid the practitioner to treat inflammation and infection around implants with use of an erbium or CO₂ laser to save a failing implant. Discussion will focus on the steps used to disinfect the implant surface and stimulate new bone formation, materials used to graft the site, and steps to suture the site correctly to help ensure maximum aesthetics and long-term maintenance around dental implants. Participants will demonstrate these procedures on dentaform® models and pig jaws during the hands-on portion of the program.

(This course is limited to 14 attendees. Advance registration is required. There is an additional $79 materials fee for this course.)

Educational Objectives
- Practice suturing techniques needed to graft tissue around an implant and to close after the surgical procedure to treat peri-implantitis.
- Learn how to use both erbium and CO₂ lasers to detoxify around an infected implant and to use biologic modifiers to increase the healing process.
- Ascertain how to use erbium and CO₂ lasers to create a flap around an infected implant.
- Determine how to use erbium and CO₂ lasers to create decortication points in bone to create new bone formation around an infected implant, and to de-epithelialize tissue to create faster tissue healing.
Low Level Laser TRAINING

- Clinical applications
- How it works
- Treatment parameters
- Treatment techniques
- Safety, contraindications
- Reimbursement

Tissue healing, anti-inflammatory and analgesic

LLLT is a non-thermal laser treatment that increases ATP and reduces oxidative stress. The downstream effects lead to better cell metabolism and reduced inflammation, with high irradiance treatments leading to analgesia. Learn how to treat effectively, and how other dentists are attracting new patients and a whole new revenue stream.

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- Osseointegration of implants
- Improved tooth movement after orthodontic treatment

- Orthodontic pain
- Post op healing
- Dentin-pulp repair
- TMJD
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**Periodontics Workshop**

Friday, 1:30 p.m. – 3:30 p.m. Salons FGH  
**PARTICIPATION COURSE:** Advanced Periodontics Using Lasers in Periodontal Surgery (for Advanced Users)  
Mitch Lomke, DDS1, Douglas Gilio, DDS2  
1Private Practice, Olney, Maryland, USA, and University of Maryland School of Dentistry, Baltimore, Maryland, USA  
2Private Practice, Visalia, California, USA  
Advanced periodontal treatment can be enhanced by a combination of traditional and laser technology techniques in order to restore and improve the oral health of patients affected by oral infection and disease.  
This lecture will cover basic laser therapy and innovations in everyday periodontal practice treatment utilizing diode, Nd:YAG, Er:YAG, Er,Cr:YSSG, and CO2 lasers. Emphasis will be on treatment planning and best choice of laser wavelength for clinical applications in order to achieve excellent therapeutic and aesthetic outcomes.  
Laser technology provides many novel periodontal procedures that may only be delivered by using the proper laser wavelength and utilizing a laser handpiece in a precise manner, eliminating invasive conventional surgical methods. Using the proper laser wavelengths with trained and experienced hands can provide the optimum desired tissue result and enhance patient oral health.  
(Attendance is limited to 14. Advance registration is required.)

**Educational Objectives**  
Determine the ideal laser wavelength for providing the optimum and most predictable outcome available for periodontal cases when using various laser devices.  
State the energy parameters and optimum settings based on tissue characteristics and phenotype.  
Realize new and novel laser treatment techniques to repair or regenerate bone and increase the width of keratinized periodontal tissue, eliminating the need for soft or hard tissue grafts taken from a donor site.  
Ascertain how to identify cases that are best treated only by laser phototherapy and techniques, or a combination of traditional and laser treatment.

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**Dental Hygiene Workshop**

Friday, 3:45 p.m. – 5:00 p.m. Salons FGH  
**PARTICIPATION COURSE:** Give ‘Em A Hand! Hands-On Laser Hygiene Workshop  
Jeanette Miranda, RDH1, Angela Mott, RDH2, Jan LeBeau, RDH, BS3, Gloria Monzon, RDH4, Shannon Richkowski, RDH5, Mary Lynn Smith, RDH, BM6, Gwen Smukowski, RDH7  
1Private Practice, Sioux Falls, South Dakota, USA  
2Private Practice, Tulsa, Oklahoma, USA  
3Pacific Dental Services, Irvine, California, USA  
4Private Practice, Milpitas, California, USA  
5Private Practice, El Paso, Texas, USA  
6Private Practice, McPherson, Kansas, USA  
7Private Practice, Chicago, Illinois, USA  
This hands-on workshop will allow hygienists the opportunity to try a variety of soft-tissue lasers (diodes, CO2, erbiums), spend time on techniques (laser periodontal therapy, laser bacterial reduction, biostimulation), and be able to get answers to their questions from other experienced laser hygienists. Hygienists Jeanette Miranda, Angie Mott, Jan LeBeau, Gloria Monzon, Shannon Richkowski, Mary Lynn Smith, and Gwen Smukowski will share tips and techniques in this guided workshop.

**Educational Objectives**  
Utilize a variety of soft tissue lasers on tissue specimens in a laboratory setting under controlled supervision for procedures typically performed in the hygiene department.  
Compare clinical techniques and tips with fellow hygienists.
PARTICIPATION COURSE: Pediatric Dentistry Laser Hands-On Workshops

Fred Margolis, DDS1, Larry Kotlow, DDS2
1University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA
2Private Practice, Albany, New York, USA

This hands-on course will give the participant the opportunity to try various diode, erbium, and CO2 lasers available today. You will learn how to perform hard and soft tissue laser surgical procedures including laser analgesia in 30 seconds, frenectomies on infants, cavity preparations, gingivectomies, operculectomies, mucocele and fibroma excisions. This is an excellent review for the current laser user and a way to “revolutionize” your practice. This 90-minute program will be taught by pediatric laser dentists who have Mastership from the ALD, assisted by advanced laser users who have been using lasers in their practices for more than a decade. This limited-attendance workshop is intended for laser dentists who would like to learn how to excel in their knowledge and use of lasers for infants and children.

Attendance for the workshops is limited to 15 so that each participant has ample time with a seasoned pediatric dentist to experience deeper hands-on learning. Attendees will sign up for 1 of 2 programs, each as a repeated session to allow for the small class size. Advanced registration is required.

Note: This workshop discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

Enhance one’s knowledge and practice of laser dentistry for children.

Ascertrain how to use one’s current laser(s) more efficiently and productively.

Discover knowledge and techniques for providing better care for pediatric patients using lasers.

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Douglas Gilio, DDS1, Mitchell Lomke, DDS2
1Central California Veterans Hospital, Fresno, California, USA
2Private Practice, Olney, Maryland, USA

This course will provide both valuable didactic lecture material and the experience of hands-on training from both a periodontist’s and general dentist’s perspective for laser-assisted periodontal surgical procedures, including both soft-tissue and hard-tissue procedures. The proper clinical use of erbium, Nd:YAG, and diode lasers will be included.

(This course is a repeat from Thursday. Attendance is limited to 14. Advance registration is required.)

Educational Objectives

Ascertain how to select the proper laser wavelengths to perform periodontal soft tissue crown lengthening procedures.

Select the proper laser wavelengths to perform periodontal hard tissue crown lengthening procedures.

Learn the proper technique to use when performing both hard and soft tissue crown lengthening procedures.

Manage patient issues that may arise both during surgery and post-surgery.
FEATURING:

- **Laser Safety Scientific Sessions** – Get the most updated information on laser safety
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- **Medical Practical Applications Seminar** – Earn contact hours while experiencing cutting-edge presentations
- **Poster Presentation Gallery** – Join presenters to share ideas!

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Various laser treatment modalities have been developed for cosmetic removal of dark gingival pigmentation, including laser ablation and nonsurgical laser techniques, both of which are considered to be effective, agreeable, and reliable techniques for treating gingival hyperpigmentation.

Thirty patients who presented with a chief complaint of having dark-brown-to-black gingival hyperpigmentation were randomly divided into 3 groups of 10 patients each. Groups A and B followed the surgical laser approach while Group C followed a nonsurgical laser technique. Group A was treated by an Er:YAG laser (2940 nm) (KaVo KEY Laser 3, KaVo Dental, Biberach, Germany), Group B with a diode laser (940 nm) (EPIC™, Biolase, Irvine, Calif., USA) with contact mode, and Group C with a diode laser (940 nm) (EPIC™, Biolase) with a noninitiated fiber in defocused mode. Clinical parameters, such as bleeding, swelling, redness, and healing, were evaluated immediately after the surgery and 1 week and 1 month later.

The total procedure time was shorter in Groups A and B. Mild pain or itching was common during the first week in all groups with less postoperative discomfort in Group C. Group A required no anesthesia and showed faster healing and immediate aesthetic results after 1 week of treatment. Both surgical and nonsurgical laser techniques were reliable and effective for removal of melanin pigments. Patients’ evaluations of postoperative pain and healing revealed the nonsurgical laser technique to be superior to the surgical technique, whereas the immediate aesthetic results and complete elimination of pigments were superior with the surgical laser.

Educational Objectives

- Evaluate and compare clinical efficiency of different laser protocols in removal of gingival melanin pigmentation by direct ablation of the pigmented layer (surgical laser) or indirect effect on melanocytes (nonsurgical laser).
- Compare the efficacy of three different laser wavelengths in removal of gingival pigments.
- Realize that color of the gingiva is an important component in overall aesthetics.

Friday, 4:30 p.m. – 5:00 p.m. Salon 5

Laser Protocol Adaptations for Aesthetic and Functional Reconstructions in Women’s Oral Health Interdisciplinary Diagnosis and Treatment Planning

Claudia Cotca, DDS, MPH
Washington Institute for Dentistry and Laser Surgery, Chevy-Chase, Maryland, USA

Women’s Oral Health model has been a theoretical science pursuit, currently incomplete, and mostly supported by academic research interest, with little application, if any (outside of pregnancy), in the mainstream clinical treatment adaptations in private practice. Clinical cases presented will highlight adaptations of core sciences and interdisciplinary specialties representing this unique confluence of gender difference manifestations in oral health in support of a long overdue, accurate, justified, and complete model of women’s oral health.

Oversight implications of underappreciated women’s health nuances with current ever-changing genomic and phenotypic demographics in the oral cavity not only lead to functional rehabilitative shortcomings but also allow for aesthetic limitations in reconstructive cases.

As public demand continues to grow for aesthetic-driven therapeutics, accurate and appropriate oral health diagnosis and staging remains at the core for predictable oral health and aesthetic reconstructions. Dental clinicians ought to be prepared for appropriately appreciating the varying though sometimes orosystemic gender-based nuances which, if overlooked, present a limiting factor in expected prognosis.

In this spirit of diagnosis and treatment planning of women’s oral health, laser protocols are not only important but deemed crucial for predictable, reproducible, and stable clinical results.

This lecture will present a collection of clinical cases from private practice which illustrates the integration of core sciences, interdisciplinary and clinical variables that model women’s oral health. This approach synergistically reflects the demands of laser-specific applications in the spirit of expected reproducible clinical prognosis in women’s oral health in aesthetic and functional restorative cases.

Educational Objectives

- Summarize the principles of women’s oral health model in terms of core science as well as systemic and interdisciplinary clinical variables.
- Enumerate the principles of accurate case diagnosis and treatment planning of women’s oral health for the aesthetic and functional restorative case.
- Specify laser protocol adaptations to women’s oral health diagnosis and treatment planning for the aesthetic and functional restorative case.
- Enumerate the principles of tissue subtypes in women’s oral health model for the aesthetic and functional restorative case.
Clinical Science

Saturday, 9:00 a.m. – 9:30 a.m. Salon 4

Laser-Patterned Microcoagulation and Microablation (LPM) Technology: A New Natural Method of Tissue Regeneration

Gregory Altshuler, PhD, DEngSc1, Ksenia Shatilova, PhD2, Alexander Zernitskiy, PhD3, Ekaterina Zernitckaia3

1Dental Photonics, Inc., Walpole, Massachusetts, USA
2ITMO University, Saint Petersburg, Russia
3First I.P. Pavlov State Medical University, Saint Petersburg, Russia

Fractional laser treatment is a new concept of laser treatment of tissue, which was proposed in the beginning of this century. The concept of fractional treatment or Laser Patterned Microcoagulation or Microablation (LPM) can be explained as formation in the tissue of islets of damaged tissue surrounded by viable tissue. Tissue regeneration occurs through natural tissue healing response which includes a cascade of processes, such as removal of "old" tissue in the damaged islets and replacement with new extracellular matrix and "young" somatic cells, and stem cell recruiting and activation. Multifractional treatment can initiate complete regeneration of treated tissue. Theoretical and experimental data of patterned islets of tissue damage in skin, gingiva, and bone with different lasers will be presented. The tissue regeneration process can be regulated and optimized by proper selection of laser parameters, such as wavelength, pulse width, size of microbeams, and their density. We will review the experience of using fractional technology in dermatology for treatment of scars, wrinkles, and pigmented and vascular lesions. Results of using fractional technology for regeneration of gingiva and alveolar bone in animal studies will be presented. Clinical data of several studies using LPM for treatment of periodontitis, gingival hyperpigmentation, tissue around implants, and gingival scar and wound healing will be reviewed.

Objective

In this presentation we will review novel methods of tissue regeneration using controlled fractional tissue damage and natural healing process.

Method

Published in vitro and in vivo studies using fractional laser treatment of skin, gingiva, and bone will be reviewed. A diode laser with a wavelength of 975 nm (Alta MLS, Dental Photonics, Walpole, Mass., USA), power of 25 W, and pulse width in the range 60 to 250 ms was used for gingiva regeneration. An Er:YAG laser with a wavelength 2940 nm (Er:YAG TEM00 prototype laser, Dental Photonics), energy in the range 5 to 30 mJ, and pulse width of 300 ms was used for bone regeneration.

Results

Fractional laser treatment has become a standard technology for the treatment of a variety of dermatological conditions. The U.S. Food and Drug Administration (FDA) has cleared fractional lasers for treatment of scars, wrinkles, stretch marks, and pigmented lesions. Several fractional lasers were also developed and cleared by the FDA for wrinkle reduction at home. Recently, fractional laser treatment was also studied for gingival and bone regeneration. Gingival regeneration requires one or two treatments with a coverage rate of 20-30% per treatment. A pilot study treating periodontitis with a fractional laser as an adjunct to scaling and root planing (SRP) showed significant improvement of inflammation and depth of periodontal pocket on the laser side compared with SRP alone.

Conclusions

Fractional laser treatment is safe and effective for treatment of many skin conditions with partial or full skin regeneration. It was proven that fractional lasers can be used for gingival and bone regeneration which has great potential for a new minimally invasive method of treatment of different dental conditions.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objective

Learn about a new minimally invasive method of tissue regeneration for treatment of periodontitis, tissue around implants, gingival hyperpigmentation, and other applications.

Saturday, 9:30 a.m. – 10:00 a.m. Salon 4

Light-Based Diagnostic Devices – An Update

John Graeber, DMD
Private Practice, East Hanover, New Jersey, USA

Light-based diagnostic devices are making their way into dental practice. We have seen blue light and infrared devices enter the marketplace. This presentation will focus on the main devices currently available. The presenter will share his personal experiences with several of these devices.

Educational Objectives

Name various types of light-based diagnostic systems.

More easily determine which systems would be most applicable to one’s practice.
Role of Infrared Diode Laser Wavelengths in Soft Tissue Cutting Using Pre-Initiated Disposable Tips

Alina Sivriver, MS, Dmitri Boutoussov, PhD
Biolase, Irvine, California, USA

Laser wavelength is one of the most important parameters used to define the outcome of clinical applications. Laser-tissue interaction is defined primarily by laser wavelength and composition of the target tissue. Different diode lasers, radiating in the near-infrared range of about 1 micrometer, have been successfully used for about 20 years in multiple soft tissue applications, including surgical. There have been many studies done with different laser wavelengths for contact and noncontact applications on soft tissues. The role of tip initiation prior to the procedure and during operation has been defined as critical. Some authors describe soft-tissue cutting with a diode laser as hot needle effect, which is wavelength independent.

In the current study, we used three different diode laser wavelengths (ezlase™ at 810 nm, Biolase, Irvine, California, USA; EPIC™ 10 at 940 and 980 nm, Biolase) with factory pre-initiated contact glass tips. We analyzed the quality of the cuts in vitro using three different tissue types (chicken, beef liver, hot dog). We monitored temperature of the tip and the tissue in the operational area. Our findings revealed a difference in tissue cutting for all tissue types and all three wavelengths. It is improper to relate to diode laser interaction with soft tissue (even in contact mode) as wavelength-independent or “hot needle” effect. We also speculated on the dynamic process of soft-tissue cutting with pre-initiated tips when discussing our findings.

Educational Objectives

Recognize that there is a difference in diode laser wavelengths when used in contact surgical applications.

Acknowledge the importance of proper diode laser tip initiation prior to a procedure and then maintaining initiation during the procedure.

Myths and Physics of Soft Tissue Dental Lasers

Peter Vitruk, PhD, MInstP, CPhys
LightsScalpel LLC, Woodinville, Washington, USA

Widely proliferated myths and misconceptions about soft tissue dental lasers are examined, and detailed physics of laser-tissue interaction is discussed based on literature review and original research. Subjects include: tissue absorption and light scattering, thermal relaxation time, photothermal ablation, photothermal coagulation, photothermal bactericidal effects, contact and noncontact lasers, implants. Oral soft tissue ablation / coagulation spectra derived from the known optical absorption / scattering coefficient spectra of the oral soft tissue’s four main chromophores (water, melanin, haemoglobin, and oxyhemoglobin) contradict many myths about dental laser-soft tissue interaction widely proliferated throughout the dental community.

Educational Objectives

Define applicability of laser-tissue interaction models to practical soft-tissue dental lasers.

Ascertain applicability of soft-tissue ablation models to practical soft-tissue dental lasers.

Define applicability of laser photothermal bactericidal action models to practical soft-tissue dental lasers.

Key Role of Tip Initiation in the Quality of Soft Tissue Surgery

Georgios Romanos, DDS, PhD, Prof. Dr. med. Dent.¹, Andrey Belikov, DPhys-MathSc², Alexey Skrypnik, PhD², Kyoju Nakajima, DDS, DDSc³
1Stony Brook University, School of Dental Medicine, Department of Periodontology, Stony Brook, New York, USA
2St. Petersburg National Research University of Information Technologies, Mechanics and Optics, St. Petersburg, Russia
3Tsurumi University School of Dental Medicine, The Second Department of Oral and Maxillofacial Surgery, Kanagawa, Japan

Diode lasers are widely used for contact surgery of soft tissues. Cutting efficiency and collateral damage during contact surgery depend on the tip temperature and exposure time. It is clear that the control of these parameters increases the stability of cutting and minimizes the collateral zone. The efficiency of laser energy converting into heat depends on the optical and physical properties of the tip, which in turn depend on the initiation technique. A novel type of initiation forms the tip as a result of the irradiation of a carbon target with laser radiation, with subsequent annealing. This unique initiation procedure
is a multistage process and it is controlled with real-time tip temperature monitoring and power control by a laser system processor.

**Method**

This investigation was performed with a diode laser (Alta-ST Modular Laser System, Dental Photonics, Walpole, Mass., USA) with a wavelength of 975 ± 5 nm and an average power of up to 25 W. The novel initialization technique consists of a computer-controlled process with two steps: laser irradiation action at a target with carbon and TiO$_2$ nanoparticles, followed by irradiation of a tip with adhesive nanoparticles in air to sinter it with the quartz fiber. Tip transmittance was measured by an original photometric scheme. The embedded temperature sensor in the laser system and an external infrared camera were used for tip temperature measurement. In vitro incision of soft tissue was carried out at a power of 1-10 W and a tip movement speed of 1-10 mm/s.

**Results**

Transmittance of the novel tip formed at the distal end of the quartz optical fiber with a diameter of 320 micrometers at a wavelength of 975 ± 5 nm was 7-15%, while transmittance of a standard cork-initiated tip was 20-60%. The new tip had stable absorption and no damage with a maximum surface temperature up to 1400°C. The property of the standard cork-initiated tip began to change at a temperature of 700°C, and irreversible damage occurred at a temperature of 800°C. The new tip produced about a 1.3 times-deeper cut and 1.5 times-smaller collateral damage compared to a cork-initiated tip.

**Conclusions**

A new tip initiation technique for contact laser surgery of soft tissue is presented. Absorption of diode laser radiation with a wavelength of 975 ± 5 nm by the tip created with a new technique exceeds the absorption of a tip created by a standard cork-initiation technique. The new tip demonstrated high conversion efficiency of laser light into heat. Greater reproducibility of absorption and form of tip from initiation to initiation was characterized for the new tip in comparison with standard cork initiation. Furthermore, the lifetime of the new tip was significantly longer than a cork-initiated tip.

**Educational Objectives**

Describe thermo-optically powered (TOP) tip development for effective diode laser radiation.

Evaluate TOP tip efficiency in cutting soft tissues with low risk of collateral damage.

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Saturday, 12:00 p.m. – 12:30 p.m. Salon 4

**How Computer Technology Can Optimize Cutting Speed, Precision, and Patient Experience with 9.3-µm CO$_2$ Dental Lasers**

David Fantarella, DMD
Private Practice, North Haven, Connecticut, USA

This presentation will introduce new features for the 9.3-µm CO$_2$ dental laser (Solea, Convergent Dental, Natick, Mass., USA). Included will be an in-depth presentation of the science and research behind this laser, and a demonstration of the advantages and the proper techniques for using it.

**Educational Objectives**

Appreciate the science behind the 9.3-µm CO$_2$ laser.

Recognize the advantages of using a 9.3-µm CO$_2$ laser in the practice.

Observe the proper technique for using a 9.3-µm CO$_2$ laser.
Endodontics

Saturday, 9:00 a.m. – 9:10 a.m. Salons 1-2

POSTER: Apical Extrusion of Root Canal Irrigants During Root Canal Irrigation Activated by a New 980-nm Diode Laser System and an Er:YAG Laser

Kanako Yao, DDS1; Satoshi Watanabe, PhD1; Arata Ebihara, PhD1; Chihiro Kobayashi, PhD1

1Department of Pulp Biology and Endodontics, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University (TMDU), Tokyo, Japan

Objective

Compare the extrusion of root canal irrigant activated by new diode laser system and Er:YAG laser (laser-activated irrigation or LAI) with that by passive ultrasonic irrigation (PUI) and by conventional irrigation (CI).

Methodology

A root shaped to apical size #40 was filled distilled water. Each irrigation was performed repeatedly 7 times for 5 seconds with three different tip positions (2, 5, or 10 mm short of the working length).

LAI groups: Diode laser (Alta® Modular Laser System, Dental Photonics, Walpole, Mass., USA) (980 nm, 120 mJ, 16Hz) with a tip (DS1-200) and an Er:YAG laser (Erwin AdvErL, J. Morita, Kyoto, Japan) (2940 nm, 70 mJ, 10 pps) with a tip (R200T).

PUI group: An ultrasonic device (Piezon Master400, Electro Medical Systems, Nyon, Switzerland), the highest setting) with a #20 file.

CI group: Hand irrigation with a 27 G flat needle.

The weight of extruded irrigant was calculated using an electric balance (AE240, Mettler Toledo, Greifensee, Switzerland).

Results

The mean volume of extruded irrigant caused by LAI and PUI groups was significantly smaller than that by CI (P < 0.05). There were no significant differences between LAI and PUI (P > 0.05).

Conclusions

Under the conditions of this preliminary study, less apical extrusion of root canal irrigant was found in LAI and PUI compared to CI. The actual volume of extruded irrigant that may cause clinical problems is unknown. However, the extrusion of root canal irrigants should be minimized as little as reasonably possible. Extrusion through the apex and the thermal damage of periodontal tissues should be considered in LAI.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objective

Compare the extrusion of root canal irrigant activated by new diode laser system and Er:YAG laser with that by passive ultrasonic irrigation and by conventional irrigation.

Saturday, 9:00 a.m. – 9:40 a.m. Salons 1-2

Dental Lasers and Microscopes in Endodontics

Prof. Stefano Benedicenti, DDS
University of Genova, Genova, Italy

The use of lasers in dentistry has now become a part of everyday clinical practice. Rapid development of technology has led to instruments with ever-improving performance; teamed with traditional methods, such laser-based instruments offer value-added benefits to dental treatments. The introduction of the dental operating microscope was also a turning point in the history of dentistry. It triggered a rapid transition from the conventional world of macro-dentistry to the precise, detailed world of micro-dentistry. However, any advanced technological aids, e.g., operating microscope, piezoelectric devices, and lasers, require adequate know-how with a progressive learning curve.

This presentation will provide a basis of theoretical knowledge of photonics, together with examples of current laser and microscope use in orthograde and retrograde endodontics.

Educational Objective

Identify examples of current laser and microscope use in orthograde and retrograde endodontics.
**Objective**

Investigate pressure generated outside the apex and the thermal changes on the root surfaces and within the irrigant by laser-activated irrigation (LAI) with a new diode laser system and Er:YAG laser compared to the conventional irrigation (CI).

**Methodology**

LAI was performed by a diode laser (Alta™ Modular Laser System, Dental Photonics, Walpole, Mass., USA) (980 nm, 120 mJ, 16 Hz) with a computer-controlled heat tip (TOP Tip, DS1-200) and Er:YAG laser (Erwin AdvErl, J. Morita, Kyoto, Japan) (2940 nm, 70 mJ, 10pps) with a cone-shaped tip (R200T). CI was performed by hand with a 27 G needle for 20 seconds.

Experiment 1. Plastic root canal models shaped to apical size #40 were used. The irrigation pressure was measured by a pressure sensor (AP-12S, Keyence, Osaka, Japan).

Experiment 2. Extracted teeth were embedded in agar with a plaster. The temperature changes were measured by five thermocouples on the root surfaces and inside a root canal with a thermostat.

**Results**

The mean maximum pressure generated by LAI was significantly lower than that generated by CI ($P < 0.05$), and the mean maximum temperature changes on the root surfaces and within the irrigant inside the root canal caused by LAI using the diode laser were significantly higher than that caused by LAI using the Er:YAG laser ($P < 0.05$). The thermal changes caused by LAI on the root surfaces were under one of the standards (< 10°C).

**Conclusions**

Although LAI generated smaller pressure compared to CI and the thermal changes on the root surfaces were under the safety limit at the investigated parameters, the possibility of irrigant extrusion through the apex and the thermal damage of periodontal tissues should be considered in LAI.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objective**

Investigate pressure generated outside the apex and the thermal changes on the root surfaces and within the irrigant by laser-activated irrigation with a new diode laser system and Er:YAG laser compared to conventional irrigation.

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**Direct Pulp Capping in Adults with an Er,Cr:YSGG Laser Compared with Conventional Methods**

Seyed Abdoulmajid Hashemi, DDS, MSc

Private Practice, Bandar Abbas, Iran

**Introduction**

The aim of the study is to evaluate the efficacy of an Er,Cr:YSGG laser compared with conventional drill for direct pulp capping from the viewpoint of clinical and radiographic outcomes between two randomly selected adult groups.

**Materials and Methods**

In this randomized clinical trial, 20 patients nominated for direct pulp capping were divided into two groups for performing direct pulp capping by Er,Cr:YSGG laser (Group A) and by conventional drill (Group B) in the Parsian Laser Clinic, Bandar Abbas, Iran, from October 2012 until June 2013. In Group A the entire direct pulp capping procedure was performed with an Er,Cr:YSGG laser (WaterLase iPlus™, Biolase, Irvine, Calif., USA) (S Mode, 8 Hz, 3 W), while in Group B a conventional drill (round bur no.14) was applied. Other steps of direct pulp capping, including white mineral trioxide aggregate (MTA) application, base filling, and composite restoration was the same for both the groups. Evaluation of the patients was conducted after 2, 7, 30, 60, 90, 180, and 240 days after intervention. The collected data were analyzed by SPSS software (version 14.0).

**Results**

Pulp vitality was preserved in all patients in Group A while 2 patients from Group B failed (but without statistical significance). Group A experienced much more comfort during and after the procedure by Er,Cr:YSGG laser compared with group B. Dentin bridge formation was
observed after 30 days in Group A and after 90 days in Group B after intervention (statistically significant). Bleeding was easily controlled in Group A by the use of applied laser energy.

Discussion
The Er,Cr:YSGG laser not only has bactericidal effects and hemorrhage control features but also accelerates dentin bridge formation by the dental pulp.

Conclusion
In consideration of the features of the Er,Cr:YSGG laser and the comfort it brings to the patients at the time of applying it for the entire procedure of pulp capping, it is suggested that conventional direct pulp capping be replaced by this state-of-the-art technology.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objective
Determine the effectiveness of Er,Cr:YSGG laser treatment, compared to the conventional treatment methodology, for direct pulp capping in adults.

Saturday, 11:00 a.m. – 12:00 p.m. Salons 1-2
Thermal Effects on Pulp Due to Laser and Conventional Handpiece Usage
Gerard Kugel, DMD, MS, PhD
Tufts University School of Dental Medicine, Boston, Massachusetts, USA

Introduction
Recent research conducted by Tufts University School of Dental Medicine shows that laser dentistry’s newest wavelength, 9300 nm CO₂, can be efficiently absorbed by hard tissue and ablate structure without peripheral thermal damage. The study compares CO₂ (9300 nm) to Er,Cr:YSGG (2780 nm) and Er:YAG (2940 nm) lasers and shows that these instruments can effectively ablate hard tissue without excessive heat accumulation or thermal damage.

Objective
The study was designed to compare changes in pulpal temperature during ablation of dental hard tissue while using two established erbium dental laser systems, a new CO₂ laser system, and a conventional high-speed handpiece.

Materials and Method
Eighty noncarious human extracted molars were separated into four sample groups of 20 teeth each. Three laser systems (Er,Cr:YSGG laser: WaterLase MD Turbo, Biolase, Irvine, Calif., USA; Er:YAG laser: LightWalker DT, Fotona, Ljubljana, Slovenia; CO₂ laser: Solea, Convergent Dental, Natick, Mass., USA) were used, respectively, to ablate the occlusal surface of the teeth in three of the groups for 60 seconds each. The high-speed handpiece (Midwest®, Dentsply, York, Pa., USA) was used to drill the occlusal surface of the fourth group for 60 seconds. Pulpal temperatures were measured using thermocouples inserted into each tooth’s pulpal chamber prior to ablation.

Results
None of the average temperature increases approached the threshold of 5.5°C at which pulpal damage begins (Zach L, Cohen G. Pulp response to externally applied heat. Oral Surg Oral Med Oral Pathol 1965;19(4):515-530). On average, the pulpal temperature of teeth ablated with the Er,Cr:YSGG laser system increased the most (3.56°C). The traditional handpiece caused the lowest average temperature increase (1.57°C), followed by the Er:YAG laser system (3.20°C) and the CO₂ laser system (3.30°C).

Conclusions
When used to ablate healthy extracted molars, the new 9300-nm CO₂ laser operated at standard power settings caused pulpal temperature increases that were equivalent to those caused by an Er:YAG laser system and less than the pulpal temperature increases caused by an Er,Cr:YSGG laser system. Each of the laser systems caused pulpal temperatures to increase more than the traditional handpiece. None of the temperature increases produced by the systems approached the amount known to cause pulpal damage. The effects of pulpal temperature and patient safety were equivalent, and all systems appeared to safely ablate the hard tissue.

Disclosure: This presentation is based on research that was sponsored in part by Convergent Dental.

Educational Objectives
Realize that the CO₂ laser at 9300 nm is safe and effective for hard tissue ablation.
Understand how the 9300-nm CO₂ laser improves the seal around the margin of a restoration.
Recognize the benefits of the 9300-nm CO₂ laser for restorative dental procedures.
**Endodontics Panel Discussion**

This discussion forum assembles the speakers presenting in the endodontics track. They will answer questions and share their many years of experience treating patients with this discipline.

Panelists may include several speakers from throughout the conference.

**Educational Objective**

Benefit from an exchange of ideas relative to the use of laser-assisted endodontics.

**Implantology**

**Implant Placement Surgeries Utilizing a Superpulsed 10,600-nm CO₂ Laser**

Grant Selig, DDS¹, Peter Vitruk, PhD, MInstP, CPhys²

¹Selig Mentoring, Las Vegas, Nevada, USA
²LightScalpel LLC, Woodinville, Washington, USA

Oral soft tissue ablation and coagulation with a laser is an efficient and beneficial modality for soft tissue management during implant placement surgeries. A CO₂ dental laser (LS-100S, LightScalpel, Woodinville, Wash., USA) with wide dynamic range of superpulsed and repeat pulse settings has been evaluated for numerous laser-assisted implant placement procedures, including flapless entry surgery, full flap dissection for implant placement, implant uncovering, implant socket preservation, and tooth extraction site soft tissue ablation/coagulation before the placement of the graft material. Additionally, coagulative settings are explored in clinical cases involving medically compromised patients with regard to bleeding and reduction of local anesthetic. An additional range of soft tissue laser procedures (biopsies, aphthous ulcers, mucoceles, fibromas, etc.) is also administered to implant placement patients on a case-by-case basis.

Laser power, laser energy, hand speed, spot size, and pulsing parameters are analyzed and tested in order to determine the parameter space applicable to flap dissections, extraction site treatment, etc. The SuperPulse CO₂ dental laser allows for fast and predictable (depth and width) soft tissue ablation and coagulation. Results are presented in graphs and illustrated by clinical cases.

**Educational Objectives**

- Demonstrate the predictability of high-speed, char-free soft tissue ablation/coagulation rates that can be obtained with properly set pulse parameters of the SuperPulse 10,600-nm CO₂ laser, and its applicability for soft tissue surgeries in implant placement.
- Evaluate the safety of SuperPulse 10,600-nm CO₂ laser beam parameters around titanium implants.

**Implantology Workshop**

**PARTICIPATION COURSE: The Management of Peri-Implantitis Around Dental Implants with the Use of Light Energy**

Edward Kusek, DDS

Private Practice, Sioux Falls, South Dakota, USA and University of South Dakota, Vermillion, South Dakota, USA

This hands-on course will discuss steps that will aid the practitioner to treat inflammation and infection around implants with use of an erbium or CO₂ laser to save a failing implant. Discussion will focus on the steps used to disinfect the implant surface and stimulate new bone formation, materials used to graft the site, and steps to suture the site correctly to help ensure maximum aesthetics and long-term maintenance around dental implants. Participants will demonstrate these procedures on dentaform® models and pig jaws during the hands-on portion of the program.

(This course is limited to 14 attendees. Advance registration is required. There is an additional $79 materials fee for this course.)

**Educational Objectives**

- Practice suturing techniques needed to graft tissue around an implant and to close after the surgical procedure to treat peri-implantitis.
- Learn how to use both erbium and CO₂ lasers to detoxify around an infected implant and to use biologic modifiers to increase the healing process.
- Ascertain how to use erbium and CO₂ lasers to create a flap around an infected implant.
- Determine how to use erbium and CO₂ lasers to create decortication points in bone to create new bone formation around an infected implant, and to de-epithelialize tissue to create faster tissue healing.
Saturday, 9:00 a.m. – 9:30 a.m. Salons 7-8

**Novel Er,Cr:YSGG Laser Applications on Failing Implant Surfaces**

Christopher Walinski, DDS, Alina Sivriver, MS,
Dmitri Boutoussov, PhD
Biolase, Irvine, California, USA

Because of the ever-increasing number of implant case failures due to the excess cement, the entire industry is moving back toward screw-retained implant prosthetics. Still, large numbers of cement-retained implant crowns exist and many of the “cement failures” remain untreated.

This presentation will demonstrate the efficacy of using an Er,Cr:YSGG laser (WaterLase iPlus, Biolase, Irvine, Calif., USA) along with uniquely designed side-firing tips to remove excess cement from the implant interface. In addition, the potential benefits of removing the titanium oxide layer from failing implants will be demonstrated and discussed. This presentation will include laser parameters and techniques for achieving ideal surface modification for osseointegration of previously failing implant cases.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Determine whether an Er,Cr:YSGG laser is capable of cleaning the implant surface.
- Acknowledge that laser wavelength is important when lasers are used around implants.
- Recognize that tip shape is very important in directing laser radiation in desired areas.

Saturday, 9:30 a.m. – 10:00 a.m. Salons 7-8

**Microbial Decontamination of Three Different Implant Surfaces Using a SuperPulse 10,600-nm CO₂ Laser: An In Vitro Study**

Charles Cobb, DDS, MS, PhD1, Peter Vitruk, PhD, MinstP, CPhys2
1University of Missouri-Kansas City, Kansas City, Missouri, USA
2LightScalpel LLC, Woodinville, Washington, USA

As the placement of dental implants increases and becomes a routine part of dental practice, so too will the prevalence rate of peri-implant diseases. Indeed, the prevalence of peri-implantitis (defined as increased probing depth, bleeding on probing, and radiographic evidence of peri-implant bone loss) is estimated to be in the range of 30% to 35%. The treatment of peri-implantitis, at some point, requires removal of all microbial biofilms from the implant surface which, in turn, allows for optimal healing of supporting bone and overlying soft tissues. Various methods of implant surface decontamination have been reported, including use of tetracycline or saline-soaked cotton pellets, air-polishing with sodium bicarbonate, manual scaling of implant surfaces, and diode, Nd:YAG, Er:YAG, Er,Cr:YSGG, and CO₂ lasers. Currently, there is no standardized protocol for application of any treatment modality directed at implant surface decontamination. This in vitro study reports on the effectiveness of a SuperPulse CO₂ laser (10,600 nm) (Luxar NovaPulse LX-20SP, LuxarCare, Woodinville, Wash., USA), delivering an energy density of 5-40 J/cm² to remove 72-hour-old biofilm from three different types of implant surfaces using three different exposure times per unit area. Outcomes were measured by scanning electron microscope (SEM) examination (n = 3 of each implant type) and by culturing residual microbes and counting colony forming units (n = 5 of each implant type) after 72 hours of incubation.

An average fluence of 19 J/cm² delivered by a SuperPulse 10.6-µm wavelength CO₂ laser is sufficient to achieve a 100% ablation of an in vitro biofilm of approximately 10-µm thickness grown on implant specimens with a moderately rough surface topography. A similar reduction on hydroxyapatite or highly crystalline, phosphate-enriched titanium oxide surfaces required an average fluence of 38 J/cm². The SuperPulse 10.6-µm wavelength CO₂ laser may provide a predictable method of surface decontamination in the treatment of peri-implantitis.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Determine the applicability and effectiveness of the 10,600-nm laser wavelength to photothermal ablative microbial decontamination of dental implants.
- Indicate the energy threshold for bacterial biofilm ablation with a 10,600-nm SuperPulse CO₂ laser from the dental implant surface.
Low-Level Laser Therapy (LLLT)

Thursday, 10:45 a.m. – 11:45 a.m. Salon 4

Scientific Basis and Efficacy of Photobiomodulation for Nerve Regeneration: Translation to Dental Applications

Juanita Anders, BA, MS, PhD
Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA

The use of light or photobiomodulation (PBM) as a noninvasive, neurorestorative therapy for the treatment of injury and diseases of the nervous system is gaining attention. Research from our laboratory supports the hypothesis that PBM has potential to revolutionize repair of nerve injury. Our experiments on the use PBM to repair injured spinal cords and peripheral nerves and the scientific basis for this improvement will be discussed. Our laboratory was the first to demonstrate that light applied transcutaneously penetrates to the level of the spinal cord. Transmission spectra revealed that peak transmission through all tissue layers overlying the spinal cord was at 810 nm with minimal absorption of the 810 nm wavelength by blood and water. (Multiple lasers were used in these studies. The majority of these lasers were modified or fabricated for our laboratory.) Axonal regeneration and functional recovery in various models of spinal cord injury (SCI) was supported by 810-nm wavelength light. Genes involved in the immune response, cellular proliferation, and growth factor receptors were significantly altered by PBM after SCI. These data provide evidence that PBM exerts specific ameliorative molecular effects on the response of cells to SCI. Peripheral nerve injury (PNI) results in chronic loss of sensation and motor function. Our laboratory investigated the efficacy of PBM to repair PNI in various animal models. PBM supported statistically significant improvements in nerve regeneration and functional behavior. The efficacy of PBM for nerve regeneration in dentistry in such areas as traumatic trigeminal neuralgia and repair of injured nerves (inferior alveolar and facial nerves) will be examined by review of current research and clinical evidence.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

Specify the scientific basis and proof of efficacy for the use of light for nerve regeneration.

Enumerate current research and clinical evidence supporting the effective translation of photobiomodulation of nerve repair to dentistry.

Broaden the thinking on laser applications in dentistry.

Regenerative Dentistry – Using Laser Treatments to Direct Dental Stem Cell Differentiation

Praveen Arany, BDS, MDS, MMSc, PhD
National Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda, Maryland, USA

Stem cell therapies are attractive for treating numerous dental diseases (e.g., tooth decay and gum disease) that are among the most prevalent public health concerns. Current clinical dentistry is predominantly focused on restorative approaches involving placement of inert materials, but tissue regeneration is an attractive alternative as materials fail over time and do not provide full functionality as natural tissues. This presentation will begin with outlining our previous work with low-power laser treatments and their ability to direct dental stem cell differentiation into dentin. This phenomenon was validated in rodent models and human primary dental stem cells in culture. Further, the mechanism mediating this process was carefully elucidated by observing the role of laser-generated reactive oxygen species (ROS) in activating a latent transforming growth factor TGF-β. Our current research has focused on demonstrating the clinical safety and efficacy of laser treatments using both real-time, in vivo clinical biomarkers as well as molecular markers that can both be used to deliver predictable, robust, and reliable treatments.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

Outline the utility of laser treatments for dental stem cell regeneration.

Summarize the current research in clinical translation of laser treatments.

Present an overview of future laser dental applications.
The field of photobiomodulation has utilized low-power light therapy, usually lasers or light-emitting diodes (LEDs) for relieving pain and inflammation and promoting wound healing and tissue regeneration. In the dental clinic, treatment of the two major oral diseases – caries and periodontitis – can benefit immensely from the use of laser-based technologies from diagnoses to treatments. This presentation outlines one of the molecular mechanisms of low-power lasers where its ability to generate reactive oxygen species (ROS) oxidizes a specific methionine residue on a transforming growth factor, TGF-β1, thereby activating it. As TGF-β1 has a key role in wound healing and dentin differentiation, laser-activated TGF-β was utilized to promote oral wound healing and direct dental stem cell differentiation for dentin regeneration. Given the broad roles of ROS and TGF-β1, the ability to activate them in a controlled spatial and temporal manner with low-power lasers provides a potent tool for future clinical applications.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
- Outline a mechanism of photobiomodulation.
- Highlight the biological roles of ROS and TGF-β1 induction by laser.
- Provide an overview of PBM clinical applications.

Traditional treatments will be presented along with the anatomy of the nerves. The patients are very fragile so the importance of titrating laser wavelength and dosage will be illustrated. The lasers used are a 660-nm 150-mW red wavelength and an 808-nm 250-mW infrared device.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
- Understand centrally mediated pain and its causes.
- Describe the related anatomy.
- Learn how to diagnose centrally mediated pain.
- Specify treatment application points, wavelength to be used, dosage, and how to titrate.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
- Realize the importance of effective and proper dosage through published literature.
- Ascertain how to calculate LLLT treatment parameters and dose.
Thursday, 3:30 p.m. – 3:45 p.m. Salon 4

**The Temporomandibular Joint and Related Structures: What Are We Really Treating?**

**C.R. Hoopingarner, DDS**  
*University of Texas School of Dentistry (UTSD) and Private Practice, Houston, Texas, USA*

A detailed anatomical description of the temporomandibular joint (TMJ) and related structures will be given. Histology, neurology, vascular information, and descriptions of masticatory muscle function will be described. Special attention will be given to the dynamic function of the joint itself and frequent areas of dysfunction which may be treated with low-level laser therapy (LLLT).

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Identify the anatomy of the areas practitioners are trying to treat.
- Realize which areas are capable of producing pain impulses.

Thursday, 3:45 p.m. – 4:15 p.m. Salon 4

**Low-Level Laser Therapy in the Treatment of Temporomandibular Dysfunction (TMD)**

**Arun Darbar, BDS, DGDP (UK), Rita Darbar, BDS, DOrth RCS**  
*Private Practice, Leighton Buzzard, United Kingdom*

Temporomandibular dysfunction or TMD is a condition that affects the muscle of mastication and the temporomandibular joint. It affects 30% of the population and can be transient or long-term, depending on the cause. This is a multifactorial condition and often difficult to diagnose. Many treatment options are available to treat or manage this condition and the use of laser therapy offers a noninvasive, drug-free choice. Combination treatments are generally necessary to get the best results. Laser therapy is ideal as the initial treatment as it relieves the muscular spasm of the masticatory muscles and helps to diagnose the condition better and make it easier to provide other forms of treatment.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Summarize current concepts of TMD causes and diagnosis.
- List current treatment options for temporomandibular dysfunction.
- Learn how to apply laser therapy in practice.
- Understand the benefits and limitations of laser therapy.

Thursday, 4:15 p.m. – 4:40 p.m. Salon 4

**650-nm and 910-nm Low-Level Laser Therapy (LLLT) in the Management of Burning Mouth Syndrome**

**Alessandro Del Vecchio, DDS, PhD, Umberto Romeo, DDS**  
*Sapienza University of Rome, Rome, Italy*

Burning Mouth Syndrome (BMS) is still a dilemma despite many studies that have tried to clarify its aspects. The oral burns must be distinguished between the ones caused by local or systemic diseases and the ones deriving from neurological BMS (nBMS), the real disease, recently related to peripheral nerve damages to taste pathways. According to this hypothesis and to the neuroregenerative effects of low-level laser therapy (LLLT), it was speculated that LLLT could be effective in nBMS treatment. Among 160 patients complaining of oral burns, 77 were classified as nBMS. Forty-six were randomly enrolled for a double-blind study; 38 in the Study Group (SG) received 8 LLLT applications, twice a week, by a double diode laser (Lumix 2, Fisioline, Verduno, Italy), 910 nm and 650 nm with a total of 243 J, 30 kHz. Eight patients were placed in the Placebo Group (PG) and received shielded irradiation. Pain evaluations (minimum and Maximum) were recorded before and after treatment by a different examiner on the numeric rating scale (NRS); differences were considered significant if 2 points or more were recorded. The Kruskall-Wallis test revealed the statistical significance of the study ($P < 0.0001$), Dunn’s multiple comparison test (MCT) showed no statistical difference between the minNRS ratings, but significant difference between the MaxNRS values ($P < 0.05$). Twenty-nine patients in SG had relevant enhancements (76%), while 7 of 8 in PG had no results. According to these results it is reasonable to state that LLLT may play an important role in the management of nBMS. Further investigations are in progress to assess, with a greater number of cases and with 6-month controls, the effectiveness of this protocol and its long-term stability.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Name a diagnostic procedure for the classification of burning mouth syndrome.
- Indicate the possible effectiveness of low-level laser treatment in enhancing the quality of life of patients with neurological burning mouth syndrome.
Thursday, 4:40 p.m. – 5:30 p.m. Salon 4

**How to Use Light Energy for LLLT: An Interactive Panel Discussion with Attendee Participation**

Arun Darbar, BDS, DGDP (UK)1, Juanita Anders, BA, MS, PhD2, Praveen Arany, BDS, MDS, MMSc, PhD3, James Carroll, AMInstP, FRSM4, Nuran Culcuoglu, DDS5, Rita Darbar, BDS, DOrth RCS6, Alessandro Del Vecchio, DDS, PhD7, Michael Hamblin, PhD8, C.R. Hoopingarner, DDS, Lawrence Kotlow, DDS9, Gerry Ross, DDS10, Alessandro Del Vecchio, DDS, PhD7, Michael Hamblin, PhD8, C.R. Hoopingarner, DDS, Lawrence Kotlow, DDS9, Gerry Ross, DDS10

1Smile Creations Private Practice, Leighton Buzzard, United Kingdom
2Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA
3National Institutes of Health, Bethesda, Maryland, USA
4Thor Photomedicine, Chesham, Bucks, United Kingdom
5Private Practice, Istanbul, Turkey
6Private Practice, Leighton Buzzard, United Kingdom
7Sapienza University of Rome, Rome, Italy
8Harvard Medical School, Boston, Massachusetts, USA
9University of Texas School of Dentistry (UTSD) and Private Practice, Houston, Texas, USA
10Private Practice, Albany, New York, USA
11Private Practice, Tottenham, Ontario, Canada

The panel participants will discuss devices available including specific low-level laser devices vs. standard class 4 laser devices with conversion for LLLT, along with the limitations of each and how to use them efficiently. Panelists will present a specific aspect of low-level laser therapy in relation to general laser dentistry with science- and research-supported data. Discussion will include: the protocols used for modalities such as pain management, tissue regeneration and repair with enhanced outcomes; what wavelengths, how do light-emitting diodes (LEDs) and other light devices compare to lasers, which is better and why? The audience will be encouraged to comment and ask questions. This will be a true interactive session. As time permits, newer systems may be discussed, so that the participants can be updated with current advances.

Panelists may include several speakers from throughout the conference.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Better appreciate the uses of light therapy in dental applications.
- Compare dedicated LLLT devices and class 4 surgical devices with conversion to LLLT.
- Recognize newer LLLT systems and current advances.
- Relate the LLLT science to clinical use.

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Friday, 11:00 a.m. – 12:30 p.m. Salon 4

**Low-Level Laser Workshop**

**PARTICIPATION COURSE: How to Use LLLT in Routine and Some Complex Cases in Everyday Dentistry Including Pain Management, Gag Reflex Suppression, Orthodontic Treatment Acceleration**

Arun Darbar, BDS, DGDP (UK), Rita Darbar, BDS, DOrth RCS, Gerry Ross, DDS

1Private Practice, Leighton Buzzard, United Kingdom
2Private Practice, Tottenham, Ontario, Canada

The purpose of this hands-on program is to demonstrate how low-level laser therapy (LLLT) has improved the patient experience. As clinicians we continue to strive to treat our patients with minimum discomfort and get predictable, good-quality outcomes. As it has been shown that low-level lasers can affect the redox balance of the cell, we hypothesize that if we can change this balance favorably by preconditioning before any intervention, it is possible that we can promote even better quality healing and prepare the tissue to respond more favorably. Techniques used with different laser systems and their attachments will be discussed and demonstrated for different modalities such as temporomandibular dysfunction (TMD) treatment, pain management, gag reflex suppression, orthodontic treatment acceleration.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Understand doses of low-level laser therapy to use clinically.
- Calculate doses relevant to the type of laser handpiece.
- Provide low-level laser therapy safely, effectively, and efficiently.
**Oral Surgery**

Friday, 1:30 p.m. – 2:30 p.m. Salon 5

**Laser Applications in Oral Surgery**

Georgios Romanos, DDS, PhD, Prof. Dr. med. dent.
Stony Brook University, School of Dental Medicine, Department of Periodontology, Stony Brook, New York, USA

Oral surgical procedures may be performed using a scalpel but also with various lasers. With the use of the correct laser wavelength, many soft and hard tissue procedures can be performed, improving the comfort for the patient and the final clinical outcome.

Preprosthetic surgery, removal of soft tissue benign tumors, coagulation of hemangiomas and vascular malformations, removal of precancerous lesions (leukoplakias) and bone overgrowths will illustrate the entire presentation giving the necessary information about the clinical protocols. The rationale of the use of the correct laser wavelength will be emphasized with special focus on the wound healing. Animal research will explain better the wound healing process and the impact of low- vs. high-power lasers.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**
- Summarize information about wound healing after laser use.
- Relate the clinical evidence for the correct laser wavelength in different clinical scenarios.
- Learn how to avoid complications from laser use in oral surgical procedures.

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**Friday, 1:30 p.m. – 2:10 p.m. Salon 4**

**Lip Surgery: From Hemangioma Treatment to Scar Removal. The Laser Therapy Approach**

Andre Chartrand, DMD, BSc
Private Practice, Longueuil, Quebec, Canada

Innovative technologies such as lasers have provided considerable benefit to dental patients and professionals. Facilitating efficient cutting of tissue and subsequent coagulation, dental lasers such as the Er,Cr:YSGG enhances tissue healing and can lead to perfect regeneration of the dentogingival or dentomucosal complex.

Dental laser energy has an affinity for different tissue components. The Er,Cr:YSGG laser, for example, has energy and wavelength characteristics that specifically target the water molecules of the soft tissue, which is located at the surface of the tissue. With the specific design of its energy system (energy, air, and water), this laser provides adequate hemostasis and allows improved control of heat transfer to the adjacent tissue. By improving the control of heat transfer, a cascade of events occurs, causing the activation of a certain protein that modifies the inflammatory reaction and leads to tissue regeneration.

In comparison, the diode laser will be absorbed more by particles with higher chromaticity, giving it significant advantages over other lasers when it comes to treating some specific lesions such as hemangioma. The diode laser seems to be ideal for this type of lesion, targeting the hemoglobin without affecting the surrounding tissue, which is especially important when the lip is involved.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**
- Appreciate the different effects of different laser wavelengths on specific targeted tissue such as the lip.
- Understand the importance of regulating the temperature rise of the surrounding tissue in oral surgery.
Buffered Anesthetics and Laser Use: Efficiency in Scheduling and Productivity

Mark Colonna, DDS, David Dodrill, DDS
Private Practice, Whitefish, Montana, USA

One of the biggest challenges most practitioners face in dentistry is the unpredictability that comes out of anesthetic latency. The inability to predict anesthetic onset time impacts clinicians’ schedules every day. Buffering anesthetics with a sodium bicarbonate solution aids in more rapid onset of the anesthetic, and reduces the overall treatment time for the patient, a win-win for both the doctor and the patient! The authors have been using lasers in their respective practices since 2001 with great success. For restorative procedures and some selective surgeries, the Er:YAG laser allows them to work without the limitations of local anesthetic in almost 85% of these cases. Another advantage of laser use is the ability to start the procedure immediately, which is efficient for the office and demonstrates good customer service. A case presentation of an extraction with laser assistance by both Er:YAG and Nd:YAG laser wavelengths (LightWalker AT, Fotona, Ljubljana, Slovenia) will demonstrate the effectiveness of the role of lasers in clinical practice and efficiency.

Educational Objectives

Indicate how the use of lasers in clinical practice can improve efficiency, predictability, and patient satisfaction.

Summarize the effectiveness of buffering local anesthetics and their additional aid to efficient use of the laser in procedures.

Treatment of Oral Vascular Malformations with Laser Photocoagulation

Umberto Romeo, DDS
Sapienza University of Rome, Rome, Italy

The vascular anomalies are a heterogeneous group of diseases of the circulatory system which can affect any type of vessel – arterial, venous, or lymphatic – of any diameter. Since 1996, the classification adopted by the International Society for the Study of Vascular Anomalies (ISSVA) distinguishes vascular anomalies in vascular tumors and vascular malformations (VMs). Generally the lesions that we see in the oral cavity are VMs that need to be treated for different reasons: bleeding, aesthetics, and difficulty in chewing. Many different modalities for treatment of VMs have been used: surgery, embolization, steroid therapy, cryosurgery, etc. In the past decade, therapy with lasers has emerged as a new alternative. Some laser wavelengths, due to their poor absorption in water and high absorption in hemoglobin (spectral range of about 400 - 1,100 nm), penetrate deeply into the tissue. The beam generates heat, coagulating the tissue with a process called photocoagulation. Thanks to this effect the laser can be used with a minimally invasive approach for treating the VMs. Two different techniques, the transmucosal thermophotocoagulation and the intraliesional photocoagulation, are described, emphasizing that before the laser treatment, all the VMs have to be subjected to a diagnostic protocol (medical history, clinical and instrumental examinations). Through the presentations of some clinical cases, the author reports that laser is the gold standard for treating VMs of the oral cavity with venous flow.

Educational Objectives

Distinguish between vascular malformations and angiomas.
Specify the ISVVA Classification of vascular anomalies.
Describe the different techniques for treating oral vascular malformations with a laser.
Friday, 2:55 p.m. – 3:15 p.m. Salon 4
Tori Removal Using an Er:YAG Laser

Glenda Payas, DMD
Private Practice, Tulsa, Oklahoma, USA

This presentation will show three tori removals using an Er:YAG laser (Opus Duo, Lumenis, Yokneam, Israel) to remove the boney tissue of tori. Techniques will be discussed showing maxillary palatal tori removal, hamular notch tori removal, and mandibula tori removal.

Educational Objective
Describe the process used to remove boney tori in the maxilla and the mandible by the use of an Er:YAG laser.

Friday, 3:45 p.m. – 4:15 p.m. Salon 4
Surgery and Synergy: Er,Cr:YSGG Laser-Assisted Atraumatic Exodontia and Implant Placement

Jack Rosenberg, DMD
Private Practice, Palm Beach Gardens, Florida, USA

This presentation is an overview of laser-aided atraumatic extraction procedures and techniques using an Er,Cr:YSGG laser (WaterLase iPlus™, Biolase, Irvine, Calif., USA). The advantages and techniques of laser-assisted immediate implant placement in addition to laser-assisted exodontia will be discussed. A simple technique to scan/impress and immediately perform laser-assisted surgery that allows for a permanent abutment and crown to be placed directly at the second visit will be shown.

Educational Objectives
Describe the step-by-step technique for atraumatic extraction using an Er,Cr:YSGG laser.
Realize the importance of bone preservation in the extraction process.
Specify the advantages of immediate placement of implants in conjunction with atraumatic extraction.
Identify a technique for a laser-assisted, two-visit total implant restoration.

Friday, 4:15 p.m. – 4:35 p.m. Salon 4
“NightLase™”: A Unique New Approach to the Management of Snoring and Sleep Apnea, Using the Fotona LightWalker® Family of Er:YAG Lasers

Harvey Shiffman, DDS
Private Practice, Boynton Beach, Florida, USA

NightLase™ uses the photothermal capabilities of the erbium laser (LightWalker®, Fotona Lasers4Dentistry, San Clemente, Calif., USA) to convert and initiate the formation of new collagen in mucosal tissue in the oropharynx, soft palate, and uvula.

Indications: Snoring or obstructive sleep apnea (OSA) where the patient cannot or chooses not to wear a mandibular advancement appliance or continuous positive airway pressure (CPAP) device, or have invasive corrective surgery performed. NightLase can also be done as a co-therapy with oral appliances or CPAP to increase patient comfort.

Research has shown that NightLase reduces and attenuates snoring and provides an effective, noninvasive way to lessen the effects of sleep apnea.

NightLase requires no device to be worn during sleep, involves no chemical treatment, and requires no anesthesia.

Method of action: The heat generated by the laser allows the collagen to reform, resulting in a tightening of the soft palate and surrounding tissues, thereby raising the soft palate and tightening the tissues of the oropharynx, providing an improvement in the airway.

Clinical study: A small initial study was conducted. Results were tabulated after a completed course of treatment with observations on snoring, sleep quality, weight loss, and sleep partner comfort. The results showed a 30%-80% improvement in snoring, sleep quality, and sleep partner satisfaction.

Follow-up studies with larger numbers of subjects will use polysomnography both before and after treatment and address OSA more specifically.

Educational Objectives
Acquire new knowledge in the treatment of snoring and obstructive sleep apnea.
Recognize new alternatives in dental sleep medicine.
Gain a greater understanding of the tissue interactions between collagen and the erbium:YAG laser.
Orthodontics

Friday, 4:35 p.m. – 5:00 p.m. Salon 4

“Smoothlase”™: A Noninvasive Dental Approach to Facial Rejuvenation, Wrinkle Reduction, and Prevention, All Done Intraorally Using the Fotona LightWalker® Er:YAG Laser

Harvey Shiffman, DDS
Private Practice, Boynton Beach, Florida, USA

Smoothlase™ is a proprietary protocol that uses the thermal capabilities of an erbium:YAG laser (LightWalker®, Fotona Lasers4Dentistry, San Clemente, Calif., USA) with a fractionalized handpiece to nonsurgically improve facial tissue tone, reduce and prevent facial wrinkles, without disturbing the surface of the skin. It is all done intraorally. This intraoral application makes this procedure acceptable to most dental boards because it is within the dentist’s scope of practice.

Educational Objectives

- Widen the scope of laser usage and provide more treatment opportunities for the practitioner.
- Acquire new knowledge to dental practitioners concerning wrinkle reduction.

Orthodontics

Saturday, 9:00 a.m. – 9:30 a.m. Salon 3

Lasers for the Orthodontic Patient: From Start to Finish

Rita Darbar, BDS, DOrth RCS
Private Practice, Leighton Buzzard, United Kingdom

Lasers as an adjunct to orthodontic treatment is now a well-used modality. The purpose of this presentation is to bring together an overview of how lasers can be used in an orthodontic practice prior to bracket placement, followed by pain relief during treatment, and to perform frenectomies and exposures. Included is an examination of the management of complications such as patients sustaining trauma to the finish at debonding.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

- Indicate how laser therapy can be used as an adjunct to orthodontic treatment.
- List benefits of laser therapy to the patient over conventional treatment.
- Describe the laser parameters used during orthodontic treatment.
- Apply laser knowledge in practice and possibly improve outcomes.

Saturday, 9:30 a.m. – 10:10 a.m. Salon 3

Laser Therapy and TMJ / TMD Problems Associated with Orthodontic Treatment

Arun Darbar, BDS, DGDP (UK), Rita Darbar, BDS, DOrth RCS
Private Practice, Leighton Buzzard, United Kingdom

Orthodontic treatment is sometimes advocated for patients with temporomandibular dysfunction (TMD) to improve their malocclusion. Temporomandibular joint (TMJ) pain can also be experienced by patients during orthodontic treatment. This presentation will discuss the management of these patients using laser therapy to alleviate the pain associated with these treatments.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

- Identify patients that are most likely to benefit from laser treatment.
- Specify updated approaches to nonsurgical laser therapy in orthodontics.
- Describe the basis for using laser therapy as an alternative to conventional pain medication for better patient acceptance.
- Consider the next level of standard of care possible with laser therapy.

Saturday, 10:10 a.m. – 10:30 a.m. Salon 3

Laser Safety Concerns in Orthodontics

Raminta Mastis, DDS
Private Practice, St. Clair Shores, Michigan, USA

As laser use becomes more commonplace in dental offices, appropriate attention must be given to laser safety concerns, especially in a typical open-array orthodontic setting where patient traffic can be busy. This presentation will address specific considerations and suggestions for implementing the laser safety standards in an orthodontic environment. The standards utilized in adopting the suggested laser safety plan include ANSI Z-136.1 (American National Standard for Safe Use of Lasers) and ANSI Z-136.3 (American National Standard for Safe Use of Lasers in Health Care).

Educational Objectives

- Enhance awareness of laser safety concerns.
- Update knowledge on the current standards for laser safety.
Pediatric Dentistry

Clinical Applications of Lasers for Infants, Tots, and Teens

Fred Margolis, DDS¹, Larry Kotlow, DDS²

¹University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA
²Private Practice, Albany, New York, USA

This course will take the dentist and hygienist to the next level of laser dentistry for children and special needs patients. The course will be taught by two pediatric dentists that are Masters in Laser Dentistry (ALD) and have received ALD’s 2014 Leon Goldman Award for Clinical Excellence. They will share their knowledge of lasers of various wavelengths and discuss their use for hard and soft tissue procedures including pulp therapy and laser surgery for labial and lingual frenectomies.

A multimedia approach will be used by the presenters to illustrate the use of lasers for hard and soft tissue dentistry including laser analgesia in 30 seconds, cavity preparations, pulp treatment, soft tissue surgery and photobiomodulation. The use of lasers for soft tissue procedures will include gingivectomies, gingivoplasties, operculectomies, and surgical exposures. Various laser wavelengths will be used, including low-level lasers, diode and erbium lasers, and a new CO₂ laser.

The full-day program will include: the diagnosis and treatment of lingual and labial frena and breast-feeding on newborns and infants, excision of mucoceles, fibromas, and hard tissue laser surgery on teeth and bones. The use of lasers for our special needs children and adults will be among the featured topics.

Note: This program discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

Specify various laser wavelengths and their uses in dentistry for infants, children, and special needs patients.

Describe the use of lasers in hard and soft tissue surgery including pulp therapy.

Discuss the topics of breastfeeding and the use of lasers for performing frenectomies on newborns and infants.

Decide which laser is right for one’s practice.

Friday, 8:00 a.m. – 9:00 a.m. Salons 7-8

Introduction, Laser History, and Laser Physics

Fred Margolis, DDS
University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA

This multimedia presentation will summarize the history of lasers used in dentistry today and present a brief overview of laser physics. The section on laser physics will include the methods of operation as well as the chromophores and method of delivery of each laser used in dentistry today. This knowledge is essential in deciding which laser is best for your practice, and why.

Educational Objectives

Increase understanding of laser physics and tissue interaction.

Summarize the chromophores and delivery systems of lasers used today.

Friday, 9:00 a.m. – 11:00 a.m. Salons 7-8

Breastfeeding, Lasers, and Tethered Oral Tissues

Lawrence Kotlow, DDS
Private Practice, Albany, New York, USA

This presentation will discuss the initial and additional diagnostic criteria for determining lingual and maxillary ties. Included are photographs and live video to show the need for follow-up care to prevent reattachment as well as a second or third surgery. The diagnostic criteria for examining newborns for anterior and posterior ties will be presented.

Educational Objectives

Achieve a clearer understanding of the issues related to properly assessing and treating lingual and maxillary tongue-ties in newborns and infants.

Fully appreciate the importance of proper follow-up care to prevent reattachment.
Hard Tissue Laser Dentistry for Pediatrics

Fred Margolis, DDS
University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA

The use of the erbium lasers (2780 nm and 2940 nm) and the carbon dioxide (9300 nm) laser for cavity preparations in children, adolescents, and special needs adults will be illustrated. The attendee will learn how to use the hard-tissue lasers for laser analgesia for cavity preparation. The discussion will include the various laser wavelengths used and how the hard-tissue lasers allow us to prepare precise cavity preparations. The lecture will include slides and videos to illustrate the techniques used to allow the dentist to provide comfortable dentistry with the laser. Also discussed will be the advantages of the laser vs. air abrasion and the high-speed handpiece.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
- Ascertain how to implement laser analgesia for cavity preparation.
- Discover how hard tissue lasers allow dentists to prepare precise cavity preparations.
- Compare and contrast lasers, air abrasion, and the high-speed handpiece.

Friday, 11:00 a.m. – 12:00 p.m. Salons 7-8

Soft Tissue Surgery Using 1064-nm Diode, Er:YAG, and 9300-nm CO₂ Lasers

Lawrence Kotlow, DDS
Private Practice, Albany, New York, USA

Lasers are quite effective in ablating soft tissue. This presentation will compare and show a variety of soft-tissue procedures using the 1064-nm diode, Er:YAG, and 9300-nm CO₂ dental lasers.

Educational Objective
- Increase understanding of tissue interaction and ablation using different laser wavelengths.

Friday, 2:15 p.m. – 3:00 p.m. Salons 7-8

Pulp Therapy Utilizing Dental Lasers

Fred Margolis, DDS
University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA

Lasers can be used efficiently and effectively to perform indirect and direct pulp capping and pulpectomies in children. Attendees will learn the presenter’s criteria for performing pulpotomies on nonvital primary teeth. The use of the diode, erbium and carbon dioxide lasers will be discussed for each of the above treatments. The medicaments used in performing these procedures will be discussed and illustrated.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
- Specify how laser technology is used to perform pulp capping and pulpectomy procedures.
- Compare how diode, erbium, and CO₂ lasers may be used in these types of procedures.

Friday, 3:00 p.m. – 3:45 p.m. Salons 7-8

Reliably Anesthesia-Free Dentistry with the 9.3-µm CO₂ Dental Laser: A Unique Experience for the Patient, Staff, and Doctor

Robert Wade, DDS, MS
Private Practice, Urbandale, Iowa, USA

This presentation will demonstrate how a 9.3-µm CO₂ dental laser (Solea, Convergent Dental, Natick, Mass., USA) vastly improves the patient experience within the dental practice, leading to increased practice growth. The speaker, a pediatric dentist, will briefly present the science and research behind this new technology, then present cases in which he used the 9.3-µm CO₂ laser to improve patient experience within his practice by avoiding the use of anesthesia and the drill.

Educational Objectives
- Realize the technology behind the 9.3-µm CO₂ dental laser.
- Recognize the importance of the patient experience in pediatric dentistry.
- Indicate how a 9.3-µm CO₂ dental laser can benefit a pediatric dental practice by improving the patient experience.
Infant Frenulectomies with a Superpulsed 10,600-nm CO2 Dental Laser

**Martin Kaplan, DMD,1, Peter Vitruk, PhD, MInstP, CPhys**
1Kid Care Dental PC, Stoughton, Massachusetts, USA
2LightScalpel LLC, Woodinville, Washington, USA

Breastfeeding can be difficult for the infant and painful for the mother because the child’s lip- or tongue-ties limit movement and prevent the infant from properly latching on and drawing milk from the breast. If left untreated, these conditions can eventually impair the child’s speech and proper tooth alignment. Lip tie and tongue tie can be corrected by laser frenectomy which has numerous benefits, such as elimination of sutures, no bleeding, no sedation, no anaesthetics.

Understanding the laser-tissue interaction is critical to efficient and expedient treatment. In this study the infant frenulectomy with a SuperPulse 10,600-nm CO2 laser (LS-1005, LightScalpel, Woodinville, Wash., USA) is compared to diode and erbium lasers. Laser power, laser energy, hand speed, spot size, and pulsing parameters are analyzed and tested in order to determine the parameter space applicable to infant frenulectomies. Infant frenulectomy is shown to be safe and efficient when utilizing the SuperPulse CO2 laser technology and its benefits: (1) char-free lip-tie and tongue-tie removal and coagulation; (2) predictable depth and width of tissue removal and coagulation; (3) high speed of soft tissue removal and coagulation that allows the duration of the procedure to occur under 20 seconds on average.

**Educational Objectives**

- Demonstrate the predictability of high-speed, char-free, and blood-free lip-tie and tongue-tie removal that that can be obtained with properly set pulse parameters of the SuperPulse 10,600-nm CO2 laser.
- Demonstrate the applicability of the high-speed, char-free, predictable soft tissue removal rate with the SuperPulse CO2 laser to the high-paced needs of infant patients.

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Moving Tongues Beyond Frenectomy!

**Grace Sun, DDS**
Private Practice, Los Angeles, California, USA

Laser dentistry has made the frenectomy safer and more comfortable – so why does the procedure not always provide long-term results? A large piece of the frenectomy puzzle is often missing. This presentation and demonstration will emphasize how we approach the postoperative training of proper physiological activity of the tongue after frenectomy.

A frenectomy gives patients who were previously incapable of swallowing or positioning their tongues properly a newfound range of motion. While some of these patients intuitively learn, other postoperative patients have difficulty utilizing their tongue properly.

**OMT, or Orofacial Myofunctional Therapy, benefits all frenectomy patients.** OMT assists in the “creation, restoration, and maintenance of a normal and harmonious neuromuscular environment.” Tongue-tie patients suffer from restricted oral physiology, which causes symptoms such as malocclusion, speech impairment, and low tongue posture, all of which may lead to oropharyngeal airway restriction. Because ankyloglossia patients have never learned to use their orofacial muscles properly, frenectomy treatment alone does not solve the patient’s dysfunction. OMT facilitates the training that postoperative tongue-tie patients need for their orofacial system to function as it was originally intended.

**Note:** This presentation is not limited to pediatric dentists. The principles described herein apply to all patients who receive frenectomy. Benefits are wide-reaching, from children (airway development) to adults (airway health) alike.

**Educational Objective**

Better appreciate the importance and execution of postoperative training of proper physiological activity of the tongue after frenectomy.
Pediatric Dentistry: A Panel Discussion

Lawrence Kotlow, DDS1, Fred Margolis, DDS2, Grace Sun, DDS3, Martin Kaplan, DMD4, Robert Wade, MS, DDS5

1Private Practice, Albany, New York, USA
2University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA
3Private Practice, Los Angeles, California, USA
4Kid Care Dental PC, Stoughton, Massachusetts, USA
5Private Practice, Urbandale, Iowa, USA

A discussion forum with speakers presenting in the pediatric track will round out the Pediatric Dentistry education program. Dr. Larry Kotlow, Dr. Fred Margolis, Dr. Grace Sun, Dr. Martin Kaplan, and Dr. Robert Wade will answer questions and share their many years of experience treating pediatric patients with dental laser technology.

Educational Objective

Benefit from an exchange of ideas relative to the use of laser technology in pediatric dental practices.

PARTICIPATION COURSE: Pediatric Dentistry Laser Hands-On Workshops

Fred Margolis, DDS1, Larry Kotlow, DDS2

1University of Illinois, Chicago, Illinois, and Private Practice, Highland Park, Illinois, USA
2Private Practice, Albany, New York, USA

This hands-on course will give the participant the opportunity to try various diode, erbium, and CO2 lasers available today. You will learn how to perform hard and soft tissue laser surgical procedures including laser analgesia in 30 seconds, frenectomies on infants, cavity preparations, gingivectomies, operculectomies, mucocele and fibroma excisions. This is an excellent review for the current laser user and a way to "revolutionize" your practice. This 90-minute program will be taught by pediatric laser dentists who have Mastership from the ALD, assisted by advanced laser users who have been using lasers in their practices for more than a decade. This limited-attendance workshop is intended for laser dentists who would like to learn how to excel in their knowledge and use of lasers for infants and children.

Attendance for the workshops is limited to 15 so that each participant has ample time with a seasoned pediatric dentist to experience deeper hands-on learning. Attendees will sign up for 1 of 2 programs, each as a repeated session to allow for the small class size. Advanced registration is required.

Note: This workshop discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

Enhance one’s knowledge and practice of laser dentistry for children.

Ascertain how to use one's current laser(s) more efficiently and productively.

Discover knowledge and techniques for providing better care for pediatric patients using lasers.
**Periodontics Workshop**

Thursday, 10:45 a.m. – 12:30 p.m. Salons 6 + FGH

**PARTICIPATION COURSE: Getting Started Using Lasers for Periodontal Surgery (for New Users)**

Douglas Gilio, DDS¹, Mitchell Lomke, DDS¹

¹Central California Veterans Hospital, Fresno, California, USA

This course will provide both valuable didactic lecture material and the experience of hands-on training from both a periodontist's and general dentist's perspective for laser-assisted periodontal surgical procedures, including both soft-tissue and hard-tissue procedures. The proper clinical use of erbium, Nd:YAG, and diode lasers will be included.

(This course will repeat on Saturday. Attendance is limited to 14. Advance registration is required.)

**Educational Objectives**

- Ascertain how to select the proper laser wavelengths to perform periodontal soft tissue crown lengthening procedures.
- Select the proper laser wavelengths to perform periodontal hard tissue crown lengthening procedures.
- Learn the proper technique to use when performing both hard and soft tissue crown lengthening procedures.
- Manage patient issues that may arise both during surgery and post-surgery.

**Periodontics Workshop**

Friday, 1:30 p.m. – 3:30 p.m. Salons FGH

**PARTICIPATION COURSE: Advanced Periodontics Using Lasers in Periodontal Surgery (for Advanced Users)**

Mitch Lomke, DDS¹, Douglas Gilio, DDS²

¹Private Practice, Olney, Maryland, USA

²Private Practice, Visalia, California, USA

Advanced periodontal treatment can be enhanced by a combination of traditional and laser technology techniques in order to restore and improve the oral health of patients affected by oral infection and disease.

**Educational Objective**

Determine and discuss the applicability and effectiveness of 10,600-nm SuperPulse CO₂ laser settings to treat periodontal disease.

**Supervised 10,600-nm CO₂ Laser-Assisted Soft Tissue Procedures in Periodontics**

Eric Linden, DMD, MSD¹, Peter Vitruk, PhD, MinStP, CPhys²

¹Private Practice, New York, New York, USA, and Columbia University School of Dental Medicine and Columbia Presbyterian Medical Center, New York, New York, USA

²LightScalpel LLC, Woodinville, Washington, USA

The use and efficacy of a SuperPulse 10,600-nm CO₂ dental laser (LS-1005, LightScalpel, Woodinville, Wash., USA), as an adjunctive therapy, is studied and discussed for a variety of periodontal procedures, including periodontal pocket disinfection, epithelial ablation, reduction of clinical inflammation, decrease in bleeding sites. Many of these procedures are performed in conjunction with an open or closed flap and oral antibiotic adjunctive therapy.

**Educational Objective**

Determine and discuss the applicability and effectiveness of 10,600-nm SuperPulse CO₂ laser settings to treat periodontal disease.
PARTICIPATION COURSE: Getting Started Using Lasers for Periodontal Surgery (for New Users)

Douglas Gilio, DDS¹, Mitchell Lomke, DDS¹
¹Central California Veterans Hospital, Fresno, California, USA
²Private Practice, Olney, Maryland, USA

This course will provide both valuable didactic lecture material and the experience of hands-on training from both a periodontist’s and general dentist’s perspective for laser-assisted periodontal surgical procedures, including both soft-tissue and hard-tissue procedures. The proper clinical use of erbium, Nd:YAG, and diode lasers will be included.

(This course is a repeat from Thursday. Attendance is limited to 14. Advance registration is required.)

Educational Objectives
- Ascertain how to select the proper laser wavelengths to perform periodontal soft tissue crown lengthening procedures.
- Select the proper laser wavelengths to perform periodontal hard tissue crown lengthening procedures.
- Learn the proper technique to use when performing both hard and soft tissue crown lengthening procedures.
- Manage patient issues that may arise both during surgery and post-surgery.

New Approach for Periodontitis Treatment Using 975-nm Diode Laser-Patterned Microcoagulation: A Pilot Clinical Study

Laura Braswell, DDS¹, Gregory Altschuler, PhD, DEngSc²
¹Private Practice, Atlanta, Georgia, USA
²Dental Photonics, Inc., Walpole, Massachusetts, USA

Existing nonsurgical methods for treatment of moderate periodontitis include scaling and root planing (SRP) and antibiotic therapy. Adjunctive intrasulcular laser treatment can be performed for pathogen reduction and de-epithelization. Laser treatment can also contribute to periodontal improvement by using a laser for pocket degranulation, cauterization, and sealing, and promotion of gingiva and alveolar bone regeneration through photobiomodulation. However, the significance of such laser-based mechanisms when compared with SRP and antibiotic therapy is still unproven. A new paradigm of periodontal treatment focuses on reduction of the magnitude of the inflammatory response to pathogens and chronic inflammation. We propose a new method of periodontitis treatment, which includes the classic treatment of periodontal pocket with SRP and laser, but also includes a new step of Laser-Patterned Microcoagulation (LPM) extrasulcular treatment of gingiva. The LPM treatment can restore to health chronically inflamed tissues by partially destroying the degraded fiber and vascular system of the gingiva. Due to the natural healing process, the degraded structure would be replaced in about 3 weeks with a new extracellular matrix structure. New attachment of dentinogingival and trans-septal and circular fibers would propagate from the top ligament to the enamel/dentinal junction during the healing process. The LPM treatment reduces the magnitude of the inflammatory response to pathogens due to complete gingival regeneration. Results of a pilot clinical study using LPM technology for treatment of moderate periodontitis will be presented. Significant improvement of periodontal pocket depth of the laser treatment group compared with the control, SRP-only group was observed.
Objectives

Existing laser periodontal therapy focuses on pocket disinfection and promotion of new attachment after treatment by de-epithelialization, degranulation, and cauterization. The goal of the presented pilot study is to evaluate a new Laser-Patterned Microcoagulation (LPM) method for treatment of gingiva for periodontal tissue regeneration and reduction of the magnitude of the inflammatory response to pathogens and chronic inflammation.

Method

Eight patients were treated for moderate periodontitis with SRP applied in the entire oral cavity, and two quadrants additionally treated with the new LPM technology. A diode laser with a wavelength of 975 nm and a power of 25 W (Alta-ST Modular Laser System, Dental Photonics, Walpole, Mass., USA) was used to create microcoagulation columns in gingiva with about 30% area fill factor. Intrasulcular treatment was performed in four steps: degranulation and de-epithelialization with Automatic Power Control (APC), SRP, bacteria reduction, and pocket cauterization and sealing. A total of one treatment was performed. The patients were followed for 3 and 6 months.

Results

Discomfort during the procedure was tolerable without anesthesia. Healing was uneventful and visually completed with significant reduction of inflammation at two weeks after treatment. Six months after treatment, the average pocket depth reduction on laser- and SRP-treated sides was 2.11 mm vs. 1.10 mm on SRP alone for pocket depths ≥ 5 mm, 2.69 mm vs. 1.69 mm for pocket depths ≥ 6 mm, and 3.00 vs. 1.69 for pocket depths ≥ 7 mm.

Conclusions

This pilot clinical study of moderate periodontitis treatment with new LPM technology demonstrated feasibility of this minimally invasive and effective method of periodontal treatment which can be performed with a 25-W diode laser.

Educational Objective

Learn about a new method for treatment of periodontitis using extrasulcular treatment of gingiva with Laser-Patterned Microcoagulation by a high-power diode laser.

Efficacy of the 10,600-nm CO₂ Laser to Ablate the Bacteria-Laden Epithelial Lining of the Diseased Gingival Sulcus

William Nordquist, DDS, MS, Peter Vitruk, PhD, MInstP, CPhys

Private Practice, San Diego, California, USA
LightScalpel LLC, Woodinville, Washington, USA

Microscopic photography and videos show evidence of the efficacy of the 10,600-nm SuperPulse CO2 laser (LS-1005, LightScalpel, Woodinville, Wash., USA) in removing the epithelial lining of the diseased gingival sulcus. Laser beam irradiance used was in the range of 5-50 J/cm² per unit area. The sites are examined microscopically for remnants of the diseased tissue.

Educational Objective

Determine the applicability and effectiveness of 10,600-nm laser wavelength to ablate the microbiologically contaminated epithelial lining of the diseased gingival sulcus.

DNA Testing – A Lecture and Demonstration

Douglas Gilio, DDS

Private Practice, Visalia, California, USA, and Clinical Attending Supervisor, Central California Veterans Hospital, Fresno, California, USA

This course outlines the benefits of microbial DNA testing for the general practice, and is intended for hygienists and doctors. Focus is on preventing periodontal disease in your practice by implementing microbial specificity DNA testing. Included is a discussion of the importance of microbial specificity in periodontic DNA testing, its important role in a general practice, and how preventive dentistry improves patient recruitment, retention, and satisfaction.

Over recent years the recognition and importance of microbial specificity in periodontics have afforded dental practitioners the ability to prevent and treat the disease with a variety of antimicrobial drugs, various laser wavelengths, and a battery of antimicrobial agents. DNA test results provide a risk assessment of the periopathogens, yielding improved treatment planning, diagnosis, and best therapy options. These DNA tests and results can provide an accurate initial microbial baseline.
Topics will include the latest techniques in pocket bacterial DNA testing for the different pathogens including gathering techniques, proper placement of the samples, knowing your patients and their medication allergies, and understanding the final report.

Once the microbial fingerprints have been identified, the care provider has an advantage with the identification of the pathogenesis and choice of therapy.

Educational Objectives
Specify the gathering techniques for the DNA testing, using paper points to absorb microflora from the infected periodontal sites.

Ascertain the proper sample placement into small sterile glass vials to be sent for testing at the laboratory.

Relate the initial routine paperwork to be completed, including patient medical history of allergies to any medications.

Understand the returned patient microbial report and how to discuss the report to your patient, and identify the type of periodontal patients who should be treated with adjunctive antimicrobial therapy.

Periodontics and Dental Hygiene

Friday, 11:00 a.m. – 11:20 a.m. Salons 1-2
Nonsurgical Periodontal Therapy with the 10,600-nm CO₂ Laser Wavelength

Mary Lynn Smith, RDH, BM
Private Practice, McPherson, Kansas, USA

Periodontal disease is traditionally treated either nonsurgically or surgically with removal of calculus and bacterial reduction in order to assist the body in healing. In this advanced case study, the initial treatment of nonsurgical periodontal therapy is provided with traditional scaling and further assisted with the use of the 10,600-nm wavelength CO₂ laser (PerioPulse™, DEKA EL.En., Ft. Lauderdale, Fla., USA) for bacterial reduction within the periodontal pockets. The subject’s data reflects conditions prior to treatment through 6 months of supportive periodontal therapy.

Educational Objective
Describe the significant improvement of the periodontal condition through traditional therapy assisted with a CO₂ laser.

Friday, 11:20 a.m. – 12:00 p.m. Salons 1-2
A Hygienist’s Step-by-Step Guide to Nonsurgical Laser-Assisted Periodontal Care

Jeanette Miranda, RDH¹, Mary Lynn Smith, RDH, BM²
¹Private Practice, McPherson, Kansas, USA
²Private Practice, Sioux Falls, South Dakota, USA

Treating periodontal disease through nonsurgical measures is often the first step toward improving a patient’s oral health. Learn how to work through a case step-by-step.

Define and diagnose the condition through analysis of appropriate diagnostic information. Treatment-plan nonsurgical periodontal therapy utilizing conventional treatment assisted with laser. Determine the resolution level of the case and suitable follow-up. Document the case in photographic and written form. With the example of a case study, the flow of treatment will be easily followed and ready to implement in daily practice.

Educational Objectives
Identify the stage of periodontal disease and treatment planning appropriate for nonsurgical periodontal therapy.

Determine the resolution of periodontal disease and the need for supportive periodontal care or the need for further care by referral.

Document the case through diagnostic records, written clinical notes, and photographic images.

Friday, 12:00 p.m. – 12:30 p.m. Salons 1-2
Low-Level Lasers for the Dental Hygienist

Angie Mott, RDH
Private Practice, Tulsa, Oklahoma, USA

This presentation will allow dental hygienists to see how they can use a low-level laser. Included is a description of how dental hygiene procedures can be assisted with the use of low-level lasers along with the outcomes and safety concerns about using these devices.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives
Realize the basic procedures that low-level lasers can provide.

Indicate why safety protocols need to be in place in a clinical situation.

Learn where to get additional training on low-level lasers.
Blending the Science of Lasers with Business Acumen and the Art of Communication

Gwen Smukowski, RDH, BS, MBA
Continuity Consulting, Chicago, Illinois, USA

The success of a hygiene department relies on many factors: clinical protocols, integration of technology, diagnostic acuity, communication efficacy, and financial remuneration. The treatment of periodontal disease has become a significant focus of many hygiene departments. Over the course of the last 4 decades we have experienced paradigm shifts that have enabled us to utilize minimally invasive techniques to treat and arrest periodontal disease.

The purpose of this presentation is to highlight the clinical protocols available today and discuss the administrative and communication systems necessary to integrate them into everyday practice. Critical salivary diagnostic tools that help provide prognostic and diagnostic information will be addressed. Variations on treatment planning, laser integration, and anti-inflammatory tactics will be presented.

Educational Objectives

- Review the paradigm shifts in periodontics that have led to a medical approach to this infectious disease process.
- Outline treatment modalities geared at arresting the inflammatory component of periodontal disease.
- Discuss various communications tools geared at highlighting the value of laser-assisted therapies to your patient base, creating continuity among team members, and increasing case acceptance.
- Introduce business systems that will increase operational efficiency, track key performance indicators, and create a higher level of business acumen within the team.

Friday, 2:15 p.m. – 3:15 p.m. Salons 1-2

The Hygiene Forum – Panel Discussion

Jeanette Miranda, RDH1, Angela Mott, RDH2, Jan LeBeau, RDH, BS3, Gloria Monzon, RDH4, Mary Lynn Smith, RDH, BM5, Gwen Smukowski, RDH6, Arthur B. Levy, DMD7, Sebastiano Andreana, DDS, MS8
1Private Practice, Sioux Falls, South Dakota, USA
2Private Practice, Tulsa, Oklahoma, USA
3Pacific Dental Services, Irvine, California, USA
4Private Practice, McPherson, Kansas, USA
5Private Practice, Chicago, Illinois, USA
6Private Practice, McPherson, Kansas, USA
7Fountain Hills, Arizona, USA
8The State University of New York, University at Buffalo School of Dental Medicine, Buffalo, New York, USA

The Hygiene Forum will bring together a panel of hygiene experts who will be available for a question-and-answer session on topics that the audience would like to discuss. This session will begin with a brief overview of soft tissue lasers (diodes, Nd:YAG, CO2, and erbiums) and a short review of the rationale for laser therapy, laser appointment protocol, settings for using various laser devices, treatment expectations, and State Regulatory issues regarding lasers. Jeanette Miranda and Angie Mott will serve as moderators for panelists Jan LeBeau, Gloria Monzon, Mary Lynn Smith, and Gwen Smukowski, comprising a combined experience of some 90 years in dental hygiene! Each serves on the Auxiliary Committee for ALD. Dental hygiene laser education is a passion for all six contributing hygienists. Dr. Art Levy and Dr. Seb Andreana will participate in the guided discussions.

Educational Objectives

- Receive answers to questions about laser-assisted hygiene therapy in a collegial and informative learning environment.
- Understand regulatory issues facing hygienist use of laser devices.
- Prepare protocols for dental hygiene laser procedures.
Dental Hygiene Workshop

Friday, 3:45 p.m. – 5:00 p.m. Salons FGH

PARTICIPATION COURSE: Give ‘Em A Hand!
Hands-On Laser Hygiene Workshop

Jeanette Miranda, RDH¹, Angela Mott, RDH², Jan LeBeau, RDH, BS³, Gloria Monzon, RDH⁴, Shannon Richkowski, RDH⁵, Mary Lynn Smith, RDH, BM⁶, Gwen Smukowski, RDH⁷

¹Private Practice, Sioux Falls, South Dakota, USA
²Private Practice, Tulsa, Oklahoma, USA
³Pacific Dental Services, Irvine, California, USA
⁴Private Practice, Milpitas, California, USA
⁵Private Practice, El Paso, Texas, USA
⁶Private Practice, McPherson, Kansas, USA
⁷Private Practice, Chicago, Illinois, USA

This hands-on workshop will allow hygienists the opportunity to try a variety of soft-tissue lasers (diodes, CO₂, erbiums), spend time on techniques (laser periodontal therapy, laser bacterial reduction, biostimulation), and be able to get answers to their questions from other experienced laser hygienists. Hygienists Jeanette Miranda, Angie Mott, Jan LeBeau, Gloria Monzon, Shannon Richkowski, Mary Lynn Smith, and Gwen Smukowski will share tips and techniques in this guided workshop.

Educational Objectives

Utilize a variety of soft tissue lasers on tissue specimens in a laboratory setting under controlled supervision for procedures typically performed in the hygiene department.

Compare clinical techniques and tips with fellow hygienists.

Practice Management

Thursday, 2:00 p.m. – 3:00 p.m. Salon 6

PARTICIPATION COURSE: Infection Control: A Hands-On Workshop

Leslie Canham, CDA, RDA, CSP
Leslie Canham & Associates, Copperopolis, California, USA

Infection control breaches in dentistry are BIG NEWS lately. Learn how to update infection control practices to meet the current U.S. Centers for Disease Control and Prevention (CDC) Guidelines. Examples of infection control “DOs and DON’Ts” and “hands-on” demonstrations will provide the participant with memorable tips. This program will motivate the participant to strive for infection control excellence. Takeaways include an infection control checklist, instrument processing protocol, and top resources for infection control and safety.

Educational Objectives

Recognize gaps in infection control and patient safety.
Understand how to incorporate the CDC Guidelines in one’s practice and learn what the newest CDC recommendations are.
Ascertain how to achieve a culture of infection control and safety compliance though teamwork.
Explain how to select appropriate infection control products.

Saturday, 11:00 a.m. – 12:00 p.m. Salons 7-8

Obtaining More Clients Through Inbound Marketing: Building a Virtual Fence Around Your Clients – Prevent Poaching, Protect Your Personal and Professional Reputation

Brodie Tyler
Inbound Systems, Meridian, Idaho, USA

The overall purpose of this course is to highlight the intrinsic value of inbound marketing and how it creates new leads. Through original content creation, a complete Web presence, and optimized social media campaigns, inbound marketing creates qualified leads for your business at about half the cost of traditional outbound marketing!

This course also examines how to build a virtual fence around your clients with inbound marketing, thus preventing poaching by competitors, as well as how to protect personal and professional reputations in this growing Internet age.

Educational Objectives

Highlight the intrinsic value of inbound marketing and how it creates new leads.
Discover how to create a virtual fence around your clients to prevent poaching by competitors and actively protect your valuable customer base.
Identify the most effective strategies to protect your personal and professional reputation online, and help guard against slander and negative reviews.
Saturday, 12:00 p.m. – 12:30 p.m. Salons 7-8

Increase Profit and Efficiency by Integrating the 9.3-µm CO₂ Dental Laser into Your Practice (Return on Investment)

Jeffrey Rohde, DDS
Private Practice, Santa Barbara, California, USA

This presentation will demonstrate the advantages of integrating the first 9.3-µm CO₂ dental laser (Solea, Convergent Dental, Natick, Mass., USA) for hard and soft tissue into the practice. The speaker will indicate the strategies on how to best incorporate a new dental laser into the practice, and then present examples of how the 9.3 µm CO₂ dental laser has improved practice growth and patient experience since being integrated into the practice.

Educational Objectives

Understand how to properly integrate the 9.3-µm CO₂ laser into the practice.
Recognize the advantages of having a 9.3-µm CO₂ laser in the practice.

Saturday, 1:30 p.m. – 3:00 p.m. Salons 1-3

How to Use Social Media and Digital Marketing to Grow Your Practice

Michael Cudahy
Big Brand Boost, Atlanta, Georgia, USA

The world of marketing has changed over the last decade, providing the practicing dentist with new challenges and opportunities. While the effectiveness of traditional marketing channels like radio, television, print, and direct mail continue to fall, the success found in digital and social media channels is on the rise. More than 54% of American consumers now check their social media every day. There is a great opportunity for the dental practice that embraces these digital channels to increase their growth by highlighting the benefits of good dental health and adding value to their patients. Both art and science — the benefits of learning the online basics and putting them to use are a must for the modern dental marketer.

Educational Objectives

Ascertain how to develop an effective digital marketing strategy and identify the tools and techniques that will grow your practice.
Discover how to identify what is important to your patients and potential patients through social listening.
Learn where to put your efforts online. Discover the unique strengths and weaknesses across the digital landscape, and how to make them work for you.
Maximize new patient acquisition and improve patient retention and word-of-mouth referrals by learning how to provide value and leverage your practice’s unique capabilities.

Saturday, 1:30 p.m. – 3:00 p.m. Salons 7-8

HIPAA Privacy, Security, and the Final Omnibus Rule: What’s New and What Do I Have to Do?

Leslie Canham, CDA, RDA, CSP
Leslie Canham & Associates, Copperopolis, California, USA

The purpose of this course is to familiarize the participant with the basic concepts of the Health Insurance Portability and Accountability Act (HIPAA) as the regulations apply to dentistry. Information will include how to implement HIPAA Privacy and Security programs, and organize and conduct staff training. This program will also cover the new final Omnibus Rule.

Educational Objectives

Ascertain how to set up a HIPAA Privacy and Security Program and understand how HIPAA regulations apply to a typical dental office.
Recognize breaches in privacy or security and understand breach notification requirements.
Understand how the Health Information Technology for Economic and Clinical Health (HITECH) Act and new Omnibus Rules affect dental practices.
Create the required logs to support compliance with these regulations.
Prosthetics and Implantology

Friday, 11:00 a.m. – 11:30 a.m. Salon 6
810-nm Diode Laser Therapy in Full-Mouth Reconstruction

Mario F. Guiang, Jr., DMD
Centro Escolar University, Manila, Philippines

The management of patients with temporomandibular disorder / temporomandibular joint (TMD/TMJ) dysfunction is a multiphasic therapy. It involves procedures intended to address not only the symptoms directly resulting from risk factors or progression of the disease but also aesthetics. This report will present a full-mouth reconstruction case which utilized transcutaneous electrical nerve stimulation (TENS) and orthotic to recapture the occlusion of the patient with posterior open bite. Laser therapy plays an important role in establishing occlusal harmony as well as the relationship of the periodontium in creating excellent aesthetics. The focal point of this case report is utilizing a laser (Picasso™ Lite, AMD Lasers, Indianapolis, Ind., USA) (810 nm) for frenectomy, gingivoplasty, and soft-tissue crown lengthening. The case presents to dental practitioners the importance of restoring a balanced occlusal relationship, utilizing laser therapy, and encourages them to incorporate a laser in their treatment planning.

Educational Objectives

Describe how to utilize a laser in procedures like gingivectomy/gingivoplasty, frenectomy, and soft-tissue crown lengthening without violating the biologic width in full-mouth reconstruction.

Specify how a laser can be used as an adjunct therapy to lessen discomfort to the patient and ease tissue manipulation for the clinician, thereby providing a well-controlled procedure.

Realize the importance of laser therapy in treatment planning to preserve the aesthetic value.

Friday, 11:30 a.m. – 11:45 a.m. Salon 6

The Influence of 810-nm Diode Low-Level Laser Therapy on Osseointegration of Dental Implants

Sheeba Chowdary, BDS
SVS Institute of Dental Sciences, Mahabubnagar, Andhra Pradesh, India

Objective

Determine the effect of low-level laser therapy on the osseointegration of titanium dental implants relative to the conventional implant treatment using resonance frequency analysis.

Material and Methods

Ten patients with bilaterally missing teeth in either of the arches willing to receive implant treatment were taken into the study. A split-mouth method was observed, with one edentulous site receiving an implant following osteotomy preparation as control, and the other site receiving laser treatment for 60 secs after osteotomy preparation followed by implant placement. A gallium-aluminium-arsenide semiconductor diode laser (Picasso™, AMD Lasers, Indianapolis, Ind., USA) at 810 nm with a power output of 0.5 mW and a frequency of 2 Hz was used. The study involved a 2-stage surgical placement of implant, and Resonance Frequency Analysis (RFA) was done to measure the implant stability on the day of placement and prior to the loading of implant.

Results

The data obtained from the RFA readings was analyzed with Wilcoxon matched pairs test and showed a statistically significant increase in the laser group when compared with the control group.

Conclusion

Within the limitations of the study it can be concluded that LLLT significantly increases the rate of bone healing, i.e., osseointegration of implants, thereby improving implant stability as measured by an RFA instrument.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

Evaluate the effect of low-level laser therapy on osseointegration of dental implants.

Determine whether laser therapy can hasten osseointegration and thereby reduce the waiting period.

Determine the effect of low-level laser therapy on the osseointegration of titanium dental implants relative to the conventional implant treatment using resonance frequency analysis.
Use of Different Laser Wavelengths for Treatment of Peri-Implantitis

Sebastiano Andreana, DDS, MS
The State University of New York, University at Buffalo School of Dental Medicine, Buffalo, New York, USA

The presentation will focus on treatment of peri-implantitis aided by lasers. Different wavelengths and different treatment modalities will be presented. Included will be discussions of 810-nm and 980-nm diode lasers, Er,Cr:YSGG and Er:YAG lasers, and 10,600-nm CO₂ lasers. The primary objective of laser treatment is the decontamination of the implant surfaces, where microbiological biofilm is present. Secondly, the biostimulating effects of light energy on peri-implant soft and hard tissue will be discussed. Of paramount importance, the safety use of each wavelength will be presented, with critical discussion of the existing literature.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objectives

Understand peri-implantitis
Summarize the role of lasers for treatment of peri-implantitis.
Enumerate the risks of using lasers around dental implants.

The 810-nm Diode Laser in Preprosthetic Surgery

Claus Neckel, DDS, MS
Private Practice, Bad Neustadt, Germany

Preprosthetic surgery is a section of dentistry that has a close relationship to prosthodontics and oral and maxillofacial surgery. The main purpose of preprosthetic surgery is elimination of pathology in the denture-bearing soft and hard tissues, and ridge improvement. Limited vestibuloplasty is still considered a predictable and cost-effective procedure for patients who are well adapted to removable dentures. The excellent documentation of osseointegrated implants as supportive and retentive devices for prostheses has reduced the need for major ridge-improving surgery. Many clinical conditions, especially in the maxilla, cannot be managed solely with implants. The combination of preprosthetic surgery and implants may solve problems that neither discipline can solve alone.

The aim of the study is to verify the role of 810-nm diode laser (Claros®, Elexxion AG, Radolfzell, Germany) treatment in comparison to conventional treatment of different indications in preprosthetic surgery. As a side effect or complication we often see a relapse or recurrence of the pathology. Can laser treatment help minimize this downfall? We have looked at our patients we operated on over the last nearly 2 decades with respect to complications, retreatment, and failures for conventional and laser therapy.

Educational Objectives

Verify the efficiency of the diode laser in the treatment of pathology in different indications in preprosthetic surgery.
Determine whether laser treatment can minimize complications and recurrence of pathology.
Oral Laser Applications in Dental Implantology

Qian Li, DDS
Peking Union Medical College Hospital, Beijing, China

Lasers are the next new technology in dental implantology, as evidenced by increasing attention, promotion, and development. Researchers and clinicians have carried out extensive research on the applications of lasers in dental implantology. Compared to conventional treatment modalities, lasers have the ability to cut soft tissue with less pain, bleeding, and postoperative reaction. Lasers have long been used for second stage recovery, submerged implant exposure, peri-implant soft tissue plasty and remodeling, and incision and flap surgery. With an Er:YAG / Er,Cr:YSGG laser, we can also operate on hard tissue, and perform alveoectomy, implant bed preparation, block bone augmentation, bone window preparation for sinus lift, alveolar crest split, etc. At present, lasers and photodynamic therapy have been widely used and have unique advantages in the treatment of peri-implantitis. In addition, there is evidence to suggest that certain types of lasers have a role in promoting osseointegration and tissue healing, and reducing postoperative reaction, which indicates that intraoral laser use could be involved in the entire procedure of implant restoration. We should understand the characteristics and operation specifications of different laser wavelengths, in order to make full use of the advantages of lasers to improve clinical outcomes, with minimal damage to the tissue around the implant.

Note: This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

Educational Objective
Change one’s attitude and approach to the solution of dental problems with the application of new knowledge in specific areas.
**Science and Education**

Thursday, 1:30 p.m. – 2:15 p.m. Salon 5

**The New ALD Position Papers**

Craig Gimbel, DDS
Denville, New Jersey, USA
Chairman, Academy of Laser Dentistry Science and Research Committee

ALD Science and Research Committee members: Praveen Arany, BDS, MDS, MMSc, PhD; Dmitri Boutoussov, PhD; Stu Coletan, DDS; Gabi Kesler, DMD; Art Levy, DMD; Donald E. Patthoff, DDS; Georgios Romanos, DDS, PhD, Prof. Dr. med dent.; James L. Sanderson, Jr., DMD; John Sulewski, MA; Peter Vitruk, PhD, MInstP, CPhys

Learn from your organization what is the state-of-the-art science for your laser wavelength. In addition, the first-ever position paper on low-level laser and photobiomodulation will be examined. A roundtable discussion will be follow. Education in dental lasers should follow these new position papers closely, as this is the present state of the science.

This presentation is the work of ALD’s Science and Research Committee whose members are responsible for providing the dental laser community with the latest recognized published scientific information. Much of the Academy’s education material has its origin from this committee.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Ascertain the latest science for lasers in dentistry.
- Specify what is recognized in the science of low-level laser therapy and photobiomodulation.
- Identify the recognized position of the Academy of Laser Dentistry as to the scientific mechanics of laser-tissue interaction.
- Enjoy your laser more through greater knowledge of the science.

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**Education for Lasers in Dentistry: Collaborative Initiatives Between ADEA and ALD**

Praveen Arany, BDS, MDS, MMSc, PhD1, Donald Patthoff, DDS2, Peter Rechmann, DMD, PhD3, Brad Smith, DDS, BSc4
1National Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda, Maryland, USA
2Private Practice, Martinsburg, West Virginia, USA
3University of California, San Francisco, San Francisco, California, USA
4Midwestern University, College of Dental Medicine, Glendale, Arizona, USA

**ALD University and Academia Relations Committee and ADEA SIG on Lasers: Joint Session**

The use of lasers, as both surgical instruments and for their antimicrobial applications, is well regarded as a potent tool in the clinical dentistry armamentarium. Other applications, however, such as those for pain and inflammation relief as well as stimulation of wound healing and tissue regeneration, have been plagued by inefficiency in clinical care. It is alarming to note that a recently conducted survey by the American Dental Education Association (ADEA) Special Interest Group (SIG) noted a paucity of formal instruction and education guidelines despite a preponderance of individual dentists either utilizing or having access to this tool. The purpose of this symposium is to introduce the audience of educators and clinicians in all career stages to the breadth of applications of this powerful and innovative tool. An emphasis will be placed on building upon current knowledge and didactic dialogue from experienced clinicians and educators in the field, followed by the latest research in understanding the interaction of lasers with oral-dental tissues spanning the cellular and molecular aspects. The popularity of this tool and the need for more training and structured curriculum for lasers in dentistry education will be the prime focus of this symposium. Further, given the multispecialty nature of applications of this tool, the need for integration and a multidisciplinary collaborative team of educators will be emphasized. Finally, an interactive audience session will be conducted specifically involving the representatives of the cosponsoring sections to engage and explore specific examples currently being utilized within established schools.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

- Provide a current overview of the lasers in dentistry education in dental schools in North America.
- Identify current resources for education in lasers in dentistry including models currently used in current programs.
- Discuss avenues to develop a future curriculum for lasers in dentistry to allow safe and effective use in clinical applications.
Research is a systematic investigation into the study of materials. It is important to treat patients from evidence-based practice – using both clinical expertise and the best evidence from scientific research. However, a clinician is often limited in accessing, organizing, and applying what is available. Be empowered to find answers in research to posed questions of clinical practices. Use specific strategies to navigate various sources for locating desired information. Once the information is found, use organizational tools to keep it accessible. Finally, determine the validity of the source using specific criteria. These steps will assist the research process, allowing the clinician to make better decisions easier in daily practice.

Educational Objectives
- Learn to navigate various sources to find information.
- Use tools to organize the information gathered.
- Determine the validity of the informational source.
**Introduction and Objective**

Peri-implantitis is a condition associated with presence of bacteria along the surfaces of implants, creating deleterious effects to the peri-implant hard and soft tissues. This *ex vivo* pilot study compared three settings on an 810-nm diode laser to determine optimal laser energy levels to suppress bacteria growing in a bony defect adjacent to implant.

**Materials and Methods**

Fourteen sterile titanium implants were placed into sterilized porcine ribs. A 2 mm x 2 mm wide, 3 mm deep defect adjacent to the implant was created. Three microliters of *S. sanguinis* ATCC 10556 in ½ brain heart infusion (BHI) were inoculated into the defect and left for 24 hours in 5% CO₂ at 37°C. Four defects were not treated with the laser, and 3 were treated with the laser (Odyssey® 2.4G, Ivoclar Vivadent, Amherst, N.Y., USA) at 0.6 W, 4 at 0.8 W, and 3 at 1.0 W. The laser tip was noninitiated and laser energy was delivered in continuous mode. Defects were rinsed with ½ brain heart infusion (BHI) transport media and bacteria were plated on tryptic soy agar (TSA) media and left for 48 hours to grow. The colony-forming units (CFUs) were counted. The experiment was repeated three times.

**Results**

The amount of growth was generally scattered within the 0.6 W and 0.8 W, with an average count of CFUs of 80.6 and 54.5 respectively, whereas the 1 W group showed no detectable growth. The control group showed an average CFU count of 207 ($P < 0.5$), with the differences in the 1 W group being statistically significant.

**Conclusions**

The 810-nm diode laser at 1 Watt was successful in suppressing bacteria growth in *ex vivo* peri-implantitis defects, whereas minor laser energies were able to remarkably diminish the amount of bacteria. One Watt of laser power could be an effective setting to use when treating peri-implantitis cases.
The focus of this program and panel discussion is to discuss the challenges, potential solutions, and pathways on how to assist in the further development and how to assimilate this needed education into an already overloaded curriculum of these institutions throughout North America.

Educational Objectives
Achieve an understanding of the present status of laser and light-based technologies education in dental and hygiene schools.
Specify some of the obstacles and concerns educational institutions have in establishing and expanding their laser programs.
Enumerate possible collaborative paths to promote academic curriculum development with the various stakeholders.

Special Needs Dentistry
Saturday, 11:00 a.m. – 11:30 a.m. Salon 5
Laser-Assisted Dental Procedures Utilizing the LightScalpel LS-1005 SuperPulse 10,600-nm CO₂ Laser in Special Needs Dentistry
Robert Levine, DDS¹,², Peter Vitruk, PhD, MInstP, CPhys³
¹Arizona School of Dentistry and Oral Health, Scottsdale, Arizona, USA
²Global Laser Oral Health LLC, Scottsdale, Arizona, USA
³LightScalpel LLC, Woodinville, Washington, USA

Most people look upon special needs dentistry as only relating to patients with developmental disabilities as well as those with cognitive impairments. However, special needs dentistry encompasses a much greater dynamic. With the patient population extending into the 75-90-year-old age group due to improvements in medical care, we are treating a geriatric population with many different medical conditions. Understanding medical histories is critical to how we treat this patient group. Examples include patients on anticoagulation therapy and those with type 1 and type 2 diabetes. We can treat this group of patients safely and efficiently utilizing the SuperPulse CO₂ laser technology (LS-1005, LightScalpel, Woodinville, Wash., USA) and the benefits (over diode lasers) that it brings: (1) char-free soft tissue removal and coagulation; (2) predictable depth and width of tissue removal or coagulation (3) high speed of soft tissue removal and coagulation that is unobtainable with other wavelength groups of dental lasers.

This presentation will assess laser power, pulsing, spot size, and hand speed to the applicability of the special needs dental suite. Numerous clinical cases are presented for the specified laser settings.

Educational Objectives
Demonstrate the predictability of high-speed, char-free soft tissue removal and coagulation that can be obtained with properly set pulse parameters of the SuperPulse 10,600-nm CO₂ laser.
Indicate the applicability of high-speed, char-free, predictable soft tissue removal laser to the high-paced requirements of the special needs dental suite.
Technology

Friday, 11:00 a.m. – 11:20 p.m. Salon 5

Benefits and Challenges of Transitioning from Erbium to 9.3-µm CO2 Lasers

Tony Hewlett, DDS
Private Practice, Stanwood, Washington, USA

This presentation will demonstrate the many benefits of integrating a 9.3-µm CO2 computer-aided dental laser (Solea, Convergent Dental, Natick, Mass., USA) into a practice with other advanced dental technologies. The speaker will touch upon the research and technology behind the first computer-aided 9.3-µm CO2 dental laser and then discuss how he leverages this new technology in conjunction with the digital X-ray, computer-aided design/computer-aided manufacturing (CAD/CAM), cavity detection, and intraoral cameras to achieve better clinical results, patient satisfaction, and practice growth.

Educational Objectives

- Summarize the technology behind the 9.3-µm CO2 dental laser.
- Name the advantages of the computer-aided preparation with a CO2 hard and soft tissue laser.
- Learn how to integrate this new technology with other dental technologies within the practice.
- Recognize the benefits of the integration of the computer-aided preparation CO2 dental laser with other advanced dental technology.

Friday, 11:20 a.m. – 11:50 a.m. Salon 5

Uncovering Dental Implants Using a New Thermo-Optically Powered (TOP) Technology with Tissue Air-Cooling

Georgios Romanos, DDS, PhD, Prof. Dr. med. dent.1, Gregory Altshuler, PhD, DEngSc1, Andrey Belikov, DPhys-MathSc2,3, Alexey Skrypnik, PhD2
1Stony Brook University, School of Dental Medicine, Department of Periodontology, Stony Brook, New York, USA
2St. Petersburg National Research University of Information Technologies, Mechanics and Optics, St. Petersburg, Russia
3Dental Photonics, Inc., Walpole, Massachusetts, USA

Introduction and Objectives

Uncovering implants with lasers has been associated with a risk of implant and bone overheating. The present study evaluated the effect of using a new generation of high-power diode lasers on the temperature of a dental implant and the surrounding soft tissue using an in vitro model. Implant temperature rise during and collateral thermal soft tissue damage following implant uncovering with and without tissue air-cooling was studied using both the classic operational mode and the new thermo-optically powered (TOP) technology.

Method and Materials

The novel diode laser (980 nm) (Alta-ST, Dental Photonics, Inc., Walpole, Mass., USA) was used in the study. A titanium implant model was fabricated. The uncovering simulation was accomplished in four ways: by constant power (3.4 W) through a cork-initiated tip; by constant power (3.4 W) through a SureStep™-initiated tip; by TOP surgical mode (800°C); and in the TOP surgical mode (800°C) with air-cooling of the treatment area. Temperature during and after laser treatment, as measured by the thermocouples, and time required to uncover each implant model, were recorded. After each experiment, the soft tissue was processed for nitro blue tetrazolium chloride (NBTC) staining.

Results

The highest implant temperature rise (23.2 ± 4.1°C) was recorded during uncovering with the standard cork-initiated tips with constant laser power (3.4 W). The temperature rise in the implant was reduced by 1.35 times when using the SureStep-initiated versus the cork-initiated tip. The TOP surgical mode (800°C) significantly reduced the time required for the surgical procedure. Minimal implant temperature rise (7.4 ± 2.3°C) was observed during uncovering in TOP surgery mode (800°C) with SureStep-initiated tip and with air cooling of the treatment area. In this case collateral damage of surrounding implant soft tissue was in the range of 0.1-0.2 mm.

Conclusions

New advances in the development of diode dental lasers, such as TOP surgery mode and SureStep initiation technique, may significantly reduce overheating of dental implants during uncovering and seem to be safer for the adjacent soft and hard tissues, minimizing collateral thermal soft-tissue damage during surgical procedures.

Educational Objectives

- Explore the application options of a new generation of high-power diode lasers for uncovering a dental implant in classical and TOP surgical modes.
- Evaluate the safety using the TOP surgical mode and air-cooling for safe dental implant uncovering.


**Introduction**

The study provides the scientific background for erbium laser all-ceramic crown removal. First, absorption characteristics of different ceramics and different bonding cements were determined. In a next step, all-ceramic crowns produced from lithium disilicate and zirconium oxide, respectively, were bonded to teeth. Afterwards those all-ceramic crowns were laser-debonded using an Er:YAG laser. The debonding time was measured.

**Objectives**

The removal of all-ceramic crowns is a time-consuming and destructive procedure in the dental office. Little research has been done in alternative removal techniques for all-ceramic crowns. The first objective of this laboratory proof-of-principle study was to evaluate whether, with regard to absorption and transmission characteristics of bonding cements and ceramics, all-ceramic crowns can be removed from natural teeth with the use of an erbium laser.

The second objective was to evaluate whether Ivoclar Vivadent all-ceramic crowns can be efficiently removed from natural teeth without damage to the underlying tooth structure with the use of an erbium laser.

**Method**

Fourier transform infrared spectroscopy (FTIR) was used on a flat ceramic sample (leucite glass-ceramic, lithium-disilicate, zirconium-oxide) to assess infrared laser wavelength transmission.

FTIR spectra for four bonding cements (Variolink® Veneer, Variolink® II, Multilink® Automix, SpeedCEM®; Ivoclar Vivadent, Schann, Liechtenstein) were obtained.

The Er:YAG laser energy transmission (2,940-nm wavelength, 1,100-µm fiber tip, 10-Hz repetition rate, 100-µs pulse duration at 126 mJ/pulse to 400 µs at 590 mJ/pulse; LiteTouch™, Syneron, Yokneam, Israel) through different ceramic thicknesses was measured. Ablation thresholds for bonding cements were determined.

**Results**

Ceramics did not show characteristic water absorption bands in FTIR, and bonding cements showed a broad H$_2$O/ OH absorption band. Some cements exhibited a distinct absorption peak at the Er:YAG laser wavelength. Depending on the ceramic thickness, IPS Empress® Esthetic, IPS e.max® CAD, and IPS e.max® ZirCAD transmitted between 5% and 60% of the incident Er:YAG energy.

Initial signs of cement deterioration occurred at 1.3-2.6 J/cm$^2$. Variolink Veneer needed 44% less energy for ablation.

All all-ceramic crowns were successfully debonded with the laser. Depending on the ceramic material, laser debonding time varied between 190 ± 92 and 312 ± 102 seconds (average ± SD). No crowns fractured and no damage to the underlying dentin occurred.

**Conclusions**

Er:YAG laser energy can be transmitted through all-ceramic materials and those transmitted energies are sufficient for ablation of bonding cements. Er:YAG laser energy can successfully be used to efficiently debond all-ceramic, full-contour crowns from natural teeth without damage to the underlying tooth structure.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objective**

Ascertain the scientific background about laser debonding of all-ceramic crowns.

Human molar specimens were prepared to receive all-ceramic crowns. The all-ceramic crowns were bonded with Ivoclar Multilink Automix. The time for Er:YAG laser debonding of each crown was measured.
Transitioning from 10.6-µm CO₂ Laser for Soft Tissue to 9.3-µm CO₂ Laser for All Tissue

Mike Kelly, DMD
Private Practice, Scottsdale, Arizona, USA

This presentation will demonstrate the advantages of using a 9.3-µm CO₂ dental laser (Solea, Convergent Dental, Natick, Mass., USA) for hard and soft tissue restorations. First, the speaker will present cases where he used this laser system for hard-tissue restorations without the need for a drill. He will then present cases where he used it for soft tissue indications, demonstrating precision and control that until now was unattainable with any other dental laser.

Educational Objectives
- Identify the advantages of a 9.3-µm CO₂ dental laser for hard and soft tissue.
- Observe the ablation of hard and soft tissue with a 9.3-µm CO₂ laser.
- Obtain the skills and proper techniques for using a 9.3-µm CO₂ laser.

Stimulating Dental Pulp Tissue Stem Cells and Gingival Fibroblasts with 1064-nm Low-Level Laser Irradiation

Nuran Culcuoglu, DDS¹, Kaya Molo, BS²
¹Private Practice, Istanbul, Turkey
²GenKord Cord Blood Bank, Istanbul, Turkey

Objective
In our study, we investigated response of dental pulp tissue stem cells (DPSCs) and gingival fibroblasts (GFs) to InGaAsP diode laser and Nd:YAG laser irradiation.

Methods
1064-nm InGaAsP diode laser (1064XLASE™, Technology4Medicine, San Clemente, Calif.) and 1064-nm Nd:YAG laser (PulseMaster 600IQ, American Dental Technologies, Corpus Christi, Texas, USA) were applied as 100 mW, 200 mW, 300 mW, and 400 mW on DPSCs and GFs culture plates. Irradiation response data was collected after three time exposures with 24-hour intervals. The third molars and gingival tissues were collected from patients undergoing one or more third molar extractions. DPSCs and GFs were isolated according to an explant culture method. The proliferation assay was done according to the tetrazolium dye (MTT) colorimetric assay method. Immunophenotyping and quantitative alkaline phosphatase assays were conducted according to the manufacturer’s protocols to determine irradiation effects on cultured DPSCs for differentiation. Also measurement of Ca++ accumulation at extracellular areas was done using the alizarin red S staining method. All measurements were conducted with irradiated and nonirradiated groups.

Mean and standard deviations were calculated and a Student's t-test was performed where \( P \leq 0.05 \) denoted statistical significance.

Results
Diode and Nd:YAG low-level laser irradiation stimulated cells for proliferation and differentiation in a dose- and time-dependent manner. After irradiation, DPCSCs showed osteocytic markers on their cell surfaces. Also, alkaline phosphatase (ALP) activity and Ca++ accumulation at peripheral areas increased according to irradiation dose.
**Conclusion**

Diode and Nd:YAG laser irradiation has the potential to induce cell proliferation. The results of this study indicate that for oral and dental surgical procedures, tissue engineering and regeneration occurs faster and better by low-level laser stimulation (photobiomodulation effect) compared to the control group.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objective**

Summarize the response of dental pulp tissue stem cells and gingival fibroblasts to low-level irradiation by InGaAsP diode and Nd:YAG lasers.

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**Saturday, 12:00 p.m. – 12:30 p.m. Salon 5**

**Multiwavelength Approach: Is There a Synergetic Effect for Different Clinical Applications?**

*Dmitri Boutousoff, PhD*¹, *Rana Al-Falaki, BDS*²  
¹Biolase, Irvine, California, USA  
²Private Practitioner, London, United Kingdom

Laser wavelength is one of the most important parameters that defines the effect of laser-tissue interaction. Different wavelengths and different laser operation modes may act very differently on the same tissue.

Efforts to combine different therapeutic laser wavelengths to produce a combination tissue effect have long been discussed and described in numerous patents, but for many years there was no real practical clinical realization. When two or more wavelengths and operation modes are combined, there is a chance to create a new qualitative effect, which would be not achievable with either one and is not an additive action of all. Creating this new quality is defined as synergetic effect. In this presentation we discuss our first experiments demonstrating the potential of synergetic effect in multiple clinical applications, including surgery, disinfection, and pain control.

**Note:** This presentation discusses investigational devices that have not yet received U.S. FDA approval or clearance for the specified clinical indications, or describes off-label uses.

**Educational Objectives**

Recognize that laser wavelength and other laser operating parameters are critically important for clinical outcome.

Understand that sometimes the result of combined laser action can create a new quality effect which may not be obvious.
Name _______________________________ Degree _______________________________

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Fax Registration Form to 954-757-2598
Academy of Laser Dentistry  www.laserdentistry.org

Biographies and Disclosures

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Dr. Al-Falaki has been a United Kingdom-registered specialist in periodontics for more than 10 years. She has been an undergraduate and postgraduate clinical lecturer, and an associate specialist at Barts and The London School of Medicine and Dentistry. Most of her time is now spent in specialist practice, as well as lecturing worldwide. She was the first UK periodontist to use lasers in her daily practice. She is conducting research on its applications and also lectures both in the UK and internationally on the subject and is pioneering its use in this field. Dr. Al-Falaki has published articles and presented research on the use of the Er,Cr:YSGG laser, in both periodontology and peri-implantitis. She is an honorary lecturer for Guys Dental School, University of London, a visiting professor to the Medical University of Taipei, a key opinion leader and laser trainer in the UK, and a founding member of the Global Periodontal Laser User Society.

Disclosure: Dr. Al-Falaki provides lectures and training with some financial support from Biolase.

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Walid Altayeb, DDS, MScD, PhD
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Dr. Altayeb received his dental degree from Faculty of Dentistry, Damascus University in 1998 and earned his Postgraduate of Higher Studies in Periodontics in 2001. He completed his Masters of Science in Periodontics in 2004 and Doctorate of Philosophy in Periodontics in 2007. He had been working as lecturer in Department of Periodontics, Damascus University, Syria. Dr. Altayeb has participated in many conferences in Middle East, Spain, and USA as speaker in the fields of periodontal medicine and laser dentistry. He is certified as Friadent Implant reference in Qatar. He has published several articles in peer-reviewed journals. Dr. Altayeb achieved Advanced Proficiency certificates from the Academy of Laser Dentistry in 980-nm diode and Er:YAG lasers. He is currently a chair of ALD Qatar Laser Club and is working in private practice as a periodontist and implantologist in the Madina Dental Center, Doha, Qatar.

Disclosure: Dr. Altayeb has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Altshuler graduated from the University of Fine Mechanics and Optics in Saint Petersburg, Russia, where he received his PhD and held the position of Professor and Chair of the Department of Laser Physics and Biomedical Optics at the University. His main research lies in the fields of laser physics, light-tissue interaction, laser dermatology and dentistry. Dr. Altshuler has served for 18 years as Senior Vice President of Research & Development at Palomar Medical Technologies, Inc. (Burlington, Massachusetts, USA), and is presently Director of Dental Products at IGP Medical Corporation (Marlborough, Massachusetts). He is the author and co-author of 6 books, more than 200 papers, and 140 patents.

Disclosure: Dr. Altshuler is Scientific Advisor, shareholder and director of Dental Photonics Inc. (Walpole, Massachusetts, USA).

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Juanita Anders, BA, MS, PhD
Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA
Dr. Anders is Professor of Anatomy, Physiology and Genetics and Professor of Neuroscience at the Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA. She received her PhD in Anatomy from the University of Maryland Medical School and specializes in nervous system injury and repair mechanisms and light-tissue interactions. She is recognized as an expert in photobiomodulation. Dr. Anders serves on the Executive Councils and Scientific Advisory Boards of several laser societies. She is the past president of the North American Association of Laser Therapy, a founding member of the International Academy of Laser Medicine and Surgery, and currently is the President of the American Society of Lasers in Medicine and Surgery. She serves on the Editorial Boards of Photomedicine and Laser Surgery, Lasers in Surgery and Medicine, Lasers in Medical Science, and Physiotherapy Practice and Research, and has published more than 60 peer-reviewed articles.

Disclosure: Dr. Anders has established Cooperative Research Agreements between the Uniformed Services University of the Health Sciences and several companies including PhotoThera Inc., LiteCure LLC, and Lumithera Inc. She also serves on the medical advisory board of LiteCure LLC and Lumithera Inc.

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Dr. Andreana is Associate Professor and Director Implant Dentistry at the University at Buffalo, School of Dental Medicine, Buffalo, New York, USA. He is the recipient of ALD's 2012 T.H. Maiman Award for Excellence in Dental Laser Research. Dr. Andreana is a past Board Member of the ALD, and past Chair of ALD's University and Academia Relations Committee and Science and Research Committee. He is the author of several peer-reviewed articles on lasers in dentistry.

Disclosure: Dr. Andreana has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Praveen R. Arany, BDS, MDS, MMSc, PhD
National Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda, Maryland, USA

Dr. Arany received his dental degree in 1999 and a Masters in Oral and Maxillofacial Pathology in 2001 from India. He then completed a joint PhD-Residency program at Harvard University in 2011 as a Harvard Presidential Scholar. He also has two certificates in clinical translational research and completed three postdoctoral fellowships at the Indian Institute of Sciences, Bangalore, India; National Cancer Institute, Bethesda, Maryland, USA, and the Harvard School of Engineering and Applied Sciences, Cambridge, Massachusetts, USA. He is currently an Assistant Clinical Investigator at the National Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda.

Dr. Arany has more than 45 publications including 3 book chapters and is the recipient of numerous awards such as the NCI Director’s Young Investigator Award, NIH Merit award, Wound Healing Society's Young Investigator Award, and ALD’s Dr. Eugene Seidner Student Scholarship. He has been invited to speak in various national and international forums, reviews for over 25 scientific journals, serves on 9 journal editorial boards, and reviews grants for both national and international funding agencies. He is also active as a member of various committees including Wound Healing Society (WHSS) and American Association for Dental Research (AADR), among others. Dr. Arany is the current President (2014-2016) of the North American Association for Light Therapy (NAALT), Chair of the American Dental Education Association’s (ADEA) Lasers in Dentistry Special Interest Group, and Co-Chair of the International Society for Optics and Photonics (SPIE) conference on Mechanisms of Low-Light Therapy.

Dr. Arany’s research is predominantly focused on the molecular mechanisms and clinical translation of light therapy to promote wound healing and tissue regeneration. His lab attempts to identify key biological regulatory components that can be used in clinical studies to control biological outcomes. His lab uses a range of cell and molecular biology tools in tissue culture and scaffold-based model systems. Further, a large emphasis is placed on validation in animal models in an attempt to develop human clinical studies. His other major areas of interest, besides light therapy, are exploring the molecular dichotomy of wounds and tumors, cell signaling regulatory networks, Transforming Growth Factor-β biology, and directing differentiation of stem cells for regenerative applications.

Disclosure: Dr. Arany has no conflicts or commercial disclosures to declare. The views expressed in the presentation are his alone and do not necessarily represent the views of the National Institutes of Health or the United States Government.

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Stefano Benedicenti, DDS
University of Genova, Genova, Italy
Professor Stefano Benedicenti is Associate Professor in Restorative Dentistry and Endodontics, and Dean of the laser department center at the University of Genova, Italy. Additionally, he is President of the European Master Course in “Laser Dentistry,” and a founding member of the International Academy of High Tech (IAHT).
Professor Benedicenti is an author and co-author of 80 publications in national and international journals and three books in the field of laser dentistry.

Disclosure: Professor Benedicenti has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Scott Benjamin, DDS
Roseman University of Health Sciences, College of Dental Medicine, USA, and Private Practice, Sidney, New York, USA
Dr. Benjamin is in private practice in rural upstate New York where he utilizes several lasers of various wavelengths on an everyday basis. He is an associate professor and Director of Advanced Technologies and Informatics at Roseman University of Health Sciences, College of Dental Medicine. He is the Chairman of the American Dental Association (ADA) Standards Committee Working Group on Dental Lasers, a voting member of American National Standards Institute (ANSI) Subcommittee Z136 on Laser Safety, and is the President of the Academy of Laser Dentistry. Dr. Benjamin is the Technology Editor for the Compendium of Continuing Education in Dentistry, is on the editorial board of several dental publications, and has authored more than 200 articles on dental lasers and advanced dental technologies.

Disclosure: Dr. Benjamin is a consultant and Director of Laser Education for Sirona Dental Systems LLC; a consultant for National Dental Inc.; and a consultant for OraPharma, for which he receives an honorarium for his services. He is also a stockholder in LED Medical Diagnostics Inc.

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Dmitri Boutoussov, PhD
Biolase, Irvine, California, USA
Dr. Boutoussov graduated from St. Petersburg Polytechnic University, Russia, and obtained his PhD degree from the Ioffe Physical-Technical Institute of the Russian Academy of Sciences. He started development of laser systems for dentistry in 1992 in Austria and in 1996 moved to United States to work for Premier Laser Systems, the company that in 1997 received the first U.S. FDA marketing clearance for laser cutting of hard tooth tissues. Since 2000, Dr. Boutoussov has been in charge of product development for Biolase. He has more than 50 patents and patent applications, in the United States and internationally, lectures for Biolase, and has multiple publications in scientific magazines and at medical conferences.

Disclosure: Dr. Boutoussov is Vice President of Research and Development for and an employee of Biolase.

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Laura Braswell, DDS
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Dr. Braswell is in private practice as the owner of Buckhead Periodontics. After attending the University of North Carolina at Chapel Hill School of Dentistry, she completed a residency in periodontics and served on the faculty at Emory University. Her background includes research evaluating drugs for both National Institutes of Health (NIH) trials and private corporations. She is currently involved in a laser study examining laser applications in Periodontics.

Disclosure: Dr. Braswell reports no conflict of interest relative to this presentation.

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**Dennis Braunston, BS**
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Mr. Braunston is the founder of Dental Learning Centers’, and has been in the dental technology field since 1990. As an Academy of General Dentistry Program Approval for Continuing Education (PACE) provider since 2001, he is recognized as one of the early pioneers and experts in teaching digital photography, cosmetic imaging, and case presentation in dentistry. He has developed ShadeWave Shade Matching System, ImageCentrik™ Dental Software, camera shade devices, and dental cameras. Mr. Braunston has lectured at numerous locations including the California Dental Association, San Francisco meeting. He is faculty director for Dental Learning Centers and University at Sea®. His publications have been in the Journal of Dental Technology (JDT) and Contemporary Esthetics.

**Disclosure:** Mr. Braunston is the founder of Dental Learning Centers, Issaquah, Washington, and has developed the ShadeWave Shade Matching System, ImageCentrik Dental Software, camera shade devices, and dental cameras.

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**Keith Brewster, DDS**
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Dr. Brewster graduated from Baylor College of Dentistry in 1984. He has continued his education with advanced training in orthodontics, Cerec, 3D imaging, cosmetic dentistry, occlusion, TMJ, and implant surgery. He has received Standard Proficiency certification in both Er:YAG and Nd:YAG laser wavelengths and achieved Fellowship level in the Academy of Laser Dentistry. Dr. Brewster serves as co-chair of ALD’s Laser Safety Committee. He practices general dentistry in downtown Dallas.

**Disclosure:** Dr. Brewster participated in the Sirona 3D Summit in Dallas in 2010 and 2013, demonstrating the computer-guided placement of implants and Cerec design in a live, real-time surgery telecast via satellite. He received compensation from Sirona for these efforts.

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**Mel Burchman, DDS**
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Dr. Burchman has maintained a private dental practice in Bucks County, Pennsylvania for 40 years. He has been using lasers for more than 16 years and has 8 lasers in his office. He is a member of the Academy of Laser Dentistry’s Board of Directors and is the General and Scientific Chairman of the 2015 Academy conference. In 2008 Dr. Burchman received the title, “Master of the Academy of Laser Dentistry” and was the honored recipient of the ALD Leon Goldman Award for Clinical Excellence in 2012. He has been published twice in the Academy’s journal *Wavelengths* and has presented at ALD conferences eight times. He has volunteered as a mentor and examiner for more than 11 years.

**Disclosure:** Dr. Burchman has lectured for Sirona Dental, Benco Dental, and Henry Schein.

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**Leslie Canham, CDA, RDA, CSP**
Leslie Canham and Associates, Copperopolis, California, USA
Ms. Canham is a speaker and consultant specializing in Infection Control, Occupational Safety and Health Administration (OSHA) compliance, Health Insurance Portability and Accountability Act (HIPAA) regulations, and a variety of subjects that involve accommodating disabled patients and treating patients with living with human immunodeficiency virus / acquired immunodeficiency syndrome (HIV/AIDS). Leslie speaks nationally and internationally and has earned the reputation as an outstanding speaker in dentistry. She has 40 years of experience in dentistry in both front and back office. For the third year in a row, she has been listed as a “leader in consulting” by Dentistry Today magazine. In addition to her busy speaking schedule, she provides in-office training, mock-inspections, consulting, online home study courses, and webinars. Leslie is recognized as an Academy of General Dentistry (AGD) Program Approval for Continuing Education (PACE) Provider and the California Dental Board as a continuing education provider. She is also authorized by the Department of Labor as an OSHA Outreach Trainer.

**Disclosure:** Ms. Canham is the founder of Leslie Canham & Associates. Her presentations during this ALD conference are being sponsored by Care Credit.

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**James Carroll, AMInstP, FRSM**
Thor Photomedicine, Chesham, Bucks, United Kingdom
James Carroll started work in the field of low-level light therapy (LLLT) / photobiomodulation in 1988 when he helped raise funds for the Guy’s Hospital Tissue Repair Research Unit in London with investigations into why light improves wound healing. He is currently collaborating with the Harvard Medical School, Massachusetts Institute of Technology, Massachusetts General Hospital, and Harvard School of Public Health on the effect of light on traumatic brain injury, cancer, oral mucositis, and the mechanisms by which light impacts cellular function and disease status. He is a conference chair of the Biomedical Optics Society, a Fellow of The Royal Society of Medicine, an editorial board member of *Photomedicine and Laser Surgery*, and an expert reviewer for the Public Library of Science (PLOS), *Photomedicine and Laser Surgery*, *Photochemistry and Photobiology*, and *Annals of Biomedical Engineering*.

**Disclosure:** Mr. Carroll is founder / CEO of THOR Photomedicine, a LLLT manufacturing company.

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Andre Chartrand, DMD, BSc
Private Practice, Longueuil, Quebec, Canada

Dr. Chartrand graduated from the University of Montreal School of Dentistry in 1984. He has been in full-time private practice in Longueuil, Quebec, Canada since then. He bought his first laser in 1989 and owns several different lasers. Dr. Chartrand is an Associate Professor at the University of Montreal dental school, teaching laser dentistry to undergraduate students and for doctors for the State Continuing Dental Education program. He has enhanced his laser knowledge, experience, and capabilities by implementing the most advanced technologies including performing routine and complex soft tissue surgical procedures in a virtually bloodless field. Dr. Chartrand has published several articles in national and international dental journals. He is frequently invited as a speaker to participate in numerous conferences and congresses, both nationally and internationally.

Disclosure: Dr. Chartrand has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Disclosure: Dr. Chowdary has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Colonna is a 1983 graduate of Loyola University School of Dentistry, Chicago, Illinois, USA. A pioneer in the use of laser dentistry, he is the first dentist in the world to use lasers to prepare teeth for crowns and veneers using only the laser, without local anesthesia. Dr. Colonna lectures on laser dentistry and endodontics (root canals) around the world. He is a member of the American Dental Association, Academy of General Dentistry, Academy of Laser Dentistry, American Association of Endodontists, and a lifetime member of the World Congress of Minimally Invasive Dentistry (WCMID). In 2012, Dr. Colonna was awarded by the WCMID the “Inventor of the Year” for the invention of the PIPS™ (Photon-Induced Photoacoustic Streaming) technology that uses laser photons to clean and remove biofilm from root canal systems. He also shares this award with Dr. Enrico DiVito, with whom he also shares ownership in a number of patents related to laser dentistry.

Disclosure: Dr. Colonna receives honoraria from Fotona, and is part owner of Medical Dental Advanced Technology Group, LLC, which holds the patents to PIPS.

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Washington Institute for Dentistry and Laser Surgery, Chevy Chase, Maryland, USA

Dr. Cotca is a 3-time graduate of the University of Michigan, with degrees in Chemistry, Cellular Molecular Biology, Toxicology, and Dental Surgery. She founded the Washington Institute for Dentistry and Laser Surgery with focus on technology and interdisciplinary smile design, facial neuroplastic and skeletal coordinates. She is also the founder of the Washington Institute for Dentistry and Toxicology Think Tank, for which she develops oral clinical protocols for systemic conditions such as hypermobility disease, Ehlers-Danlos syndrome (EDS), immunosuppression, and whitening. Dr. Cotca is a U.S. Delegate to International Organizations of Standardization and since 2001 she has been involved in federal legislation and represented the American Dental Association and the American Academy of Oral Medicine as a spokesperson and dental expert on Capitol Hill, testified before U.S. Congress, and appears on NBC News as a dental expert on various oral health topics. She is a Fellow in the American Academy of Oral Medicine, and a member of the International College of Prosthodontists.

Disclosure: Dr. Cotca is an inventor of Customized Oral Health Protocols.

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Michael Cudahy
Big Brand Boost, Atlanta, Georgia, USA

Mr. Cudahy is a marketing and social media expert who has been connecting businesses and customers for more than 25 years. As founder of Big Brand Boost, he draws on his diverse experience in marketing, sales, and business development to create a platform for professionals to promote their work, share their expertise, seize business opportunities, and attract consumers. His innovative ability to develop effective brand strategies and harness the power of social media to increase the bottom line has made him a sought-after marketing expert.

Always eager to share his wide-ranging skill set, Michael brings experience in both traditional and digital media to his clients. He began providing marketing, promotional, and branding services in traditional media such as print, radio and television, and later added social media to the mix in 1996 while serving as Director of Marketing at THINK New Ideas, an international ad agency founded by Adam Curry, one of the first MTV VJs. Experienced in a wide range of industries and business sizes, Michael’s clients have included Coca-Cola, Sony, Turner Broadcasting, Motorola, Equifax, Verizon, the Atlanta Falcons and Atlanta Braves, as well as numerous small-to-medium-size businesses.

Disclosure: Mr. Cudahy is a founder of and principal in Big Brand Boost.

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Dr. Culcuoglu graduated from Ankara University Dental Faculty in 1977. She conducted research on dental-originated focal infections in the early 1980s. She achieved ALD's Standard Proficiency certification in 1994 and Advanced Proficiency in 1996. Dr. Culcuoglu completed her MSc program at Genoa University in November 2014. She is practicing as a general dentist in Istanbul.

Disclosure: Dr. Culcuoglu has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Arun Darbar has been using lasers in his private dental practice in the United Kingdom for more than 20 years. He holds Advanced Proficiency with the ALD, is a Master and an educator, is a member of the ALD Board of Directors, co-chairs the Education and Certification Committees and serves as the ALD International Relations Committee Chair. He is an accredited member of the British Academy of Cosmetic Dentistry and serves on their credentialing committee and as an examiner. Dr. Darbar is a founding member of and has master status with the World Clinical Laser Institute (WCLI). He holds Fellowships and Diplomat status with the World Congress of Minimally Invasive Dentistry (WCMID). He has won numerous awards including the 2010 Smile Award of the Year. He is an avid lecturer on lasers in dentistry worldwide.

Disclosure: Dr. Arun Darbar has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Smile Creations Dental Innovations Private Practice, Leighton Buzzard, Bedfordshire, United Kingdom
Dr. Rita Darbar has been in orthodontic practice for nearly 25 years and during that time has held posts in the hospital services working in a multidisciplinary environment. She owns her private orthodontic practice at present. For the past 15 years she has also been involved with low-level laser treatment, research and development and has a keen interest in the subject.

Disclosure: Dr. Rita Darbar has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Del Vecchio is a Visiting Professor of Elements of Oral Diseases at the Dental Hygiene School of Sapienza University of Rome. He is Secretary of the European Division of the World Federation for Laser Dentistry (WFLD); National Secretary of the Societa Italiana Laser in Odontostomatologia (SILo) (Italian Society Laser Dentistry); Scientific Coordinator of Postgraduate Course in Oral Pathology of Sapienza University of Rome; and Senior Tutor Coordinator of the European Master Degree on Oral Laser Applications (EMDOLA) of Rome Sapienza.

Disclosure: Dr. Del Vecchio has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Mr. Edelstein is the Vice President of Practice Development for Doctor.com and is a seasoned entrepreneur specializing in online marketing. He has founded, owned, and operated multiple successful businesses both online and off. He has also managed the sales and marketing efforts generating millions of dollars in revenue for clients such as Sears, Pizza Hut, Microsoft, IHOP, and more. Since 2005, Mr. Edelstein has consulted many of the most prestigious dental practices in the United States to help them build their businesses faster, easier, and more efficiently than ever before. He has identified and developed practice core strategies to attract more patients, multiply referrals, fill waiting rooms, and dramatically increase take-home income – all while saving countless hours each month. A strategic sharp-shooter, Mr. Edelstein consistently catapults his clients beyond the competition and often beyond their own expectations.

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Dr. Fantarella has been in practice as a general dentist in Hamden and North Haven, Connecticut for 15 years. He specializes in general, implant, cosmetic, and laser dentistry. He received his Bachelor of Arts degree, with a Physics major, from Dartmouth College. He received his degree as a Doctor of Dental Medicine from the University of Connecticut School of Dental Medicine.

Disclosure: Dr. Fantarella is a consultant to Convergent Dental on the development of the Solea CO2 laser. He is an investor in Convergent Dental and serves on their Clinical Advisory Board. He is a former trainer for Biolase.

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William R. Gianni, DDS
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Dr. Gianni graduated from the University of California, San Francisco School of Dentistry. He maintained a full-time private practice in Berkeley, California for 16 years. With 20 years of laser and early adopter technology experience, he is a unique blend of clinical pioneer, technological innovator, and passionate teacher. He is a coauthor of the Curriculum Guidelines and Standards for Dental Laser Education, and has achieved ALD’s Educator, Advanced Proficiency, and Recognized Course Provider status. Dr. Gianni is a former faculty member of P.A.C. live and the Las Vegas Institute for Advanced Dental Studies (LVI). His professional aim is to gain as much as he gives, as he educates dental professionals from around the world on the safe and effective use of dental lasers and technologies, while encouraging everyone’s passion for the art, science, and craft of dentistry.

Disclosure: Dr. Gianni has a financial interest in Kainos Dental Technologies, LLC, a dental laboratory.

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Dr. Gilio is a graduate of the University of California, San Francisco School of Dentistry. He received his certificate in Periodontology in 1981 at the University of Southern California (USC) School of Dentistry. Previously, he served as Clinical Professor in the Department of Advanced Periodontics at USC for more than 10 years. He has used lasers since early 1991 and has been a member of the Academy of Laser Dentistry since 1993. Dr. Gilio retired as a Captain of the U.S. Navy in December 1995 after having served more than 32 years of duty. He has been serving for over 30 years at the Veterans Hospital in Fresno as a consultant and attending for the General Practice Residency (GPR) program. He is currently practicing at his private practice in Visalia, California. His practice includes traditional periodontal therapy, minimally invasive laser therapy, regenerative techniques, and implantology.

Disclosure: Dr. Gilio has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Gimbel is a recognized authority in the use of high technology in dentistry with more than 15 years of clinical and research experience in the laser/photronics industry. Prior to founding Lambentive Technologies, LLC, Dr. Gimbel practiced clinical dentistry for 27 years and worked on numerous dental technology projects that included clinical research, publishing, and teaching throughout the world. He was Principal Investigator for the first U.S. FDA human hard tissue clinical trials of the Er:YAG laser from 1993 to 1997. He is currently a consultant on the FDA Dental Products Panel of the Medical Devices Advisory Committee. He is a past President of the Academy of Laser Dentistry and is presently Chairperson of ALD’s Science and Research Committee. He is the 2003 recipient of ALD’s T.H. Maiman Award for Excellence in Dental Laser/Photonics Research. He is a Fellow of the American College of Dentists, American Society of Dentistry for Children, Academy of General Dentistry, and Academy of Dentistry International. Dr. Gimbel achieved Advanced Proficiency Certification in Laser Dentistry in 1993. He has been working on the development of optical coherence tomography (OCT) dental imaging for the past six years. He was a Clinical Instructor at New York University College of Dentistry and has networked with many dental schools around the world concerning optical coherence tomography dental imaging. He graduated from New York University College of Dentistry in 1977.

Disclosure: Dr. Gimbel is founder of Lambentive Technologies LLC, developer of optical coherence tomography imaging for dentistry. He owns no stock in the company and presently is not salaried, as the company is owned by a trust.

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John J. Graeber, DMD
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Dr. Graeber is a Recognized Course Provider of the ALD. He has been presenting on diode lasers since 1996. He has been an international lecturer, workshop leader, and consultant for a number of laser manufacturers. His unique style of presenting has been in demand throughout North America. Dr. Graeber has trained thousands of diode laser owners for the past 18 years. He has been featured at the American Dental Association (ADA), Academy of Laser Dentistry (ALD), Academy of General Dentistry (AGD), and many other meetings.

Disclosure: Dr. Graeber has been a lecturer, workshop leader, and consultant for a number of laser manufacturers. Currently he is Director of Training and a consultant for CAO Group and Patterson Dental, and is a consultant for Alta Lasers and Velopex USA.

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Eva Grayzel
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Eva Grayzel, a nationally recognized Master Storyteller and performance artist, was diagnosed at age 33 with stage IV oral cancer and given a 15% chance of survival. After regaining her deep vibrant voice, Eva applied her stage skills to communicate the depth of her experience in a unique and powerful way. For over a decade, Eva’s programs have captivated dental professionals worldwide using story as a catalyst for change. A champion for early detection, Eva founded the Six-Step Screening™ oral cancer awareness campaign for which she was recognized by the American Academy of Oral Medicine. Eva is the author of two children’s books, Mr. C Plays Hide & Seek and Mr. C the Globetrotter, in the Talk4Hope Family Book Series.

Disclosure: Ms. Grayzel’s presentation during this ALD conference is sponsored by Oral ID.

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Dr. Guiang received his dental degree in 1996 from the Centro Escolar University, Philippines. He subsequently received his MSc degree in Periodontics from the same University. Dr. Guiang is a member of the International Congress of Oral Implantologists, Philippine Academy of Implant Dentistry, International Association of Orthodontics, Filipino Society of Periodontology, Philippine Dental Association, Tarlac Dental Chapter. He has attended numerous international and local conventions and lectures in the Philippines and internationally.

Disclosure: Dr. Guiang has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Hamblin is a Principal Investigator at the Wellman Center for Photomedicine at Massachusetts General Hospital, an Associate Professor of Dermatology at Harvard Medical School, and a member of the affiliated faculty of the Harvard-Massachusetts Institute of Technology (MIT) Division of Health Science and Technology. He was trained as a synthetic organic chemist and received his PhD from Trent University in England. His research interests lie in the areas of photodynamic therapy (PDT) for infections, cancer, and heart disease and in low-level light therapy (LLLT) for wound healing, arthritis, traumatic brain injury, and hair-regrowth. Dr. Hamblin directs a laboratory of around 16 postdoctoral fellows, visiting scientists, and graduate students. His research program is supported by the National Institutes of Health (NIH), Congressionally Directed Medical Research Programs (CDMRP), U.S. Air Force Office of Scientific Research (USAFOSR), and Center for Integration of Medicine & Innovative Technology (CIMIT), among other funding agencies. He has published 252 peer-reviewed articles, over 150 conference proceedings, book chapters, and international abstracts, and holds 8 patents. He is an associate editor for 7 journals, on the editorial board of an additional 12 journals, and serves on NIH Study Sections. For the past 9 years Dr. Hamblin has chaired an annual conference at SPIE Photonics West entitled “Mechanisms for Low-Light Therapy” and he has edited the 9 proceedings volumes together with four other major textbooks on PDT and photomedicine. He has several other book projects in progress at various stages of completion. In 2011 Dr. Hamblin was honored by election as a Fellow of SPIE.

Disclosure: Dr. Hamblin has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Hashemi graduated in 1989 from Shiraz University of Medical Sciences Dental School in Iran. He has completed coursework from the International Congress of Oral Implantologists (ICOI) and the American Academy of Implant Dentistry’s (AAID’s) MaxiCourse®. Dr. Hashemi received his Master of Science in Laser Dentistry in 2013 from RWTH Aachen University, Aachen, Germany. While doing clinical research, he established two clinics in Iran, Laser House in Tehran and Parsian Laser Clinic in Bandar Abbas, specifically for practicing dentistry with the use of lasers.

Disclosure: Dr. Hashemi has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Hewlett has resided in western Washington for more 30 years. He received his undergraduate degree in Biochemistry from Western Washington University in 1980, then went on to receive his Doctor of Dental Surgery degree from the University of Washington in 1984. Dr. Hewlett entered into private practice in Stanwood, Washington in 1985.

Disclosure: Dr. Hewlett receives financial considerations when representing Convergent Dental.

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Dr. Hoopingarner, while maintaining a full-time private dental practice, is a part-time Associate Professor in the Department of General Practice at the University of Texas Health Science Center at Houston School of Dentistry. For 11 years he was part of the Anatomy Department there. Dr. Hoopingarner has used lasers as a part of his dental practice for more than 20 years.

Disclosure: Dr. Hoopingarner has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Jaju is a Board-certified Pediatric Dentist in Ashburn, Virginia. She completed her dental education at the Harvard School of Dental Medicine and was selected for a scholarship to present her research findings at the International Association for Dental Research meeting in Hawaii. She received her specialty training in pediatric dentistry at the Children’s National Medical Center in Washington, D.C., where she continues to teach as a part-time clinical faculty. Dr. Jaju has achieved Mastership status and Advanced Proficiency certification from the Academy of Laser Dentistry. She has written many articles and provided seminars for introducing and promoting the benefits of laser applications in dentistry to area general dentists, pediatricians, lactation consultants, and speech pathologists.

Disclosure: Dr. Jaju has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Kaplan completed his undergraduate degree at The University of Massachusetts and then attended Tufts University School of Dental Medicine. After earning his DMD degree, he completed a pediatric residency at Montefiore Hospital in New York. Dr. Kaplan practices exclusively in Stoughton, Massachusetts. He continues to take advanced training and recently gained Masters’ proficiency in Laser Dentistry. He is one of only a handful of pediatric laser dentists. Dr. Kaplan is a member of the American Academy of Pediatric Dentistry, Massachusetts Academy of Pediatric Dentistry, American Dental Association, Massachusetts Dental Society, Academy of Sports Dentistry, and Academy of Laser Dentistry. When not practicing dentistry, he enjoys karate and has attained the level of 4th-degree black belt.

Disclosure: Dr. Kaplan assisted Dr. Peter Vitruk with CO2 laser lectures for the American Academy of Pediatric Dentistry annual meetings in 2012 and 2014, and once received a fee for referral. He has no financial interest in LightScalpel.

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Dr. Kelly attended Stetson University in Florida for his undergraduate training in Chemistry and then graduated from the Medical College of Georgia School of Dentistry in 1993. Before moving to Scottsdale in 2010, he practiced in Florida for more than 17 years. He has been an instructor with Aesthetic Vision Seminars for several years and has also taught for the Academy of Cosmetic Dentistry, Benco Dental Lab, the Central Florida of General Dentistry and numerous other groups on Implant, General and Cosmetic Dentistry.

Disclosure: Dr. Kelly serves as a Key Opinion Leader for both Carestream Dental (digital imaging and impressions) and Convergent Dental (Solea Laser), and has been a trainer / paid independent contractor for GPT / Lutronic CO2 lasers. Although he is compensated for his time, he plans to present his opinions regarding the transition between two laser wavelengths and has complete control over the content of his presentation.

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Dr. Kotlow is a shareholder in Convergent Dental and specializes in pediatric and laser dentistry for textbooks. He received ALD’s Leon Goldman Award for Clinical Excellence in 2014.

Disclosure: Dr. Kotlow is a shareholder in Convergent Dental and has consulted with Convergent on the development of the Solea CO2 Laser. He has had relationships with several laser companies.

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Dr. Kugel is an Associate Dean for Research, and a Professor of Prosthodontics and Operative Dentistry at Tufts University School of Dental Medicine. He has his Master of Science degree in Anatomy and Cellular Biology and his PhD in Dental Materials. He received his Executive Certificate in Management from the MIT Sloan School of Business in 2009 and is on the Board of Directors of the CRA Foundation. Dr. Kugel has published more than 120 articles and over 200 abstracts in the field of restorative materials and techniques. He has presented more than 300 lectures, both nationally and internationally.

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Dr. Kusek is a 1984 University of Nebraska College of Dentistry graduate. He holds the titles of Diplomate of the American Board of Oral Implantology and International Congress of Oral Implantologists, Fellow of the American Academy of Implant Dentistry, and Mastership in the Academy of General Dentistry, Academy of Laser Dentistry, and World Clinical Laser Institute. Dr. Kusek is a Recognized Course Provider for the Academy of Laser Dentistry and is an adjunct professor at the University of South Dakota Hygiene School.

Disclosure: Dr. Kusek has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Erica Lavere is a 4th-year dental student at the University at Buffalo School of Dental Medicine. Erica will be attending a residency program in Pediatric Dentistry at the University at Buffalo/Women and Children's Hospital of Buffalo, New York.

Disclosure: Ms. Lavere has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Ms. LeBeau is the Director of Dental Hygiene for Pacific Dental Services supporting operational standards and clinical best practice for more than 400 affiliated dental practices. In 2009 she developed a program for integration and has since integrated over 500 soft-tissue diode lasers into 400 practices. Jan continues to develop, train, and support all clinicians affiliated with Pacific Dental Services in the implementation of diode lasers for the dental hygienists. She has a Standard Proficiency in soft tissue lasers from the Academy of Laser Dentistry (ALD) and is a Laser Safety Officer from the Laser Institute of America.

Disclosure: Ms. LeBeau has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Levine, president of Global Laser Oral Health, LLC, has been in the field of dentistry since 1973. He graduated from New York University and completed a two-year residency from 1973 to 1975. He has 11 years of experience in the laser arena, both in academic and private practice. For the past 7 years, Dr. Levine has been a full-time faculty member at the Arizona School of Dentistry and Oral Health; he served as a Clinical Director of the Advanced Education in General Dentistry (AEGD) Program during 2009-2012; he currently serves as Director of Laser Dentistry. He provides clinical hands-on training to his students and postgraduate residents. Dr. Levine is also a co-developer of the first accepted laser curriculum at an accredited U.S. dental school. He works heavily in the special care dentistry arena where he is able to apply this technology to a special group of patients.

Disclosure: Dr. Levine is President of Global Laser Oral Health (GLOH), a provider of online laser training programs. He receives financial compensation from companies that use his programs. Dr. Levine's registration fee for this conference has been paid by LightScalpel.

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Dr. Levy is a 1971 graduate of Fairleigh S. Dickinson University (FDU) School of Dental Medicine and continued his education in a General Practice Residency in the Newark Beth Israel Medical Center in Newark, New Jersey. He spent two years at Malcolm Grow Medical Center in Washington, D.C. as a Prosthodontic Officer in the United States Air Force. In 1976, he opened a private practice and was appointed Associate Clinical Professor of Prosthodontics where he continued teaching until the closure of FDU School of Dentistry in 1989. Dr. Levy was a charter member of the International Academy of Laser Dentistry as well as a Founding Member of the Metropolitan Academy of Laser Dentistry of New York and New Jersey. Through these organizations, he continued to teach about lasers in dentistry. Dr. Levy is a Past President of the Academy of Laser Dentistry, and served as a Clinical Consultant and Lecturer for OraPharma. He has retired from the clinical practice of dentistry in order to return to academia. He is an Adjunct Faculty Member at Midwestern University College of Dental Medicine, in Glendale, Arizona, as well as an Assistant Professor at the A.T. Still University School of Dental and Oral Health, in Mesa, Arizona.

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Dr. Li is an Associate Professor and Senior Oral and Maxillofacial Surgeon in the Peking Union Medical College Hospital (PUMCH) Department of Dentistry, specializing in oral implantology, oral laser applications, dental and alveolar surgery, and congenital developmental deformity. He also serves as Project Manager of the laser training center at the Hospital. He received a Master of Dentistry degree, with a major in Oral and Maxillofacial Surgery, and a Doctor of Dentistry degree, with a major in Oral Implantology. His current clinical and research interests include oral implantology and oral laser. Dr. Li is Secretary-General of the Society for Chinese Oral Laser Application.

Disclosure: Dr. Li has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Linden is a periodontist specializing in the field of laser periodontal surgery which includes the LANAP and LAPIP protocols, periodontics, regeneration, and dental implants. He has been practicing his specialty since 1985. He serves as Professor of Periodontics and Oral Medicine at Columbia University / Columbia Presbyterian Medical Center in New York. He teaches and lectures to the Postgraduate Periodontal and Implant residents and conducts research on lasers, implants, and the treatment of periodontal and implant disease. Dr. Linden is a member of American Dental Association, American Academy of Periodontology, New Jersey Dental Association, Bergen County Dental Society, American Association for Dental Research, Northern Bergen County Dental Study Club (President), Northeast Society of Periodontists, Institute for Advanced Laser Dentistry, and New York County Dental Society. He serves as a consultant on Editorial Board of Dentistry Today and as a consultant for the International Journal of Periodontics and Restorative Dentistry.

Disclosure: Dr. Linden has no conflicts of interest and no relevant commercial affiliations regarding his presentation.

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Dr. Lomke is a graduate of the University of Maryland School of Dentistry and maintains a private dental practice in Olney, Maryland. He is a member of the Academy of Laser Dentistry (ALD), American Dental Association, Maryland State Dental Association, Maryland State Dental Society, Southern State Dental Society, Potomac Valley Study Club, and the Washington Implant Study Club. He is a Recognized Course Provider and has attained the level of Mastership in the Academy of Laser Dentistry. Dr. Lomke is currently serving as a member of the Board of Directors of the Academy of Laser Dentistry, chair of the ALD Membership Committee, and also is a member of the ALD Education Committee. In addition, Dr. Lomke serves on the Continuing Education Committee of the Maryland State Dental Association.

Disclosure: Dr. Lomke has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Fred Margolis, DDS
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Dr. Margolis has mastership certification from the Academy of Laser Dentistry and has also achieved advanced and educator certification. He was selected as a top continuing education lecturer for 2015 by Dentistry Today. He is co-author of Pediatric Laser Dentistry: A User’s Guide, published by Quintessence. Dr. Margolis has lectured internationally including many dental schools and pediatric and general residency programs. He was presented with ALD’s 2014 Leon Goldman Award for Clinical Excellence.

Disclosure: Dr. Margolis has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Mastis has been using a wide range of different laser wavelengths in her private practice for over a decade. She has achieved Advanced Proficiency as well as recognition at the Mastership level through the ALD. She served as the ALD Safety Committee Chair for 5 years. Dr. Mastis currently serves as co-chair of ALD’s Education and Certification Committees as well as Secretary of the ALD Executive Board.

Disclosure: Dr. Mastis has no commercial affiliations.

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Leona Meditz
Health Care Professionals Wellness Network, Phoenix, Arizona, USA
Ms. Meditz is a practice systems analyst/practice advisor and coach. Most of all, Leona is an innovator, successfully implementing new technologies, protocols, and systems for about 1,000 practitioners nationally since 1979. After working 10 years as a Senior Systems Analyst for a top dental consulting firm, she developed advanced periodontal protocols and tools for Centers for Dental Medicine and currently coaches their top-tier dental practices. She recently founded the Health Care Professionals Wellness Network (HCP WellNet), promoting patient advocacy between dentists and physicians. She is a national speaker, columnist, and writer. Attendees will receive her most recent Dentistry Today Viewpoint article for attending today’s meeting.

Disclosure: Ms. Meditz is the Founder of the Health Care Professional Wellness Network (HCP WellNet). The Dentist to Physician Patient Advocacy program described above is part of paid services designed for and offered by HCP WellNet. Cases presented will be from select clients who will never receive compensation for sharing their results. The patients described are current patients of record for each respective dentist selected.

Leona’s goal is to show that dentists acting as patient advocates with physicians is not only doable and being done with real dentists, it is necessary to resolve our current health crisis. It is profitable therefore sustainable. She wants to change the standard of care from “Let’s bring the patient in every three months to watch them get worse” to “Let’s put this bacterial infection into remission now, before it gets worse.”

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Ms. Miranda has practiced dental hygiene for 34 years and has worked with dental lasers for 10 years. She has achieved diode laser Standard Proficiency and Advanced Proficiency with ALD, and Standard Proficiency and Fellowship status with the World Clinical Laser Institute (WCLI). Ms. Miranda serves as a member of ALD Board of Directors as Chair of the Auxiliary Committee and also serves on the Laser Safety Committee.

Disclosure: Ms. Miranda has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Ms. Monzon has enjoyed 28 years in the dental hygiene profession. Her passion is to make a difference in patients’ lives. She has used lasers since 1993 and earned Advanced Proficiency on diode and Nd:YAG lasers in 1998. In 1999, Gloria achieved University of California San Francisco (UCSF)/ALD Educator Status, and in 2002 she became an ALD Recognized Course Provider. She has served as Certification Examiner and Educator for the Academy of Laser Dentistry and World Clinical Laser Institute (WCLI). She has presented abstracts and performed as a speaker for the ALD and WCLI. With more than 20 years as an educator, she has lectured throughout the United States and internationally. Gloria heads Advanced Laser Hygiene Consulting, She prides herself as a “Hygienist Training Fellow Hygienists.”

Disclosure: Ms. Monzon does not have financial interests with any dental manufacturer, and she does not receive commissions for the sale of any equipment. Gloria heads Advanced Laser Hygiene Consulting where she receives an honorarium for conducting training.

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Ms. Mott has been a clinical dental hygienist for more than 20 years and has been using lasers since 2000. She is a member of the Academy of Laser Dentistry, where she obtained her Advanced Proficiency and Educator Status, and received her ALD Recognized Course Provider and her Mastership. Ms. Mott is currently serving as Co-Chair of the Dr. Eugene Seidner Student Scholarship Committee and is a member of several ALD committees. She is also an In-Office Laser Consultant with the ALD and the Las Vegas Institute. She is a past presenter for the ALD and RDH Under One Roof. Ms. Mott has authored several published articles, written chapters for laser books, and co-authored her own book about laser hygiene. She teaches laser certification courses throughout the United States and Canada, and works clinically with lasers 4 days a week in dental hygiene.

Disclosure: Ms. Mott has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Myers has been researching the use of lasers in dentistry since 1983. His early work resulted in the development of the Nd:YAG dental laser, which he invented and patented with his ophthalmologist brother, Dr. William D. Myers. It is the first laser in the world designed specifically for general clinical dentistry. Since graduation from the University of Detroit Dental School in 1973, Dr. Myers had maintained a private practice in the metro Detroit area until his retirement. He has held teaching positions at various universities in the Detroit area. He also has interests in veterinary dentistry, and has delivered dental care at the Detroit Zoological Parks. Dr. Myers has authored numerous articles on his work and is an internationally recognized speaker, having conducted hundreds of laser dentistry and air abrasion lectures and workshops throughout the world. He is a past president of the International Academy of Laser Dentistry, and is a member of the American Dental Association and component societies, and a former member of the Board of Directors of the Academy of Laser Dentistry. He is co-founder and President of Incisive Inc. Dr. Myers is also the founder and Executive Director of the Institute for Advanced Dental Technologies, an organization dedicated to research, education, and training of new dental technologies. Born and raised in the Detroit area, Dr. Myers and his wife have three grown children and presently lives in Bloomfield Hills, Michigan.

Disclosure: Dr. Myers is President of Incisive Inc.

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Dr. Dr. Neckel has attended Dental and Medical School at the University of Würzburg, Würzburg, Germany, and completed clinical training in Neurosurgery, ENT, and Maxillo-Facial Surgery at the University of Würzburg. He is a former member of the Clinic for Maxillo–Facial Surgery at the University of Würzburg. Dr. Neckel works in private practice limited to maxillo-facial surgery, periodontics and implant surgery together with Dr. B. Kubik. The office is associated with the dental group practice of Drs. B. Neckel, H. Streit, C. Kubik, V. Lazutin, and T. Lazutin and the orthodontic practice of Dr. B. Orth, covering all fields of dentistry. He is a graduate of the Master class in advanced Periodontology and Implantology of the University of California Los Angeles and has achieved mastership in implant dentistry at the Advanced Center of Excellence (ACE). He is a Visiting Lecturer at the University of Genoa, Italy.

Disclosure: Dr. Neckel has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Nordquist has placed thousands of dental implants and prosthetics over his 22-year professional career. He is a fellow of American Academy of Implant Dentistry and is certified by the American Board of Oral Implantologists. Over the past 30 years Dr. Nordquist has provided thousands of dental implants for patients in San Diego, across the United States and many foreign countries including Hungary, Sweden, Yugoslavia, Holland, China, Austria, Switzerland, Poland, Mexico, Canada, and Japan. He owns his own commercial dental laboratory and implant manufacturing facility. Over the years he has developed specialized implant procedures that he now teaches to implant dentists and oral surgeons. Dr. Nordquist controls almost every aspect of the implant treatment including implant manufacturing, laboratory fabrication, and dental artistry needed to provide what he feels is the most sophisticated implant treatment available today.

Disclosure: Dr. Nordquist’s registration fee for this conference has been paid by LightScalpel.

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Dr. Patthoff practices general dentistry in Martinsburg, West Virginia. After receiving his DDS from the University of Detroit in 1974, he completed a General Practice Residency in Martinsburg in 1975 where he also was a principal research investigator until 1983. He is a past-president of West Virginia Dental Association and Professional Ethics in Dentistry Network. Dr. Patthoff is an ethics consultant to the American Dental Association’s (ADA’s) Council on Ethics Bylaws and Judicial Affairs (CEBJA). He is a fellow of the American College of Dentists (ACD) and has been a consultant to and/or co-developer of all the College’s Summits on Dental Ethics. His academic pursuits include university appointments, lecturing nationwide, and many ethics publications. He was co-developer of the Intensive Bioethics Course for Dentists first held at the Kennedy Institute of Ethics at Georgetown University, and currently co-authors, with David Ozar, a dental ethics column in AGD’s Impact journal. Dr. Patthoff was co-editor of the American Dental Association’s special issue on access to care, editor of the Journal of the Academy of Laser Dentistry 2003-06, and served on ALD’s Executive Board as an advisor. He chairs the Ethics Committee of the City Hospital in Martinsburg, and the ALD Ethics Committee. He chaired the dental section for three Engineering Conference International sessions on light-activated tissue regeneration. Dr. Patthoff is the current chair of the George Washington Institute of Living Ethics and a Board member of the International Dental Law and Ethics Society. He is actively involved in the Professional Ethics Initiative, a pilot collaboration between the ADA, American Dental Education Association (ADEA), ACD, and American Society for Dental Ethics (ASDE). He also serves as a member of the Academy for Professionalism in Health Care Committee on Inter-Professional Relationships, and is the liaison between the American College of Dentists, the American Society for Dental Ethics, and the International Dental Ethics and Law Society.

Disclosure: Dr. Patthoff has no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Payas is a Charter Member of ALD and has been using lasers since 1993. She holds ALD Advanced Proficiencies in carbon dioxide and Er:YAG lasers. She is currently serving the ALD Board of Directors as Immediate Past President and maintains a private practice in Tulsa, Oklahoma.

Disclosure: Dr. Payas has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Since 2001 Dr. Rechmann has been at the University of California at San Francisco, Department of Preventive and Restorative Dental Sciences. He is currently a Professor in the Division of Prosthodontics as well as the Director of the Clinical Sciences Research Group. Dr. Rechmann has been a leader in laboratory and clinical research for more than 30 years through designing and running clinical trials in several areas of dentistry comprising oral surgery interventions, different periodontal treatments, and caries prevention.

Disclosure: Dr. Rechmann has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Ms. Richkowski is a hygiene educator, speaker, and dental coach who has been in dental practices for 21 years, practicing dental hygiene for more than a decade. She is a member of the Academy of Laser Dentistry, American Dental Educators Association, and Directory of Dental Speakers. As the director of Hygiene Mastery, Shannon brings an unbridled passion to raise the bar on professional standards. Her passion for lasers in dentistry has catapulted success not only in her career but in patient care and the success of hygiene departments across the United States. Being a laser RDH, she understands the obstacles that RDH’s face and brings real-world solutions to them.

Disclosure: Ms. Richkowski is the Director of Hygiene Mastery.

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Dr. Rohde earned his Bachelor of Science degree in Microbiology and Molecular Genetics from the University of California Los Angeles (UCLA). He continued on there to receive his Master of Science in Biochemistry and his Doctor of Dental Surgery degree. Dr. Rohde recently completed a Master Program with the Global Institute of Dental Education (gIDE) and UCLA for advanced surgical techniques in dental implant surgery.

Disclosure: Dr. Rohde conducts lectures and training for Convergent Dental, for which he receives honoraria.

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**Disclosure:** Dr. Romanos has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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**Disclosure:** Dr. Romeo has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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**Disclosure:** Dr. Rosenberg has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Dr. Ross has practiced in a small town in Ontario since 1971 and has been using and teaching low-level laser therapy (LLLT) since 1993. He holds Advanced Proficiency and Recognized Course Provider status from ALD and fellowship status from the American Society for Laser Medicine and Surgery (ASLMS). Dr. Ross is a peer reviewer for 3 laser journals, has published about 15 papers on LLLT, and written chapters for 2 textbooks. His mission is to have LLLT become a standard of care in dentistry

**Disclosure:** Dr. Ross is paid to give courses for Zolar Technology lasers. Zolar has had no part in this study and has not compensated Dr. Ross for this presentation.

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Dr. Selig has successfully placed more than 30,000 implants over 25 years. He has performed 200 in-office and hospital-based implant procedures annually, with applications ranging from edentulous ridges to partially edentulous sites, including multiple grafting procedures with sinus lifts and hip grafts. During this time he has lectured and trained implant clinicians worldwide, and has contributed to, produced, or been involved with the development of various products and significant surgical techniques, currently in use today for numerous implant manufacturers. Dr. Selig was a clinical adviser for the development of a leading manufacturer’s dental implant and surgical kit. He provided a plethora of data on the immediate placement of dental implants into fresh extraction sites more than two decades ago. He was the first to pioneer the surgical technique of determining single-stage vs. two-stage procedures, by the implementation of a torque device.

**Disclosure:** Dr. Selig provides lectures for LightScalpel.

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Dr. Shiffman is in general practice at the Laser Dental Center in Boynton Beach, Florida, and is a graduate of Georgetown University School of Dentistry. He completed a general practice residency at Georgetown University Medical Center with an emphasis on treating medically compromised patients. Dr. Shiffman completed certification with the Academy of Laser Dentistry (ALD) in three types of laser systems and was recently awarded a Fellowship in the ALD. He is personally involved in the use and development of cutting-edge technology and has performed thousands of laser dental procedures over the last decade. Dr. Shiffman has lectured on advances in laser dentistry at events such as the Yankee Dental Congress, Greater New York Dental Meeting, and the Academy of Laser Dentistry, and has published articles on clinical laser use in dentistry in Dental Compare and Dental Tribune.

**Disclosure:** Dr. Shiffman is a lecturer/trainer for Tech4Med.

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Ms. Sivriver is a Research Engineer with Biolase, where she works with laser prototypes from concept and feasibility testing to design verification and validation. Her experience includes designing and monitoring scientific research studies and clinical trials. Prior to her work in the medical products industry, she concentrated on hands-on research with biomimetic materials and lab-on-a-chip microfluidic devices. After receiving a bachelor’s degree at Lehigh University, Alina went on to complete a master’s thesis in Biomedical Engineering at the University of California, Irvine, California. She brought her passion for research to Biolase.

**Disclosure:** Ms. Sivriver is a Research Engineer for Biolase.

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Ms. Smith is a registered dental hygienist, working clinically since 1994. Laser-assisted hygiene has been part of her daily practice since 2000. She holds ALD Standard Proficiency for Nd:YAG 1,064 nm, diode 810 nm, and CO₂ 10,600 nm laser wavelengths, and Advanced Proficiency with the Nd:YAG and is the first hygienist with Advanced Proficiency in CO₂. Mary Lynn has contributed to the dental community through speaking to fellow hygienists on care of implants, periodontal therapies, laser-assisted hygiene techniques and principles, and consulting for private practices. Her work also includes published articles and a chapter on laser-assisted nonsurgical periodontal therapy in the text book *Principles and Practices of Laser Dentistry* by Dr. Robert Convissar. Mary Lynn is passionate about practicing dental hygiene and learning for a lifetime. She considers it a privilege to share with you today and hopes to inspire you to excellence in your own daily practice.

**Disclosure:** Ms. Smith is an independent consultant to DEKA ELEN, distributed by Implant Direct, and has been compensated for her services. She does not own stock or benefit from sales of the product.

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Ms. Smukowski is the Founder of Continuity Consulting, an educator and coach, a national speaker, as well as clinical hygienist in private practice. She maintains her focus on the development and expansion toward excellence in periodontal care and aesthetic/restorative team support. This focus on excellence has taken her worldwide as an instructor and speaker on the subjects of laser-assisted periodontal health, practice management, leadership development, operational excellence, integrated marketing, and team-based comprehensive dentistry. Gwen brings this broad prospective of clinical, managerial, and academic experiences to her work. As a consultant and coach, her focus is to inspire and empower dental teams with current research, technology, and the systems necessary to reach new levels of growth and success for their practice.

**Disclosure:** Ms. Smukowski is the Founder of Continuity Consulting.

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**Disclosure:** Mr. Sulewski is director of education and training of the Institute for Advanced Dental Technologies and director of education for Millennium Dental Technologies. He has served as a paid consultant for American Dental Technologies; Continuum Biomedical; Convergent Dental; Incisive, LLC; and Millennium Dental Technologies.

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**Disclosure:** Dr. Sun has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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**Disclosure:** Ms. Tang has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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**Disclosure:** Dr. van As receives honoraria and equipment from Global Operating microscopes and from Biolase.

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Dr. Vitruk earned his PhD in Physics from the Moscow Institute of Physics and Technology, Moscow, Russia, in the late 1980s, and since then has held a variety of research and development positions around the globe. In the 1990s he held a Research Scientist position with The Russian Academy of Sciences and then a Royal Society visiting research fellow position at Heriot-Watt University in Edinburgh, Scotland, United Kingdom. He later worked as Senior Scientist with Synrad Inc. in Seattle, Washington, and then as Chief Scientist with Luxar/ESC/Lumenis, also in Seattle. In 2002 Dr. Vitruk founded LuxarCare LLC – an exclusive certified Luxar laser service and accessories provider for over 12,000 surgical Luxar laser installations around the globe. In 2005 he founded LightScalpel LLC, the only American-based designer and manufacturer of low-cost soft-tissue CO₂ laser dental general practice applications.

**Disclosure:** Dr. Vitruk is the founder of LightScalpel LLC.

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Dr. Wade practiced as a child and family counselor in private practice for almost 10 years helping children and their families suffering anxiety disorders, behavioral problems, and emotional challenges. Being a dentist had always been a personal dream. In 1995 he entered the University of Iowa's College of Dentistry as a Dental Research Scholar, attending classes and labs along with participating in ongoing research in pain and anxiety control throughout his 4 years of dental school. Early on he dedicated his pursuits toward specialty training in pediatrics.

**Disclosure:** Dr. Wade acts as a beta tester for Convergent Dental's Solea CO₂ laser and as a Dental Consultant demonstrating the use of the Solea laser at some trade shows. He is compensated for his travel expenses to such meetings by Convergent Dental.

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Dr. Walinski is an author, instructor, and innovator in laser dentistry. His 2003 text on laser dentistry has been published in more than 10 languages. He is a Founding member of the American Academy of Oral Systemic Health, a Diplomate and Past-President of the World Congress of Minimally Invasive Dentistry, and is the only American representative on the Editorial Board for the Indian Society for Oral Laser Applications, based in Mumbai, India. He was a founder of and is the Executive Director of the World Clinical Laser Institute, from which he has received Masters Certification, and has Laser Certifications through the Academy of Laser Dentistry. Dr. Walinski maintains a part-time private practice in San Diego, California. He is Adjunct Faculty at The Ohio State University College of Dentistry in Columbus, Ohio, and is a Visiting Professor at Harvard University School of Dental Medicine in Boston, Massachusetts, the National University of La Plata in Buenos Aires, Argentina, and Taipei Medical University College of Oral Medicine in Taipei City, Taiwan, emphasizing dentistry using lasers and other technologies.

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**Disclosure:** Dr. Watanabe has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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Mr. Whitman is a graduate of Tulane University, New Orleans, Louisiana, with both BS and MSE degrees in Biomedical Engineering. He brings a medical engineering mindset to the dental industry. He began his career at the University of Texas MD Anderson Cancer Center in Houston, Texas, as a Clinical Engineer utilizing fluorescence technology in the cervical cancer arena. Shortly thereafter, Mr. Whitman joined the Research and Development department for Remicalm LLC / Trimira LLC in Houston, developing cancer-screening products utilizing fluorescence technology from the MD Anderson Cancer Center. Utilizing his clinical engineering experience, he transitioned into Manager of Technical Sales for Trimira, where he focused on training customers on the proper use of the fluorescence technology in the role of oral cancer screening.

Disclosure: Mr. Whitman is now CEO and Director of Clinical Education of Forward Science Technology LLC, a company that he co-founded with a vision for innovation of current cancer screening technologies into a better solution to save more lives.

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Disclosure: Dr. Yao has reported no commercial affiliations or personal conflicts of interest relative to this presentation.

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www.convergentdental.com

Convergent Dental, Inc., is a privately owned dental equipment and technology company and developer of Solea™, the world's first computer-aided, CO₂ laser system to be cleared by the U.S. FDA for both hard and soft tissue indications. Solea cuts significantly quieter, finer, and faster than any other laser-based system in dentistry. Solea's speed and precision are a result of patented technologies and computer system controls that are unique to Convergent Dental, Inc.

Dental Learning Centers - Booth 206
410 Newport Way NW, Suite A
Issaquah, WA 98027
425-557-7788
www.dlcenters.com

Since 2001, Dental Learning Centers has been a provider of dental digital cameras, Continuing Education (PACE Provider), and shade-matching software called ShadeWave. We specialize in CE Photography programs for the “Traveling” dentist and staff.

DEXIS - Booth 113
4425 Alexander Drive
Alpharetta, GA 30022
888-883-3947
www.dexis.com

DEXIS is an industry leader in developing high-quality digital imaging solutions for the dental community. We build strong partnerships with our doctors and their teams, based on long-term, interactive relationships. We understand the clinical environment and devote our resources to bringing practical innovations and enhancements that benefit both practices and patients. DEXIS has the clinician and the diagnostician in mind during its multifaceted approach to designing dental imaging solutions. Image quality, ergonomics, ease of use, efficiency, practicality, and case presentation are all considerations when it comes to our building the best digital X-ray system we can.

Practitioners are advised to investigate and consider which medical devices and materials are cleared by the U.S. Food and Drug Administration for safety and efficacy and which are considered within the applicable scope of their license, competence, skills, and abilities, as established by their education, training, and experience. Clinicians are advised to review the specific indications for use of their devices and to review their operator manuals for guidance on operating parameters before attempting similar techniques on their patients.
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Innovative Optics - Booth 205
6812 Hemlock Lane
Maple Grove, MN 55369
800-990-1455 / 763-425-7789
www.innovativeoptics.com

We offer laser glasses in a variety of frame styles which includes polycarbonate and glass lenses. Our patented laser clip-in is designed to be worn with magnifying loupes and is available in 18 different sizes.

J. Morita USA, Inc. - Booth 111
9 Mason
Irvine, CA 92618
800-831-3222
www.jmoritausa.com

Established in 1964, J. Morita USA is one of the leading manufacturers and distributors in the dental market with a full line of innovative, high-quality products. J. Morita USA offers 3D/pan/ceph X-ray units, laser equipment, handpieces, endodontic, and chairsides products, as well as consumable dental supplies such as bone regeneration material, impression material, and restoratives.

Joyco Multimedia, LLC
ALD Registration Foyer
8795 Ralston Road, Suite 113
Arvada, CO 80002
303-421-0093
www.joycomultimedia.com

Joyco MultiMedia is a full-service video production company based in Arvada, Colorado. For over 25 years Joyco has been helping capture memorable moments and Creating what the Imagination Envisions. Joyco MultiMedia is proud to offer once again DVDs of the 2015 Conference. Please stop by our booth or a camera position in the meeting halls to pick up a DVD order form. Or visit our Web site, www.joycomultimedia.com, and place your order there.

LightScalpel - Booth 301
16932 Wood-Red Road NE, Suite #A109
Woodinville, WA 98072
866-589-2722 / 425-487-9988
www.lightscalpel.com

LightScalpel® soft-tissue dental SuperPulse CO2 laser features (a) exclusive flexible fiber, (b) disposable-free optical handpieces, (c) long-lasting all-metal CO2 laser tube technology, (d) affordable, lightweight, and compact design, (e) made in USA.

Oral Cancer Foundation - Booth 107
3419 Via Lido #205
Newport Beach, CA 92663
949-723-4400
www.oralcancerfoundation.org

With our mouth we eat and drink what sustains us. With it, we communicate ideas and feelings to the world through speech or a simple smile. It allows us to taste the nuance of a fine wine, the sweetness of a freshly picked berry, or a mustard-covered hot dog at the ballpark. Love or passion is expressed by it when we kiss a loved one or child. When cancer affects our mouths, it does more than take away these everyday functions, it too often takes our lives. Through increased public and professional awareness, prevention through lifestyle changes, early detection initiatives, education, improved treatment modalities, and sponsorship of research, the Oral Cancer Foundation’s mission is to contribute to the reduction of suffering, permanent physical damage and disfigurement, and death caused by this disease. The Oral Cancer Foundation is a national 501(c)(3) non-profit organization.

OralID - Booth 105
3944 Blue Bonnet Drive
Stafford, TX 77477
855-696-7254
www.oralid.com

OralID is an FDA-cleared medical device to screen the oral cavity for oral lesions, which include oral cancer and precancer lesions.

OraPharma - Booth 209
400 Somerset Blvd.
Bridgewater, NJ 08807
866-273-7846
www.orapharma.com

OraPharma is a specialty pharmaceutical company that develops and commercializes products that help improve and maintain oral health. We are dedicated to delivering scientifically and technologically advanced products to dental professionals and their practices.

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The Swedish Seating System is an ergonomically designed stool. The hydraulic mechanism allows the stool to follow one’s movement. Articulating shoulder supports are also available.

Sirona Dental, Inc. - Booth 207

4835 Sirona Drive
Charlotte, NC 28273
704-587-0453 x175
www.sironausa.com

Sirona Dental Incorporated is a leading innovator of a complete line of products including the GALILEOS 3D X-ray imaging solution, CEREC CAD/CAM restoration systems, digital intraoral X-rays, Pan and Pan/Ceph imaging systems, SCHICK intraoral sensor technology, SIROLaser Advance, cabinetry and chair.

Sventech - Booth 210

1037 Main Street
Antioch, IL 60002
847-838-5273
www.sventechlasers.com

Sventech has 20 years of experience servicing all wavelengths of dental lasers. We specialize in the repair and maintenance of discontinued and obsolete lasers. Preventive maintenance contracts along with new and refurbished lasers are available. Sventech is the accredited North American distributor and service partner of Elexxion AG.

THOR Photomedicine - Booth 204

18A East Street
Chesham, Buckinghamshire
Great Britain HP5 1HQ
540-416-0266
www.thorlaser.com

The THOR dental LLLT system has intra- and extraoral treatment probes specifically designed to heal, reduce inflammation, and induce analgesia. LLLT has applications in endodontics, oral facial pain, oral pathology, post oral surgery, orthodontics, pediatric dentistry, periodontics, and prosthodontics.

TinMan Dental/Zolar - Booth 308

1812 Keystone Court
Redding, CA 96003
800-554-6394
www.tinmandental.com

TinMan Dental is a cosmetic dental product distributor for many top manufacturers.

Ultralight Optics - Booth 104

3505 Cadillac Ave., Bldg. H
Costa Mesa, CA 92626
323-316-4514
www.ultralightoptics.com

Top grade of loupe lights attached to all types of eyewear.

Weave, Inc. - Booth 208

2600 W. Executive Parkway
Lehi, UT 84043
801-877-2870
www.getweave.com

Weave’s software syncs with dental practice management software to provide the calling patient’s information before the team answer the phone. Staff can be more efficient because they’ll instantly have answers to revenue-generating questions like: Does the calling patient, or the family, need a follow-up appointment or to reschedule a missed appointment?

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