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convergentdental.com
800.880.8589
President

A warm and inviting “Welcome to Scottsdale!”

What a pleasure it is to welcome each of you to the 2014 ALD Conference.

During the past year, as your 2013 President, I can truly say we have been working diligently to bring you a conference that would be diverse, informative, and applicable in all areas of laser dentistry. We have added Continuing Education Participation Tracks, changed certification availability, and are offering more keynote speakers than ever before.

Last year we celebrated ALD’s 20-year history. Many of us have walked this journey together and witnessed laser dentistry going from a stream of information to a river of knowledge. The profession has been enlightened and has embraced dental lasers, providing numerous advantages for our patients. Similar to computer science, we can see how the changes in laser technology and laser procedures have changed the perspective of dental care, and because it is more accepted, it has become more widely utilized.

The Academy understands the responsibility of educating and equipping our members. The wide selection of classes and the wealth of shared experience available to you will prove to be unsurpassed. Our corporate members will be excited to share new concepts and certainly new laser capabilities. We know that you will return to your practice revitalized and empowered to confidently use your lasers like never before.

In the midst of this long, cold winter, we know you will enjoy the desert warmth as well as the warmth of your new friends and trusted colleagues.

The horizon looks bright!

Sincerely,
Glenda Payas, DMD
ALD President

Executive Director

Let’s celebrate “Changing Perspectives, Broadening Horizons” in Dentistry

Welcome to Scottsdale and ALD’s 21st Annual Conference!

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 50 speakers sharing their contributions to lasers in dentistry. Please welcome them all, 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 a 21st coming-of-age celebration in 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 all Changing Perspectives and Broadening Horizons, one step at a time.

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 22nd Conference and Exhibition, February 5-7, 2015.

I welcome you to Radisson Fort McDowell 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

Gail S. Siminovsky, CAE
FEBRUARY 27-MARCH 1, 2014
Academy of Laser Dentistry                                      www.laserdentistry.org
Let’s celebrate together “Lasers Coming of Age: 21 Years of Enlightenment”!

It is our honor to welcome you to our ALD’s 21st Annual Conference in Scottsdale, Arizona, February 27 to March 1, 2014.

Our goal is to broaden horizons and, hopefully, change a few perspectives on the multitude and magnitude of clinical applications of both surgical and nonsurgical lasers in the dental field.

The conference will feature a captivating lineup of internationally recognized experts in tracks focused on specific disciplines within dentistry. 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, and a treasure trove of clinical applications. Participation workshops and hands-on opportunities in every track during all three days of the conference will provide participants an interactive opportunity for hands-on learning filled with tips and tricks that they can apply right away. Again we are offering a two-day certification program in Standard Proficiency, as well as examinations for Advanced Proficiency candidates.

New this year is a comprehensive course in laser safety officer training which is aimed at fulfilling American National Standards Institute (ANSI) requirements with a focus on the most recent changes to the standards. Additionally, we are excited to include a full-day track dedicated to the current research and developments in low-level laser therapy (LLLT), photobiomodulation, and other topics on nonsurgical approaches to light-based therapies utilized in dentistry.

It is our belief that one of the strengths of our Academy is the friendships that develop among our members sharing the same passion for lasers in dentistry, which leads to an open sharing of information. The conference serves as a forum to provide an opportunity to communicate, collaborate, and network with colleagues, exhibitors, and academia about the challenges and solutions for clinical applications. We invite you to nurture and cultivate those relationships in our Thursday evening Welcome Fiesta, the Friday night Mardi Gras Gala Banquet in honor of our award recipients, out on the golf course or poolside, during Saturday afternoon’s fun-tastic Dr. Eugene Seidner Student Scholarship fundraiser, and with a celebration of a bright year ahead during our kick-off party for the 2015 conference!

Ask not what your laser can do for you, but what together with a mastery of knowledge and science we can do with our lasers to enhance the treatments we provide to our patients. The success of the meeting will be measured by your participation, engagement, sharing of experiences, and what together we can do to explore the possibilities and further the advancements in laser dentistry. Let us begin!!

Sincerely,

Scott Benjamin, DDS
President Elect and 2014 Conference Chair

Raminta Mastis, DDS
2014 General and Scientific Sessions Chairwoman
Welcome to ALD Scottsdale!

As the Certification Committee Chairman,

I welcome you to our 21st annual ALD Conference.

I am so pleased to announce that this year we have a huge increase in the amount of candidates testing for all three levels of Advanced Proficiency (AP). That is a great affirmation that the changes we made to the program were well-conceived and well-received. We said we were listening and this proves it. We have 5 candidates testing for AP Part III alone. It’s been many years since we had a group of that size here for examination and we are eager to announce this year’s successful candidates during Friday’s awards ceremony.

I am proud to say that we recognized 36 Members with successful Standard Proficiency certification in Palm Springs in 2013 and expect similar results this year. Once again we are trying something new. We are having the Standard Proficiency course and clinical examination on Saturday and Sunday. This concept should make it easier for those that do not want to miss time during the week from their office to come to the ALD and get their Standard Proficiency on a weekend. Also for those that are attending the entire conference, it will allow them to learn even more because they will miss less time from the conference courses.

Last year we had updated our “AP Online Review” course, the “Advanced Proficiency Policies and Procedures” book, and our test question library. This year we have rewritten the “Mentor’s Handbook” and the “Guide for Examiners.” With that accomplished, we have now updated and clarified all of the steps on the road to Advanced Proficiency.

So as you can see, we have been active and listening. We are only able to accomplish this with the wonderful people on the Certification Committee. They have worked diligently to make all of this happen. I want to thank my committee members for their many hours of hard work and dedication to the Academy. I hope you all have a wonderful experience in Scottsdale and return for many more. Please feel free to stop me and introduce yourself and give me your feedback on the Certification process. I value your opinions and need them to make the process even better. I wish you all great success!

Sincerely,

Mel Burchman, DDS
Certification Chairman
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General Information

Conference Design and Educational Methods
ALD 2014 Scottsdale, the Academy of Laser Dentistry’s 21st 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.

Mission of our ALD 2014 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.

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 32 CEUs are possible for the duration of this meeting.
Disclosure 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. Dress for the Friday evening President’s Mardi Gras Gala Banquet is fun and colorful. Don your boas, beads, and masks and get ready to mingle as we honor our President and 2014 award honorees. Festive cocktail attire is appropriate; jackets are optional.

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.

BE SURE NOT TO MISS!

Welcome Reception
Wednesday 5:00 p.m. – 7:30 p.m.
Registration Foyer
Food, Fun and Camaraderie
Everyone Welcome!
We want to welcome everyone while especially honoring and greeting our first-time attendees. Enjoy hors d’oeuvres, beverages, and lots of face-time opportunities in a relaxing, casual setting. Stop by to make new friends and greet fellow attendees.

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!

Wednesday, 5:00 p.m. – 7:30 p.m. Registration Foyer
**Welcome Happy Hour Honoring First-Time Attendees**
Everyone Welcome! in the ALD Registration Foyer.

Wednesday, 7:00 p.m. - 7:30 p.m. Room 111
**Conference Orientation: How to Get the Most Knowledge and Enjoyment as a First-Time Attendee**
Scott Benjamin, DDS, Sidney, New York, 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, Sunday, 6:30 a.m. – 7:30 a.m.
**Meet in ALD Registration 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.

Thursday, 10:30 a.m. – 12:00 p.m. Rooms 109-110
**Laser Fundamentals and Why They Matter**
William R. Gianni, DDS, 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 this affects applications. This course serves as a prerequisite for those attending the Laser Safety Officer training course. A basic understanding of how a laser operates helps in understanding the hazards when using a laser device.

Thursday, 1:00 p.m. – 5:00 p.m. Rooms 109-110
**Laser Safety Officer Training**
Jan M. LeBeau, RDH, BS, Pacific Dental Services, Moorpark, California, USA
Scott Benjamin, DDS, Private Practice, Sidney, New York, USA
This course is designed specifically for dental care settings and will help guide participants in developing and implementing a laser safety program, and to meet the current requirements by the Arizona Radiation Regulatory Agency (ARRA) for LSO training in dental office settings.

Thursday 2:00 p.m. – 2:30 p.m. Rooms 107-108
**STUDENT SCHOLAR**

**Science and Research Track**
**The Effect of Pulsed Low-Level Laser Therapy on Rate of Tooth Movement and Pain Reduction in Orthodontic Patients: A Randomized Clinical Trial**
Monica Gawlik, DDS, MS
Montefiore Medical Center, New York, New York, USA

Thursday, 6:00 p.m. – 8:00 p.m. Exhibit Hall
**Welcome Fiesta Reception**
Not to be missed! Enjoy lots of food, fun, and camaraderie fiesta-style.
The opening night reception is your chance to meet our exhibiting vendors in popular ALD manner! Food, camaraderie, friendships galore! Everyone is welcome. Come early while the energy is high!

Friday 9:50 a.m. – 10:15 a.m. Rooms 109-111
**ALD General Membership Meeting**
The Academy of Laser Dentistry will conduct its general membership business meeting on February 28, 2014 during the Annual Conference. Dr. Scott Benjamin, Nominations Chair and President-Elect, will explain the selection process for ALD directors and officers as well as the organizational committee structure. Eligible voting members present in Scottsdale will be asked to vote to accept the nominees who will serve in the elective leadership positions for the Academy of Laser Dentistry.

Friday 7:00 p.m. – 8:00 p.m. Room 111
**President’s Awards Reception and Ceremony**
Join us as we honor distinguished members. No additional fees apply. Everyone is welcome to join us as we recognize fellow members.

Friday 8:00 p.m. – 11:00 p.m. Rooms 109-110
**President’s Mardi Gras Gala Banquet**
Friday’s Gala Banquet promises to be fun, festive, and truly memorable. Separate fees apply.

Saturday 2015 Launch Party 4:30 p.m. – 6:30 p.m. Poolside
**Dr. Eugene Seidner Student Scholarship Charity Event**
Ready, Set, Ride! To Changing Perspectives & Broadening Horizons
Come as you are – casual, casual, casual! Everyone is welcome. Wear your sneakers and get ready to Change Perspectives and Broaden your Horizons with our special fun ride.
Support ALD’s Student Charity. Enjoy a tequila or margarita bar, cocktails, and tasty hors d’oeuvres with your ALD friends. Let’s propel upward together to 2015! Everyone is welcome! No tickets are necessary. Sponsored by the Academy of Laser Dentistry.
General Membership Meeting
Radisson Fort McDowell Resort, Friday, February 28, 2014 | Rooms 109-111 9:50 am

**Agenda**

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

The Nominations Committee has nominated these ALD members to serve as elected leaders:

**Nominated Officers 2014-15**
- John Graeber, DMD, President Elect
- Gabi Kesler, DMD, Vice President
- Charles Hoopingarner, DDS, Treasurer
- Raminta Mastis, DDS, Secretary

**Nominated Board Members**
- Arun Darbar, BDS, 2014-2017
- Rishita Jaju, DMD, 2014-2016
- Gary Remillong, DDS, 2014-2017
- Grace Sun, DDS, 2014-2017

The President and Immediate Past President, as follows, pass automatically into these seats.
- Scott Benjamin, DDS, President
- Glenda Payas, DMD, Immediate Past President

**Continuing Directors-at-Large**
- Mel Burchman, DDS, 2013-2015
- Douglas Gilio, DDS, 2013-2016
- Edward Kusek, DDS, 2012-2015
- Shigeyuki Nagai, DDS, 2013-2016
- Steven Parrett, DDS, 2012-2015

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

- Introduction of 2014 Committee Chairs, Dr. Scott Benjamin
- New Business
- Adjournment, Dr. Glenda Payas
Social Events and Tours

There is plenty to choose from to enhance your conference learning experiences. Whether on-your-own for tickets to Arizona’s Baseball Cactus League Spring Training or any of ALD’s group tours, plan to experience one of the most spectacular desert cities in the USA. Plan to enjoy the Scottsdale / Phoenix area while attending ALD’s 21st Annual Conference & Exhibition.

Wednesday, 5:00 p.m. – 7:30 p.m. Registration Foyer

Welcome Happy Hour Honoring First-Time Attendees

Cost: Included, Everyone Welcome

We want to welcome everyone while especially honoring and greeting our first-time attendees. Enjoy hors d’oeuvres, beverages, and lots of face time opportunities in a relaxing, casual setting. Stop by to make new friends and greet fellow attendees at the ALD Registration Foyer.

Thursday, Friday, Saturday, Sunday, 6:30 a.m. – 7:30 a.m.

Meet in ALD Registration Foyer

Morning Nature Walks and Yoga Daily

Cost: Included, Everyone Welcome

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.

Thursday, February 27, 9:00 a.m. – 3:00 p.m.

Taliesin West, Lunch at Tandy’s, and Shopping at Scottsdale Quarters

Cost $198 per person, sign-up required. Registration is limited. Sign up early.

Arizona is fortunate to have world-class architects building on the beauty of the Southwest. You will experience the drama of being a guest in Frank Lloyd Wright’s famous home. Guests will tour Frank Lloyd Wright’s masterpiece located on the beautiful Sonoran desert in the foothills of the McDowell Mountains. Taliesin West provides insight to Wright’s brilliant ability to integrate indoor and outdoor spaces. The living quarters and the dramatic “Garden Room” are the highlights of the tour, which also include all the elements of the Cabaret and Study. After the tour, guests will enjoy shopping at Kierland Commons and Scottsdale Quarters, an open-air center where the vibe of the city meets the serenity of the desert. The hip, urban destination boasts retail, restaurant, and entertainment options amid elegant, diverse architecture and lush landscaping. The tour is conducted by a knowledgeable local escort and guide, and departs from the hotel. Lunch is included. Limited space is available. Pre-registered guests may pick up tickets at the ALD Registration Desk. On-site tour registration is available at the ALD Registration Desk as space allows.

Thursday, February 27, 6:00 p.m. – 8:30 p.m. Exhibit Hall

Welcome Fiesta Reception

Cost: Included, Everyone Welcome

Not to be missed! Enjoy lots of food, fun, and camaraderie fiesta-style. The opening night reception is your chance to meet our exhibiting vendors in popular ALD manner! Food, camaraderie, friendships galore! Everyone is Welcome. Come early while the energy is high!

Friday, February 28, 9:00 a.m. – 2:00 p.m.

Arizona Hummer Desert Experience

Cost: $135 per person, sign-up required. Registration is limited. Sign up early.

Experience the natural desert environment, learn from a desert expert naturalist and historian about the plants, animals, and Native Americans who live and survive in the desert. The desert is not deserted – there is much more than you would expect! In a Hummer seating 9-12 people, with your expert guide, you will go into places that most people do not see. Reserve your spot now! Tour departs from the hotel entrance. Wear comfortable clothing, bring a light jacket, hat, sunscreen, sunglasses, and closed walking shoes with socks. Open-toe sandals are not permitted. Limited space is available. Pre-registered guests may pick up tickets at the ALD Registration Desk. On-site tour registration is available at the ALD Registration Desk as space allows.

Friday, February 28, 7:00 p.m. – 8:00 p.m. Rooms 109-110

President’s Awards Reception and Ceremony

Cost: Included, Everyone Welcome

Everyone is welcome to honor our 2014 ALD members of distinction with continuing education honors holding Fellowship and Mastership, our Dr. Eugene Seidner Student Scholar, certification candidates, ALD’s Leon Goldman Award for clinical excellence honorees Dr. Larry Kotlow and Dr. Fred Margolis and our John G. Sulewski Distinguished Service Award honoree Angie Mott, RDH. Installation of Officers and honors for outgoing and incoming board members will take place in our 1-hour ceremony. Come and enjoy a glass of champagne with your ALD friends.

Friday February 28, 8:00 pm – 12:00 am Room 111

President’s Mardi Gras Gala Banquet

Cost: $150 per person, sign-up required. Registration is limited. Sign up early.

The President’s Mardi Gras Gala Banquet is a great way to top off the conference. Dress for the Friday evening President’s Mardi Gras Awards Banquet is fun and colorful cocktail attire. Don your boas, beads, and masks, and get ready to mingle as we honor our President and 2014 award honorees. Festive cocktail attire is appropriate; jackets are optional.
Saturday, March 1, 9:00 a.m. – 3:00 p.m.

Heard Museum Tour & Native American Fair

Cost $188 per person, sign-up required. Registration is limited. Sign up early.

Take our special ALD coach transportation to visit the Heard Museum of Native Culture and Art specializing in desert Southwest tribes. Explore the museum’s rich history as one of the Phoenix area’s first cultural attractions, and see how the museum has grown to be one of the world’s finest destinations for learning about American Indian arts and cultures. The Heard Museum includes intriguing exhibitions, galleries, outdoor sculpture gardens, distinctive festivals and interactive learning opportunities.

Home: Native People in the Southwest is the Heard Museum’s signature exhibition. Artist voices combine with more than 2,000 of the museum’s finest pieces to tell the stories – past and present – of Southwestern Native people. See a spectacular display of Hopi kachina dolls from the Sen. Barry Goldwater and Fred Harvey Company collections. A Navajo hogan, four video presentations, interactive sound and video stations, a media room, and frequent artist demonstrations make this a must-see. ALD guests will experience the 2014 Heard Museum Guild Indian Fair & Market as an extra bonus. Enjoy musical performances while relaxing and dining. Entertainers include several established and emerging American Indian musicians. Limited space is available. Pre-registered guests may pick up tickets at the ALD Registration Desk. On-site tour registration is available at the ALD Registration Desk as space allows.

Starting Tee Times at 12:00 noon

ALD Golf Outing at We-Ko-Pa Golf Club

Cost: $185, Sign-up required. Registration is limited. Sign up early.

Additional individual daily tee times are available at special ALD rates. Contact Cynthia Polo, Radisson Golf Coordinator, 480-789-5311, e-mail cpolo@radissonfortmcdowell.com.

Register early for ALD’s 18-hole golf outing with fellow ALD members, vendors, and guests. We will have optional gross and net skins game competition for those with a reportable handicap. Prizes on 3 holes: closest to the pin, long drive, and accuracy drive. Come join in for some winter fun in the sun on one of Arizona’s finest courses. At the Saguaro Course, you are in for a desert golf experience unlike any other in Arizona. At We-Ko-Pa, it’s just you, your ball, and good old Mother Nature. Named after the iconic symbol of Arizona and the Sonoran Desert, the saguaro cactus, We-Ko-Pa’s Saguaro (pronounced sa’ war’ o) Course is a desert golf experience unlike any other in the State. Architects Bill Coore and Ben Crenshaw integrated design elements into this golf course not commonly found in the desert Southwest. Saguaro is built for walking and has more in common with older more traditional courses, where greens are close to trees and the course follows the natural movement of the land. When playing Saguaro, the boney ground and natural slopes may add an element of “sting” to the course, as the golf ball will bounce and roll along the native terrain. This is by design and is a strategic element upon which Coore and Crenshaw place great emphasis.

Starting Tee Times at 12:00 noon.

At A Par Of 71 | Plays 5,061 Yards From The Forward Tees
6,966 Yards From The Back
Slope / Rating
Tips 72.2 / 138 | Tournament 72.0 / 137 | Back 70.2 / 132
Regular 68.8 / 125 | Composite 65.5 / 118 | Forward 63.5 / 113

Unlike other Arizona golf courses, there are no homes, condos, or townhomes lining these fairways. At We-Ko-Pa, the Sonoran Desert is your neighbor and the term “high-rise” is either used to describe the ancient saguaros in the foreground or the magnificent mountains in the distance. In fact, the views are so spectacular at We-Ko-Pa that the sound, strategic playing value of the holes could possibly get overlooked. The variety in the routing and pacing of holes will keep all levels of golfers entertained from opening tee shot to final tap-in. Both courses, Cholla and Saguaro, feature an ideal blend of doglegs and straightaway holes, a mix of slender and ample fairways, a balance between benign and rugged green complexes. Yet without exception, both courses offer a host of shot-making options and plenty of grassy bail-out areas when the occasional shot gets away. Limited space is available.

Pre-registered guests may pick up tickets at the ALD Registration Desk. On-site tour registration is available at the ALD Registration Desk as space allows.

Saturday March 1, Starting Tee Times at 12:00 noon

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Register early for ALD’s 18-hole golf outing with fellow ALD members, vendors, and guests. We will have optional gross and net skins game competition for those with a reportable handicap. Prizes on 3 holes: closest to the pin, long drive, and accuracy drive. Come join in for some winter fun in the sun on one of Arizona’s finest courses. At the Saguaro Course, you are in for a desert golf experience unlike any other in Arizona. At We-Ko-Pa, it’s just you, your ball, and good old Mother Nature. Named after the iconic symbol of Arizona and the Sonoran Desert, the saguaro cactus, We-Ko-Pa’s Saguaro (pronounced sa’ war’ o) Course is a desert golf experience unlike any other in the State. Architects Bill Coore and Ben Crenshaw integrated design elements into this golf course not commonly found in the desert Southwest. Saguaro is built for walking and has more in common with older more traditional courses, where greens are close to trees and the course follows the natural movement of the land. When playing Saguaro, the boney ground and natural slopes may add an element of “sting” to the course, as the golf ball will bounce and roll along the native terrain. This is by design and is a strategic element upon which Coore and Crenshaw place great emphasis.

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Pre-registered guests may pick up tickets at the ALD Registration Desk. On-site tour registration is available at the ALD Registration Desk as space allows.
Saturday 2015 Launch Party 4:30 p.m. – 6:30 p.m. Poolside
Dr. Eugene Seidner Student Scholarship Charity Event

Ready, Set, Ride! To Changing Perspectives & Broadening Horizons
Cost: Included, Everyone Welcome
Come as you are – casual, casual, casual. Wear your sneakers and get ready to Change Perspectives and Broaden your Horizons with ALD’s special fun ride and the 2015 Launch Party. Support ALD’s Student Charity. Enjoy a tequila or margarita bar, cocktails, and tasty hors d’oeuvres with your ALD friends. Let’s propel upward together to 2015! Everyone is welcome! No tickets are necessary. Sponsored by the Academy of Laser Dentistry.

Spring Training in Arizona – On Your Own!
Sunshine + Baseball = Cactus League
Experience Baseball Spring Training
Spring Training baseball under the warm Arizona sun has been a tradition for devoted fans since 1947, when just two teams, the Cleveland Indians and the New York Giants, came here to prepare for the rigors of the long regular season. Today, 15 teams train in the Phoenix metropolitan area in the greatest concentration of professional baseball facilities found anywhere in the United States. For visitors, the Cactus League couldn’t be more convenient, with short drive times between ballparks and a full range of hotel, dining, and shopping amenities. Truly, the Cactus League is the premier destination for baseball lovers. And this Web site has everything fans need to enjoy one game or several during the 2014 Spring Training season. http://www.cactusleague.com/.

About Phoenix & Scottsdale
Lauded for its temperate climate and year-round sunshine, Phoenix & Scottsdale has an appeal that extends far beyond the weather. Relaxed and sprawling, these fast-growing cities are popular with retirees and tourists alike. This area, along with the entire Valley of the Sun, celebrates its Southwestern heritage in museums, galleries, shops, and an amazing variety of regional restaurants. The beauty of the desert landscape also provides an irresistible appeal; resorts and golf courses capitalize on the rugged, otherworldly terrain, attracting thousands of visitors each year. Culture isn’t lacking either. From the Heard Museum to the Arizona Science Center, art and exploration coexist happily. There’s also shopping at Heritage Square, hot-air balloon rides in the desert, and outdoor concerts throughout the year. Plus, the Grand Canyon and the Red Rock Country of Sedona are only a few hours away. If you’re a sports fan, the NBA Suns, MLB Diamondbacks, and NFL Cardinals also call this bustling, welcoming city home. If you’re traveling with your children, the Children’s Museum of Phoenix, the Arizona Science Center, and the Phoenix Zoo are must-dos.

Area Attractions
Explore on Your Own, Discover the Finest in the Scottsdale / Phoenix Area
Thank you for providing products, supplies and services for ALD’s Scottsdale conference.

Thank you to Convergent Dental for your generous sponsorship of the mobile app and conference tote bags.

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

Thank you to EHR Funding for sponsoring our Entertainment during Thursday’s Welcome Reception on opening day.

Thank you to Innovative Optics for providing the lanyards.

Darby Dental Supply
Doctor.com
Joyco Multimedia
Salvin Dental Specialties
Straumann • Geislich
ALD Award Recipients 2014

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 2014, ALD honors two of our members as recipients of The Leon Goldman Award for Clinical Excellence: Dr. Lawrence Kotlow and Dr. Fred Margolis.

Lawrence Kotlow, DDS
Dr. Lawrence Kotlow is a graduate of the State University of New York (SUNY) Buffalo Dental School and has a private practice in Albany, New York, where he specializes in Pediatric Dentistry. He is a founding member of the International Affiliation of Tongue-tie Professionals, a group dedicated to improving infants’ and mothers’ ability to breast-feed. He has contributed his expertise in lasers in dentistry in textbooks and has had articles published in various dental journals, including the ALD Journal of Laser Dentistry.

Dr. Kotlow is an active member of ALD and has served on the Board of Directors, achieved Advanced Proficiency in erbium lasers as well as Standard Proficiency in the use of diodes and Nd:YAG lasers, and ALD Mastership status. He is a regular presenter at the Annual ALD Conference and throughout the world, sharing his knowledge on a wide range of clinical applications of laser use in pediatric dentistry. He helped establish the ALD one-day Pediatric Program at the ALD Annual Conference.

Upon receiving the honor, Dr. Kotlow remembered his first chance meeting with Dr. Goldman 30 years ago during his residency program at the Cincinnati Children’s Hospital. At the time, Dr. Goldman was experimenting with lasers for tattoo removal. He is humbled to receive an honor in the name of Dr. Goldman who is known as the “Father of Laser Surgery.” Dr. Kotlow is also honored to be recognized by his peers of the ALD, who have also become his friends. He is committed to educating dentists on the benefits of lasers for both patients and dentists.

Fred Margolis, DDS
Dr. Fred Margolis received his dental degree from The Ohio State University and his certificate in Pediatric Dentistry from the University of Illinois College of Dentistry. He has received a Mastership in laser dentistry from the Academy of Laser Dentistry. His accomplishments and contributions to lasers in dentistry are recognized throughout the dental community. During the past 13 years of practicing laser dentistry, Dr. Margolis has taught laser dentistry at universities and pediatric dental residencies throughout the world. He also helped establish the ALD one-day Pediatric Program at the ALD Annual Conference.

Dr. Margolis is the author of “Beautiful Smiles for Special People,” a course manual for working with disabled patients. He is co-author of Pediatric Laser Dentistry: A User’s Guide. He is in the private practice of pediatric dentistry in Highland Park, Illinois. He is a Recognized Course Provider of the ALD, and has provided the Standard Proficiency Course to hundreds of dentists worldwide.

Dr. Margolis expresses what it means to receive this honor: “The highest honor that can be bestowed on an individual is to be recognized by one’s peers. Since this honor is being bestowed by the Academy of Laser Dentistry, which I have been a member since 2001, it gives me great pleasure to be recognized for the work that I have done for the Academy. I strive to share my knowledge of lasers to encourage pediatric and general dentists to become involved in laser dentistry in their dental practices and research. This award of ‘Clinical Excellence’ allows me to continue my personal goal of finding new ways to improve the lives of my patients and to share this knowledge with my students and peers through the field of laser dentistry.”
The recipient for The Academy of Laser Dentistry John G. Sulewski Distinguished Service Award for Outstanding Commitment and Contributions to the Academy is Ms. Angie Mott, RDH.

Angie Mott, RDH

Angie Mott has been an active member of ALD for the past 10 years. She has served 2 terms on the ALD Board of Directors as the Auxiliary Chair. She is the first Dental Hygienist to serve as co-chair for the Regulatory Affairs committee. Ms. Mott has earned Advanced level proficiency, holds an Educator Status, has been an ALD Recognized Course Provider since 2007, and earned ALD Mastership in 2008. In January of 2013, she co-authored the book Soft-Tissue Lasers in Dental Hygiene. She has worked with the Nd:YAG soft tissue lasers since 2000, and diode soft tissue lasers since 2005.

Ms. Mott is currently serving as Co-Chair for the Regulatory Affairs and the Chair for the Dr. Eugene Seidner Student Scholarship Subcommittee; she also serves on the Auxiliary, Membership, and Certification Committees. Angie is passionate about teaching in-office laser certification courses for private offices and for larger groups throughout the United States and Canada, promoting the Academy of Laser Dentistry. You will often hear Angie say, “I would quit Dental Hygiene if I couldn’t use my laser.” She continues to work clinically 4 days a week in Dental Hygiene and teaches most weekends. Her greatest joys are her two boys, Brandon who is 21 and Trevor who is 17.

Angie attributes this great honor of the distinguished service award to the wonderful “ALD family.” “This really is a family. The knowledge of this group of individuals is unbelievable and the loyalty to this organization by so many wonderful people is amazing. What an honor it is to be recognized by my peers for the hard work I have tried to do for ALD. The most exciting part of this award is that recently it was renamed the John Sulewski award, which makes this a huge honor to receive!! John has made such huge contributions to ALD, to even be placed in that category is breathtaking for me.”
Academy of Laser Dentistry Fellowship & Mastership Program

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 2014 Fellows and Masters!

2014 Fellowship Award Recipients:
• Walid Altayeb, DDS, MDS, PhD
• Laura Braswell, DDS
• James Carreiro, DMD
• Joseph DalBon, DMD
• John Hendy, DDS
• Linda Murzyn-Dantzer, DMD
• Craig Sanford, DDS
• Naresh Shetty, BDS, MDS

2014 Mastership Award Recipient:
• Rishita Jaju, DMD
### ALD 2014 Pre-Conference Schedule

**Tuesday, February 25, 2014**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am – 5:00 pm</td>
<td>Conference Registration &amp; Logistics Set-Up</td>
<td>Registration Foyer</td>
</tr>
<tr>
<td>12:00 Noon – 2:00 pm</td>
<td>2015 Conference Committee Meeting</td>
<td>Yow Hospitality</td>
</tr>
<tr>
<td>2:30 pm – 5:00 pm</td>
<td>Executive Committee Meeting</td>
<td>Yow Hospitality</td>
</tr>
<tr>
<td>7:00 pm – 8:30 pm</td>
<td>International Reception – International Attendees</td>
<td>Room 108</td>
</tr>
<tr>
<td>7:00 pm – 7:30 pm</td>
<td>President’s Appreciation Reception for Board, Chairs</td>
<td>Room 108</td>
</tr>
<tr>
<td>4:00 pm – 6:00 pm</td>
<td>Advanced Proficiency Part I Online Exam</td>
<td>Room 111</td>
</tr>
<tr>
<td>4:00 pm – 7:00 pm</td>
<td>Advanced Proficiency Part II Oral Exam Presentations</td>
<td>Rooms 102, 109, 110</td>
</tr>
<tr>
<td>4:30 pm – 6:30 pm</td>
<td>Advanced Proficiency Part III Online Exam</td>
<td>Room 108</td>
</tr>
<tr>
<td>5:00 pm – 7:30 pm</td>
<td>Welcome Happy Hour Honoring First-Time Attendees</td>
<td>Registration Foyer</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>
<td>Room 108</td>
</tr>
</tbody>
</table>

**Wednesday, February 26, 2014**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am – 8:00 am</td>
<td>Continental Breakfast Board of Directors</td>
<td>Yow Hospitality</td>
</tr>
<tr>
<td>8:00 am – 3:00 pm</td>
<td>Pre-Conference Program Sponsored by THOR: Low-Level Laser Training (Separate Registration Required)</td>
<td>Room 108</td>
</tr>
<tr>
<td>4:00 pm – 6:00 pm</td>
<td>Speaker Meeting &amp; Technology Check</td>
<td>Room 108</td>
</tr>
<tr>
<td>4:00 pm – 6:30 pm</td>
<td>Advanced Proficiency Part I Oral Exam Presentations</td>
<td>Rooms 102, 109, 110</td>
</tr>
<tr>
<td>4:30 pm – 6:30 pm</td>
<td>Advanced Proficiency Part II Online Exam</td>
<td>Room 108</td>
</tr>
<tr>
<td>5:00 pm – 7:30 pm</td>
<td>Welcome Happy Hour Honoring First-Time Attendees</td>
<td>Registration Foyer</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>
<td>Room 108</td>
</tr>
</tbody>
</table>

**Thursday, February 25, 2014**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am – 5:00 pm</td>
<td>Conference Registration &amp; Logistics Set-Up</td>
<td>Registration Foyer</td>
</tr>
<tr>
<td>2:30 pm – 5:00 pm</td>
<td>Executive Committee Meeting</td>
<td>Yow Hospitality</td>
</tr>
<tr>
<td>7:00 am – 8:00 am</td>
<td>President’s Appreciation Reception for Board, Chairs</td>
<td>Room 108</td>
</tr>
<tr>
<td>5:00 pm – 7:30 pm</td>
<td>Welcome Happy Hour Honoring First-Time Attendees</td>
<td>Registration Foyer</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>
<td>Room 108</td>
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</tbody>
</table>

Schedule Subject to Change
<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 – 7:30 am</td>
<td>Morning Nature Walks and Yoga; Meet in ALD Registration Foyer</td>
</tr>
<tr>
<td>7:00 am – 8:00 am</td>
<td>Continental Breakfast; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
<tr>
<td>7:30 am – 12:00 pm</td>
<td>Laser Safety Officer Training: Meeting in Registration Foyer, Rooms 102-103, 104-106</td>
</tr>
<tr>
<td>9:00 am – 1:00 pm</td>
<td>Tour: Taliesin West, Lunch at Tandy's, and Scottsdale Shopping (Separate Registration Required) (Details &amp; Registration Deadlines)</td>
</tr>
<tr>
<td>10:00 am – 11:00 am</td>
<td>Clinical Use Demonstration; Free Demo</td>
</tr>
<tr>
<td>10:00 am – 12:00 pm</td>
<td>Workshop – Periodontics: Use of Dental Lasers to Perform Periodontal Surgery</td>
</tr>
<tr>
<td>10:30 am – 12:00 pm</td>
<td>Workshop – Periodontics: Use of Dental Lasers to Perform Periodontal Surgery</td>
</tr>
<tr>
<td>11:00 am – 12:00 pm</td>
<td>Lunch Break – Exhibit Hall</td>
</tr>
<tr>
<td>1:00 pm – 3:00 pm</td>
<td>Conference Session: The Science and Utilization of Lasers in Management and Treatment of Failing Implants</td>
</tr>
<tr>
<td>3:00 pm – 3:30 pm</td>
<td>Afternoon Break – Exhibit Hall</td>
</tr>
<tr>
<td>3:30 pm – 4:30 pm</td>
<td>Conference session; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
<tr>
<td>4:30 pm – 5:00 pm</td>
<td>Conference; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
<tr>
<td>5:00 pm – 6:00 pm</td>
<td>Conference; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
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<td>Conference; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
<tr>
<td>8:00 pm – 9:00 pm</td>
<td>Conference; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
<tr>
<td>9:00 pm – 10:00 pm</td>
<td>Conference; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
<tr>
<td>10:00 pm – 11:00 pm</td>
<td>Conference; Registration Foyer; New Addition; Special Breaks; Presentation by Brian Edelstein, DMD</td>
</tr>
</tbody>
</table>

Program Schedule (subject to change)
### 2014 ALD Program Schedule – Thursday, February 27, 2014 (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:30 pm</td>
<td>WORKSHOP – IMPLANTOLOGY</td>
</tr>
<tr>
<td></td>
<td>Ms. Miranda, RDH: A Hands-On Approach to Treating Periimplant Mucositis</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>DR. GRAEBER: MASTERING YOUR DIODE LASER: PERIODONTAL SURGERY</td>
</tr>
<tr>
<td></td>
<td>Room 107-108</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>DR. GIMBEL AND ALD SCIENCE AND RESEARCH COMMITTEE: ADVANCED LASER SCIENCE</td>
</tr>
<tr>
<td></td>
<td>Room 109-110</td>
</tr>
<tr>
<td>3:30 pm</td>
<td>MS. LEBEAU AND DR. SCOTT BENJAMIN: LASER SAFETY OFFICER TRAINING</td>
</tr>
<tr>
<td></td>
<td>Room 111</td>
</tr>
</tbody>
</table>

### 6:00 pm – 8:00 pm Welcome Fiesta Reception in Exhibit Hall

A Must-Attend Event. Everyone is Welcome! Enjoy food, fun, and camaraderie fiesta-style.

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### 2014 ALD Program Schedule – Friday, February 28, 2014

<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</td>
<td>MORNING NATURE WALKS AND YOGA</td>
</tr>
<tr>
<td></td>
<td>MEET IN ALD REGISTRATION FOYER</td>
</tr>
<tr>
<td>7:00 am</td>
<td>CONTINENTAL BREAKFAST</td>
</tr>
<tr>
<td></td>
<td>EXHIBIT HALL</td>
</tr>
<tr>
<td>7:00 am</td>
<td>REGISTRATION</td>
</tr>
<tr>
<td>7:00 am – 5:00 pm</td>
<td>EXHIBITS OPEN</td>
</tr>
<tr>
<td>7:00 am – 8:00 am</td>
<td>ADVANCED PROFICIENCY PART 2 EXAMS IN CLINICAL SIMULATION LAB</td>
</tr>
<tr>
<td>9:00 am – 3:00 pm</td>
<td>TOUR: ARIZONA HUMM ER DESERT EXPERIENCE</td>
</tr>
<tr>
<td></td>
<td>MEET AT ALD REGISTRATION DESK</td>
</tr>
<tr>
<td></td>
<td>GENERAL SESSION: LASER UTILIZATION IN ENDOCRINEASIS</td>
</tr>
<tr>
<td></td>
<td>DR. DIVITO: THE SCIENCE OF PHOTON-INDUCED PHOTOACOUSTIC STREAMING (PIPS) AND ITS APPLICATION IN ENDOCRINEASIS AND LASER DENTISTRY</td>
</tr>
<tr>
<td></td>
<td>ROOMS 109-111</td>
</tr>
<tr>
<td>9:00 am – 5:00 pm</td>
<td>ROOM 107</td>
</tr>
<tr>
<td></td>
<td>DRS. MARGOLIS AND KOTLOW: CLINICAL APPLICATIONS OF LASERS FOR ENDOCRINEASIS</td>
</tr>
<tr>
<td>9:50 am – 10:15 am</td>
<td>ROOMS 109-111</td>
</tr>
<tr>
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<td>ALD GENERAL MEMBERSHIP MEETING</td>
</tr>
<tr>
<td>10:15 am – 10:45 am</td>
<td>MORNING BREAK – EXHIBIT HALL</td>
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<tr>
<td>10:45 am – 12:15 pm</td>
<td>WORKSHOP – ENDOCRINEASIS</td>
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<td>DRS. DIVITO AND DR. SCOTT BENJAMIN: PHOTON-INDUCED PHOTOACOUSTIC STREAMING (PIPS) AND ITS APPLICATION IN ENDOCRINEASIS AND LASER DENTISTRY</td>
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<tr>
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<td>ROOMS 102-106</td>
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<tr>
<td>10:45 am – 11:15 am</td>
<td>PANEL DISCUSSION</td>
</tr>
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<td>DRS. ALTAYEB, BRASWELL, CUTLER, MS. LEBEAU: MYTHS, MISCONCEPTIONS, AND CONTROVERSIES IN LASER-ASSISTED PROCRINEASIS AND LASER THERAPY</td>
</tr>
<tr>
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<td>ROOMS 111</td>
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<tr>
<td>10:45 am – 11:15 am</td>
<td>DEMONSTRATION</td>
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<td>DR. FANTARELLA: THE USE OF THE 9300-NM CO2 COMPUTER-AIDED PREPARATION (CAP) DENTAL LASER SYSTEM FOR CAVITY PREPARATION</td>
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<td>ROOM 111</td>
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<tr>
<td>12:15 pm – 1:30 pm</td>
<td>LUNCH BREAK – EXHIBIT HALL</td>
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Friday schedule continued on next page
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:30 pm – 2:00 pm</td>
<td>Ms. Sornborger, RDH: Adjunctive Use of the Diode Laser in Nonsurgical Periodontal Therapy: Exploring the Controversy</td>
</tr>
<tr>
<td>1:30 pm – 2:30 pm</td>
<td>Dr. Lukac: A Comparison of Enamel and Cementum Ablation Efficiency of an Er:YAG Laser Using QSP, SSP, and SP Pulse Duration Modes: An In Vitro Study</td>
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<tr>
<td>1:30 pm – 1:50 pm</td>
<td>Dr. Sun: Orofacial Myofunctional Therapy (OMT) after Frenuloplasty</td>
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<tr>
<td>1:30 pm – 3:00 pm</td>
<td>Workshop: Periodontics – Endodontics Dr. Kolnick: Justification of a Dual-Wavelength Approach for Endodontic Success Confirmed with 3-D CBCT Imaging: A Hands-On Course</td>
</tr>
<tr>
<td>1:30 pm – 4:30 pm</td>
<td>Science and Research: Dr. Rechmann: In Vivo Occlusal Caries Prevention by Pulsed CO₂-Laser and Fluoride Varnish Treatment – An Overview of Principle and the Latest Results</td>
</tr>
<tr>
<td>1:30 pm – 2:20 pm</td>
<td>Dr. Jaju: 5 keys of Successful Pediatric Soft Tissue Laser Dentistry</td>
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<tr>
<td>2:00 pm – 2:30 pm</td>
<td>Dr. Levy: Periodontal Health: Built on Comprehensive Communication</td>
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<tr>
<td>2:30 pm – 3:00 pm</td>
<td>Dr. Rechmann: The Efficacy of Er,Cr:YSGG Laser Therapy in Smear Layer Removal</td>
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<tr>
<td>2:30 pm – 3:50 pm</td>
<td>Demonstration: Mr. Braunston: Photo Documentation: Simplifying Photography and Photo Documentation – A Live Demonstration</td>
</tr>
<tr>
<td>3:30 pm – 5:00 pm</td>
<td>Workshop: Endodontics Dr. Braswell: Exotic Animal Dentistry, Lions and Tigers and Bears!</td>
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<tr>
<td>3:30 pm – 5:00 pm</td>
<td>Science and Research: Dr. Rechmann: An Interactive Panel Discussion with Track Speakers Mr. Monty, Dr. Fantarella, Dr. Kotlow (Pediatrics), Dr. Lukac</td>
</tr>
</tbody>
</table>

**Laser Utilization in Endodontics**

**Special Programs**

**Pediatric Dentistry**

**Science and Research**

**Program Schedule (subject to change)**

2014 ALD Program Schedule – Friday, February 28, 2014 (continued)
<table>
<thead>
<tr>
<th>Time</th>
<th>Room 101</th>
<th>Room 102</th>
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<th>Room 104</th>
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Saturday schedule continued on next page
### Post-Conference Day – Sunday, March 2, 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am – 7:30 am</td>
<td>Morning Nature Walks and Yoga</td>
<td>ALD Registration Foyer</td>
</tr>
<tr>
<td>7:00 am – 7:30 am</td>
<td>Continental Breakfast</td>
<td>Room 107</td>
</tr>
<tr>
<td>7:30 am – 8:30 am</td>
<td>Standard Proficiency Course Lecture Continues</td>
<td>Room 107</td>
</tr>
<tr>
<td>8:30 am – 9:30 am</td>
<td>Post-Conference Day – Sunday, March 2, 2014 (continued)</td>
<td>Room 107</td>
</tr>
</tbody>
</table>

### Conference Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm – 2:00 pm</td>
<td>Dr. Hall: Post-Treatment Management of Oral Surgical Sites</td>
<td>Rooms 102-106</td>
</tr>
<tr>
<td>2:00 pm – 4:00 pm</td>
<td>Standard Proficiency Exam Certification</td>
<td>Room 107</td>
</tr>
<tr>
<td>4:00 pm – 5:30 pm</td>
<td>ALD 2015 Launch Party and Dr. Eugene Seidner Student Scholarship Charity Fun Event. Everyone is Welcome!</td>
<td>Radisson Pool Patio</td>
</tr>
</tbody>
</table>

### Conference Schedule (subject to change)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 pm – 2:00 pm</td>
<td>Mr. Shahidi: Medical Billing for Dental Practices</td>
<td>Room 107</td>
</tr>
<tr>
<td>2:00 pm – 4:00 pm</td>
<td>Standard Proficiency Course Lecture Continues</td>
<td>Room 107</td>
</tr>
<tr>
<td>4:00 pm – 6:00 pm</td>
<td>Laser Devices Pack-up by Sales Reps</td>
<td>Rooms 104-105-106</td>
</tr>
</tbody>
</table>

**Use the NEW ALD 2014 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 and can be downloaded from the Apple App Store.**
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### 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 Scottsdale.

#### Wednesday, February 26, 2014

- **7:00 am-8:00 am** Continental Breakfast Board of Directors
- **8:00 am-3:00 pm** Board of Directors Meeting
- **9:00 am-5:00 pm** Pre-Conference Program Sponsored by THOR: Low-Level Laser Training
- **4:00 pm-6:30 pm** Speaker Meeting & Technology Check
- **4:00 pm-7:00 pm** Advanced Proficiency Part 3 Oral Exam Presentations
- **4:30 pm-6:30 pm** Advanced Proficiency Part 1 Online Exam
- **5:00 pm-7:30 pm** Welcome Happy Hour Honoring First-Time Attendees Everyone is Welcome! Registration is OPEN.
- **7:00 pm-7:30 pm** Conference Orientation: How to Get the Most Knowledge & Enjoyment as a First-Time Attendee
- **7:30 pm-8:30 pm** International Reception – International Attendees Welcome!

#### Thursday, February 27, 2014

- **6:30 am** Conference Committee Meeting
- **6:30 am-7:30 am** Morning Nature Walks and Yoga – Meet in ALD Registration Foyer
- **7:00 am-7:30 am** Continental Breakfast Registration
- **7:00 am-8:00 am** General Session: The Science and Utilization of Lasers in Management and Treatment of Failing Implants
- **9:00 am-3:00 pm** TOUR: Taliesin West, Lunch at Tandy’s, and Scottsdale Shopping
- **10:30 am-12:00 pm** Workshop - The Management of Soft Tissues Around Dental Implants with the Use of Light Energy
- **10:30 am-12:00 pm** Enlightenment and Light: Expanding Ethical Insights and Broadening Practical Skills
- **10:30 am-12:00 pm** Laser Fundamentals and Why They Matter
- **10:30 am-12:00 pm** Demonstration - Photo Documentation: Simplifying Photography and Case Presentation – A Live Demonstration
- **11:30 am-12:00 pm** Output Power Characterization of a Portable Diode Laser System Deployed for Clinical Use
- **12:00 pm-8:00 pm** Exhibits Open

#### Program Schedule (subject to change)
### Friday, February 28, 2014

| 6:30 am | Conference Committee Meeting |
| 6:30 am-7:30 am | Morning Nature Walks and Yoga |
| 7:00 am-7:45 am | Speaker Meeting & Technology Check |
| 7:00 am-8:00 am | Continental Breakfast |
| 7:00 am-4:00 pm | Registration |
| 7:00 am-5:00 pm | Exhibits Open |
| 7:00 am-8:00 am | Advanced Proficiency Part 2 Exams in Clinical Simulation Lab |
| 9:00 am-3:00 pm | GENERAL SESSION: The Science of Photon-Induced Photoacoustic Streaming (PIPS) and Its Application in Endodontics and Laser Dentistry |
| 9:00 am-10:00 am | 7:00 am-10:00 am Standard Proficiency Course |
| 9:00 am-1:30 pm | 8:00 am-1:30 pm Effect of Er,Cr:YSGG Laser Irradiation with Radial-Firing Tips on the Push-Out Bond Strength of Resilon/RealSeal SE Sealer |
| 9:00 am-1:30 pm | 8:00 am-1:30 pm Photobiomodulation: (Re)tooling Our Clinical Armamentarium |
| 10:45 am-11:00 am | 9:45 am-11:00 am A Study Comparing Visible Red and Infrared Wavelengths for Dental Analgesia |
| 11:30 am-4:30 pm | 10:30 am-4:30 pm The Efficacy of Er,Cr:YSGG Laser Phototherapy- Past, Present, and Future |
| 1:30 pm-3:00 pm | WORKSHOP - DNA Testing and Laser Pocket Therapy for Periodontal Maintenance: Finding The Right Solutions for Your Practice |
| 1:30 pm-2:30 pm | 8:00 am-1:30 pm Effect of Er,Cr:YSGG Laser Irradiation with Radial-Firing Tips on the Push-Out Bond Strength of Resilon/RealSeal SE Sealer |
| 1:30 pm-2:30 pm | 8:00 am-1:30 pm Photobiomodulation: (Re)tooling Our Clinical Armamentarium |
| 2:30 pm-3:00 pm | 1:30 pm-3:00 pm Effect of Er,Cr:YSGG Laser Irradiation with Radial-Firing Tips on the Push-Out Bond Strength of Resilon/RealSeal SE Sealer |
| 2:30 pm-3:00 pm | 1:30 pm-3:00 pm Photobiomodulation: (Re)tooling Our Clinical Armamentarium |

### Saturday, March 1, 2014

| 6:30 am | Conference Committee Meeting |
| 6:30 am-7:30 am | Morning Nature Walks and Yoga - Meet in ALD Registration Foyer |
| 7:00 am-7:45 am | Speaker Meeting & Technology Check |
| 7:00 am-8:00 am | Continental Breakfast |
| 7:00 am-2:00 pm | Registration / Exhibits Open |
| 7:00 am-8:00 am | RCP Committee Meeting |
| 9:00 am-3:00 pm | TOUR: Heard Museum & Native American Fair |
| 8:00 am-9:00 am | GENERAL SESSION: Laser Phototherapy- Past, Present, and Future |
| 8:00 am-5:30 pm | Standard Proficiency Course |
| 9:00 am-10:00 am | GENERAL SESSION: Photobiomodulation: (Re)tooling Our Clinical Armamentarium |
| 11:30 am-4:30 pm | Golf Tournament at We-Ko-Pa. Tee times starting at 12:30 pm |

### Program Schedule (subject to change)

- **3:00 pm - 3:30 pm Afternoon Break**
  - Effect of Er,Cr:YSGG Laser Irradiation with Radial-Firing Tips on the Push-Out Bond Strength of Resilon/RealSeal SE Sealer
  - SCIENCE & RESEARCH - An Interactive Panel Discussion with Track Speakers
  - WORKSHOP - Justification of a Dual-Wavelength Approach for Endodontic Success Confirmed with 3-D CBCT Imaging: A Hands-On Course
  - In Vivo Occlusal Caries Prevention by Pulsed CO2-Laser and Fluoride Varnish Treatment - An Overview of Principle and the Latest Results

- **7:00 pm - 8:00 pm President’s Awards Reception and Ceremony Everyone is Welcome**
  - 8:00 pm - Midnight President’s Mardi Gras Gala Banquet Separate Tickets Apply

- **10:00 am - 10:30 am Morning Break**
  - A Study Comparing Visible Red and Infrared Wavelengths for Dental Analgesia
Program Schedule (subject to change)

Sunday, March 2, 2014

- 6:30 am-7:30 am  Morning Nature Walks and Yoga
- 7:00 am-7:30 am  Continental Breakfast Standard Proficiency Certification
- 7:30 am-8:30 am  Standard Proficiency Course Lecture Continues
- 8:30 am-11:00 am Standard Proficiency Exam Testing
- 11:00 am-12:00 pm Standard Proficiency Wrap-Up Lecture and Q & A
- 12:30 pm-1:30 pm  Laser Devices Pack-Up by Sales Reps

Schedule is subject to change.

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[Convergent Dental Logo]
Standard Proficiency Certification Course
Saturday 8:00 a.m. – 5:30 p.m. Room 107 and Sunday 7:00 a.m. – 12:00 p.m., Room 107

Charles Hoopingarner, DDS¹, Angie Mott, RDH², Mitch Lomke, DDS³

¹Private Practice, Houston, Texas, USA
²Private Practice, Tulsa, Oklahoma, USA
³Private Practice, Olney, Maryland, USA

This is ALD’s Standard Proficiency Certification Program. Separate fees and prerequisites apply. The Course Faculty are Dr. Charles Hoopingarner, Ms. Angie Mott, RDH, and Dr. Mitch Lomke. Clinical Simulation Examinations take place on Sunday morning 8:30 a.m. – 11:30 a.m. Candidates must complete their separate Online Written Examination within 90 days (by May 31, 2014).

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.

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

Chair: Mel Burchman, DDS
Private Practice, Langhorne, Pennsylvania, USA

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.

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.

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.

2014 Online Written Examination, Wednesday 4:30 p.m. – 6:30 p.m. Room 107
2014 Clinical Case Presentations, Wednesday 4:00 p.m. – 7:00 p.m. Rooms 102, 109, 110
2014 Clinical Simulation Examinations, Friday 7:00 a.m. – 8:00 a.m. Clinical Simulation Lab
Workshops

The 2014 Annual Conference includes 9 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, Endodontics, Pediatric Dentistry, Myofacial Pain Management with a focus on Low-Level Laser Therapy, and Oral Pathology, Oral Medicine and Oral Diagnosis. Some have limited attendance with advanced registration required, and most offer participation continuing education credit. 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, 10:30 am - 12:00 pm, Rooms 102-106

**IMPLANTOLOGY**

**The Management of Soft Tissues Around Dental Implants with the Use of Light Energy**

Edward Kusek, DDS  
Sign-up required. Attendance is limited to 15.

### Thursday, 2:00 pm – 3:30 pm, Rooms 102-106

**PERIODONTOLOGY & PERIODONTAL MAINTENANCE**

**The Use of Dental Lasers to Perform Periodontal Surgery: Lecture & Hands On**

Douglas Gilio, DDS & Mitchell Lomke, DDS  
Sign-up required. Attendance is limited to 24.

### Thursday, 3:30 pm – 5:00 pm, Rooms 102-106

**IMPLANTOLOGY**

**A Hands-On Approach to Treating Periimplant Mucositis**

Jeanette Miranda, RDH  
Sign-up required. Attendance is limited to 24.

### Friday, 10:45 am – 12:15 pm, Rooms 102-106

**ENDODONTICS**

**Photon-Induced Photoacoustic Streaming (PIPS) and Its Application in Endodontics and Laser Dentistry**

Enrico DiVito, DDS & Roberto DiVito, DDS  
Sign-up required. Attendance is limited to 30.  
Prerequisite: Anyone wishing to attend the PIPS endodontic workshop should bring preferably two (2) already accessed and prepared extracted teeth: One single-rooted and the other a multi-rooted molar, all accessed and instrumented 1 mm short of the working length to no larger than a size #30 ISO (preferably a size #25).

### Friday, 3:30 pm – 5:00 pm, Room 109

**ENDODONTICS**

**Justification of a Dual-Wavelength Approach for Endodontic Success Confirmed with 3D CBCT Imaging: A Hands-On Course**

Justin Kolnick, BDS  
Sign-up required. Attendance is limited to 30.

### Friday, 3:30 pm – 5:00 pm, Rooms 104-106

**PEDIATRIC DENTISTRY**

**Pediatric Dentistry Laser Hands-On Workshop**

Larry Kotlow, DDS, Fred Margolis, DDS  
Sign-up required.

### Saturday, 2:00 pm – 4:00 pm, Room 111

**MYOFACIAL PAIN MANAGEMENT, LOW-LEVEL LASER THERAPY**

**How to Use LLLT in Routine and Some Complex Issues in Everyday Dentistry**

Arun Darbar, BDS; Rita Darbar, BDS; Jan Tunér, DDS; Gerry Ross, DDS  
Sign-up required.

### Saturday, 2:00 pm – 4:00 pm, Rooms 102-106

**ORAL PATHOLOGY, ORAL MEDICINE, ORAL DIAGNOSIS**

**Expand Your Practice with Laser-Assisted Oral Medicine and Biopsy Techniques**

Robert Convissar, DDS  
Sign-up required.  
Prerequisite: Attendees should bring their own suture kits, needle holder or hemostat and suture scissors, and any type of suture material and magnification loupes.
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Wednesday, 7:00 p.m. - 7:30 p.m. Room 108

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

Scott Benjamin, DDS¹, John G. Sulewski, MA²
¹Private Practice, Sidney, New York, USA
²The Institute for Advanced Dental Technologies, Bloomfield Hills, 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 2014? 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? 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? 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? 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? 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? 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?

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

Thursday, 10:30 a.m. – 12:00 p.m. Room Yow Hospitality

Enlightenment and Light: Expanding Ethical Insights and Broadening Practical Skills

Donald Patthoff, DDS¹, David Ozar, MA, PhD²
¹Private Practice, Martinsburg, West Virginia, USA
²Loyola University, Chicago, Illinois, USA

The systematic exploration of light therapy over the past 200 years coincides with rapidly expanding technology, changing third-party payment systems, and increasing complexities of what counts as diseases. The ethical decisions now confronting professional clinical practice, research, and marketing over the past 40 years are not, on the ethical/metaphysical level, new; they are, however, being raised in new light.

The central ethical challenge is a tendency to submerge professionalism under marketplace values and motivations. Our marketplace’s dependence on individual judgments overshadows roles of recognized expertise that serve patients’ needs. Three distinct social-ethical characteristics of professionalism require recognition and integration: professional expertise, professional authority, and professional ethics.

Professional obligations differ from experimental-invention requirements: they are not rights and duties. These civil/social constructs – characterized by homogeneity and reciprocity – are used by humans to build systems of health care where individuals, institutions, and processes operate in complex interrelationships. Similarly, healthy bodies (as light therapy evidences) also encompass integrated structures, complex functions, and vital processes. The notion of the body as a whole, though, must be balanced with the notion of the whole body. The underlying professional value of universal patient acceptance (UPA) – that helps balance these notions for the health and well-being of the individual – is rarely articulated in a way that can be used as a helpful fulcrum. Loss of this fulcrum point generates restrictive practices within organizations, society, and science itself. Clear awareness of UPA and integrative-ethics, then, plays a key role.

Educational Objectives
1. Enhance the ways participants currently use to solve new and complex ethical issues specifically related to laser use and light-based medicine.
2. Clarify the three distinct ethical approaches that business, political, and professional organizations use to guide their knowledge and practices.
3. Expand specific skills and techniques for using participants’ natural ethical tools within their professional practice, organizational responsibilities, and daily lives.
Thursday, 10:30 a.m. – 12:00 p.m. Room 107 and repeated Friday, 3:30 p.m. – 5:00 p.m. Room 107

**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**
1. Learn how to adjust and test your camera for optimal performance including color calibration, depth of field, and exposure.
2. Understand, through demonstration, how to make the seven standard dental photo series.
3. From the images that you made, describe how to input, organize, edit, and create patient education presentations.
4. Summarize the four essentials for superior laboratory photography.

Friday, 3:30 – 5:00 p.m. Room 110

**Exotic Animal Dentistry, Lions and Tigers and Bears!**

*Laura Braswell, DDS*
Yerkes National Primate Research Center, Atlanta, Georgia, USA, and Private Practice, Atlanta, Georgia, USA

Health care for exotic animals presents a challenge when it comes to dentistry. This presentation will profile cases over the last 30 years and include nonhuman primates, large cats, bears, and aquatic mammals. Variations on normal anatomy, restorative dentistry, and surgical care will be included. Please join us for this fun presentation and learn about oral health care for the Animal Kingdom.

**Educational Objectives**
1. Describe dental care for exotic animals.
The Science and Utilization of Lasers in the Management and Treatment of Failing Implants

Georgios Romanos, DDS, PhD, Prof. Dr.med.dent.
Stony Brook University, Stony Brook, New York, USA

The use of lasers in the treatment of periimplantitis has been documented using animal models and clinical studies. This presentation describes the indications of laser therapy in the management of problems around failing implants. The potential issue of overheating and how to reduce complications in the periimplant tissues will be discussed. New research data on this topic may provide a better control of the negative effects from the laser irradiation, improving the stability of failed implants when the correct laser wavelength is used.

Educational Objectives
1. Demonstrate the correct indications of lasers in the treatment of periimplantitis.
2. Specify protocols for safe clinical use.
3. Provide evidence from the current literature for the treatment of failing implants using lasers.

Photobiomodulation for Improved Bone Density and Bone Healing

J.E. Bouquot, DDS, MSD
Maxillofacial Center for Education & Research, Morgantown, West Virginia, USA; University of Texas Health Science Center at Houston, Houston, Texas, USA; West Virginia University School of Dentistry, Morgantown, West Virginia, USA

Dental implants must be placed in healthy bone for successful osseointegration and stability. Low bone density (LBD) and ischemically damaged, desiccated bone both have a poor ability to remodel and are, therefore, contraindications for implants. Readily available diagnostic imaging devices, including dental radiographs, lack the ability to adequately identify such bone. However, the new technology of through-transmission or quantitative ultrasound (QUS) is specifically cleared by the U.S. Food and Drug Administration to safely identify LBD and dehydrated bone and has a very low (3%) false-positive rate. Near-infrared light-emitting diode (NIR-LED) therapy or photobiomodulation has been shown in cultured cells and animal models to stimulate bone healing and production.

This discussion will review a unique investigation using QUS to determine the efficacy of in vivo NIR-LED phototherapy to increase bone density and/or hydration of abnormal alveolar bone.

Methods: Sixty-eight patients received LED therapy (OsseoPulse™, version 1.0, Biolux Research Ltd., Vancouver, British Columbia, Canada). This device consists of an extraoral array of highly efficient LEDs producing noncoherent, continuous-wave monochromatic light in the visible far red (660 nm @ 15 mW/cm²) and infrared range (840 nm @ 20 mW/cm²). In addition, there was an integrated alignment device used to ensure that the LED array was repeatedly and accurately positioned directly over the treatment sites. The instrument was placed on the facial surface for 15 minutes daily, 5 days a week, for 12 weeks over each treatment site. The dose per session per treatment area was approximately 200 Joules per square inch. A total of 294 QUS-positive edentulous alveolar sites of LBD/desiccation were treated.

Before-and-after QUS scans were graded blindly by two independent observers (5-point scale: 0 = normal bone, 4 = most severe), after calibration, and compared using matched-pair analysis. Results: After NIR-LED photomodulation the average grade improved from 2.43 to 1.33 (44.3% improvement), with 42% of sites returning to completely normal bone and 18.4% returning to grade 1. The mean difference (improvement of bone quality) of 1.11 was very statistically significant (matched-pair analysis: Std error 0.069; t-Ratio 15.9896; DF 293; prob less than 0.0001; 95% confidence interval 0.558-1.242). Conclusion: NIR-LED therapy seems to hold good potential for improving alveolar bone prior to implant placement, but long-term improvement must be evaluated, as must actual implant 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
1. Describe the uniqueness of jaw alveolar bone relative to other human bones.
2. Specify the efficacy of quantitative ultrasound in identifying certain bone deficiencies.
3. Identify the diagnostic methods applicable to potential implant sites.
4. Review the effectiveness of LLLT for improved bone health in potential implant sites.

Thursday, 2:00 p.m. – 2:30 p.m. Room 111
Lasers in Implantology
Shigeyuki Nagai, DDS
Private Practice, Tokyo, Japan

In current implant dentistry there are some reports and lectures about using lasers. Most of the wavelengths can be used for soft tissue treatment around the dental implant body, and Er:YAG and Er:Cr:YSGG lasers with water cooling are suitable to irradiate the bone for implant treatment. Dental lasers are used in cutting the bone for sinus lift, spot ablation of the bone surface for the bone graft, opening of submerged implants, and disinfection of the implant surface for the treatment of the periimplantitis. Some procedures with the laser have advantages for use, yet some are not suitable to use when compared with conventional treatment. It is time to correct the real advantages of using lasers in implant treatment.

Educational Objectives
1. Specify the basic effects of dental lasers on hard and soft tissues.
2. Identify the advantageous characteristics of lasers in implant treatment and periimplant therapy.
3. Summarize the various clinical applications and methods of treatment including the irradiation parameters and techniques.
4. Describe the safety management as well as potential accidental troubles with laser use in the clinic.

Thursday, 2:30 p.m. – 3:00 p.m. Room 111
Er:YAG Laser-Assisted Bone and Gingival Augmentation Around Implants
Walid Altayeb, DDS, MScD, PhD
Private Practice, Madaina Dental Center, Doha, Qatar

Introduction and Outline of the Clinical Case
A 35-year-old female patient with no medical concerns presented with minimal attached tissue on the buccal aspect of endosseous implants at the #7 and #8 sites that had been placed more than six months earlier (immediate implantation). The patient was undergoing comprehensive dental treatment.

Diagnosis and Treatment Plan
Periimplantitis occurred around implants #7 and #8, resulting in bone resorption and insufficient attached tissue. Osseous and gingival regenerative surgery was planned in two stages to promote reosseointegration and increasing of attached gingiva around dental implants #7 and #8.

Rationale for Treatment and Technique
The Er:YAG (2940 nm) laser can cut and ablate tissue with excellent surgical precision and minimal collateral effects, resulting in decreased tissue damage and thus enhanced healing. The Er:YAG laser is capable of effectively removing plaque, biofilm, and granulation tissues from the implants without damaging their surfaces.

Indications / Contraindications / Alternative Treatment
In cases of bone loss around an implant where the implant is still stable and the bone loss is not too severe, the implant can often be treated and saved. There was no known contraindication for the chosen treatment or laser wavelength in this case. The possible alternative treatment for this patient could be removal of old implants #7 and #8, bone augmentation procedure, and simultaneous or delayed implant placement. Using plastic therapeutic instruments for implant surface debridement as a substitute for laser treatment is another alternative technique.

Clinical Technique / Laser Operating Parameters
The laser chosen was a free-running pulsed Er:YAG (K.E.Y. Laser, KaVo Dental GmbH, Biberach, Germany) with a pulse width of 250 µs. Specific laser operating parameters for this treatment were:

a. The flap incision: 100 mJ/pulse, 25 Hz, with air, no water. Laser handpiece 2062 with fiber insert size 50/10 in contact mode.

b. Vaporization of granulation tissue and bone recontouring: 120 mJ/pulse, 20 Hz, with water and air. Laser handpiece P2061 with cylindrical fiber (1.1 mm) in near-contact mode.

c. Implant debridement and bacterial reduction: 100 mJ/pulse, 10 Hz, with water and air. Handpiece 2061 and cylindrical fiber (1.1 mm diameter, circular round exit surface) in noncontact mode.

d. Vestibuloplasty: 160 mJ/pulse, 15 Hz, with air, no water. Laser handpiece 2062 with fiber insert size 50/10 in contact mode.

e. Deepithelization: 140 mJ/pulse, 6 Hz, with air, no water. Laser handpiece 2060 in defocused mode.
Treatment Sequence
The implants #7 and #8 were accessed with an appropriate laser incision. The diseased tissue was vaporized by laser then implant surface decontamination (bacterial reduction) was performed using the cylindrical tip (1.1 mm) with the tip almost parallel to the implant surface. The bone defects were filled with an organic bovine-derived bone mineral matrix which was fixed in place with titanium pins and sutures were applied. After 4 months of healing time, the implants were uncovered again and the flap was extended palatally to harvest a free connective tissue graft which was sutured around the neck of the implants. Vestibuloplasty and deepithelization were done with the Er:YAG laser. No gingival pack was applied in either stage.

Postoperative Assessment
This case was followed up for 16 months. There was no sign of any complication related to the laser treatments. Healing assessment at 9 and 16 months showed excellent healing and improved tissue color, contour, and consistency. The radiographs confirmed improved bone levels surrounding the implants with no evidence of bony defects.

Educational Objectives
1. Indicate that implant surface debridement and bacterial reduction are obtained effectively and safely with an Er:YAG (2940 nm) laser.
2. Describe how the Er:YAG laser assists the bone and soft tissue augmentation procedures around diseased dental implants.

PARTICIPATION COURSE: A Hands-On Approach to Treating Periimplant Mucositis

Jeanette Miranda, RDH
Private Practice, Sioux Falls, South Dakota, USA

The objective of this presentation is to address how the dentist and hygienist can treat periimplantitis and periimplant mucositis as a team. Both clinicians can contribute to the patient’s therapy with a combination of treatments and lasers. A flow chart will explain the different steps, lasers, and roles each clinician plays. A variety of case studies will be discussed to demonstrate the recommended protocols for hygienists. Hands-on techniques will be described and demonstrated. Participants will practice on pig jaws with various laser wavelengths.

Educational Objectives
1. Identify symptoms and characteristics of periimplantitis and periimplant mucositis.
2. Understand the periimplant mucositis treatment flow chart.
3. Describe case studies of periimplantitis and periimplant mucositis.
4. Learn techniques and demonstrate skills for treating periimplant mucositis.
Laser Utilization in Periodontics

Thursday, 10:30 a.m. – 11:30 a.m. Room 111

Radial-Firing Periodontal Tips in Er, Cr:YSGG and Er:YAG Lasers: A 9-Year Study

John Hendy, DDS, MS
Private Practice, Grants Pass, Oregon, USA

This presentation summarizes the results of a nine-year study of the use of radial-firing perio tips with erbium lasers. A longitudinal study over a 6-year period of three of the most severe cases of periodontal disease will be described and statistical results will be analyzed. A second three-year study involving therapy of 50 quadrants will show the effectiveness of this minimally invasive treatment.

Objectives
The objectives of this nine-year study involving Er, Cr:YSGG and Er:YAG lasers for the treatment of periodontal disease were to develop a radial-firing perio tip and do research on the science of why this treatment works, how it works, and how effective it is clinically.

Method
Radial-firing tips were studied with scanning electron microscopes to see the effects of erbium laser irradiation on tooth structure and degree of damage. Gas chromatography and high-performance liquid chromatography (HPLC) were used to investigate the lasers’ effect on bacterial endotoxins. A microbiological study was performed to determine the lasers’ percentage of kill on periodontal bacteria. Clinical applications and statistics will be shown.

Results
The results of this 9-year study show there is no other periodontal treatment as effective or as easy to perform clinically.

Conclusions
Every practitioner in dentistry needs this knowledge to advance into the future standards of care if they treat periodontal disease now or want to in the future.

Educational Objectives
1. Assess the role of erbium lasers in periodontal treatment.
2. Characterize the results of the use of erbium lasers in periodontal therapy.
3. Identify the statistical probability of this technique being successful in the hands of the specialist and general practitioner.

Thursday, 11:30 a.m. – 12:00 p.m. Room 111

Output Power Characterization of a Portable Diode Laser System Employed for Clinical Use

Inder Raj S. Makin, MD, PhD, Corbin K. Popp, Robert Levine
A.T. Still University, Arizona School of Dentistry & Oral Health (ASDOH), Mesa, Arizona, USA

Clinicians using diode laser systems for periodontal procedures are often unaware of the changes in output characteristics under various clinical operating conditions. This research presents a simple test set up to measure power output from a clinically deployed 940/810 nm diode laser, and validates its performance under various operating conditions, using a computer-controlled power measuring arrangement.

Objectives
Currently, 940-nm diode laser systems are often used for periodontal procedures based on their relatively low cost and portability. During use, the clinician may rely on recommended presets, lacking the knowledge of performance changes under different clinical conditions. For periodontal research, it is essential to have a reliable idea of the output levels under different operating conditions, and have a reasonable means of validating the device performance periodically during the study. This paper describes the use of a simple power measurement setup for measuring the output of a 940-nm diode laser under clinically relevant operating modes.

Method
A diode laser (ezlase™, Biolase, Irvine, Calif., USA) (940/810 nm) was acquired from the institutional clinic. Measurement setup included an adjustable micrometer stage for laser handpiece mounting, a thermopile-based broadband receiver, and a computer-interfaced power meter for acquisition and analysis. A design-of-experiments grid was created, whereby power output was recorded under various settings: different power settings, power as a function of range from receiver, continuous-wave (CW) or pulsed operation, various probe tip lengths and diameters, straight and 90° tip bending, and tip activation. The measurement series included different combinations of source variables. In each case the laser was operated for 10 to 20 seconds.

Results
Laser power output from 300- or 400-micron tips was observed to be comparable. Without tip activation, the output did not vary significantly as a function of range (0 to 8 mm) from the receiver location. Power output degraded approximately 15% when the tips were bent to 90°. The greatest power output reduction was noted as a function of range, once the device was operated with an activated probe tip. Overall, for laser source conditions, relevant to those recommended for periodontal application, the test-laser system performed within the manufacturer-specified device tolerance levels.
Conclusions
A simple laser output measurement setup has been described here in order to better assess the performance of the diode laser while being used in a clinic. A series of independent variables such as probe tip, probe bending, and tip activation were used to record the manner in which the laser output varied from the preset conditions, providing the clinician a better understanding of the expected tissue effects at these operating conditions. This approach is useful in regularly assessing the performance status of systems while they are used for systematic clinical periodontal research using laser devices.

Note: The practical measurement approach described in this presentation may be used to estimate the output from any fiber-based laser system in the 800 to 1,000 nm range. It is not limited to any particular commercial system, nor should it be viewed as an endorsement of any product.

Educational Objectives
1. Identify the various diode laser source variables which impact the device performance.
2. Discuss easy-to-use and reliable test and measurement instrumentation to record the laser device performance while it is being used in the clinic.
3. Explain the importance of laser device output influencing clinical effectiveness.

Thursday, 2:00 p.m. – 3:00 p.m. Rooms 102-106
PARTICIPATION COURSE: The Use of Dental Lasers to Perform Periodontal Surgery: Lecture and Hands-On Workshop

Douglas Gilio, DDS1, Mitch Lomke, DDS2
1Private Practice, Visalia, California, and University of Southern California, Los Angeles, California, USA
2Private Practice, Olney, Maryland, and University of Maryland Dental School, Baltimore, Maryland, USA

This course will provide both valuable didactic lecture material and the experience of hands-on training from both a periodontist’s and a general dentist’s perspective for laser-assisted periodontal surgical procedures, including both soft tissue and hard tissue applications. The proper clinical use of erbium, Nd:YAG, diode, and micropulsed CO2 lasers will be included.

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

Thursday, 3:30 p.m. – 5:00 p.m. Room 111
Mastering Your Diode Laser: Periodontal Surgery

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

Most owners of diode lasers have merely scratched the surface of their capabilities. This presentation explains in detail a myriad of diode laser applications in periodontal surgery. Featured are microvideos. Emphasis is placed on the “How To Do It,” with ample time to discuss case types. An advanced view of diode laser science and an extensive bibliography will be provided. This program has been presented numerous times to East Coast and Canadian audiences.

Educational Objectives
1. Add to one’s capability of using diode lasers for periodontal surgery.
2. Acquire a deeper understanding of the application of laser science to the operation of lasers.
3. Discuss cases that participants have had difficulty in treating.
4. Perform a greater number of laser procedures in one’s dental office.
Fundamentals and Laser Safety

Thursday, 10:30 a.m. – 12:00 p.m. Rooms 109-110

**Laser Fundamentals and Why They Matter**

William R. Gianni, DDS
Private Practice, Twain Harte, California, USA

The use of dental lasers to improve upon conventional practices has dramatically increased over the years. A good understanding of the scientific fundamentals of lasers provides a fresh appreciation of the technological advancements in this field and how this affects 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 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. A basic understanding of how a laser operates helps in understanding the hazards when using a laser device.

**Educational Objectives**

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

Thursday, 1:00 p.m. – 5:00 p.m. Rooms 109-110

**Laser Safety Officer Training**

Jan M. LeBeau, RDH, BS1, Scott Benjamin, DDS2
1Pacific Dental Services, Moorpark, California, USA
2Private Practice, Sidney, New York, USA

This course will address the specific duties of a Laser Safety Officer (LSO) as described in the ANSI Z136.1 - “Safe Use of Lasers” and ANSI Z136.3 - “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 hazard identification and safe work practices that apply to all laser operators, and includes the changes in the latest revision of the standards.

**Note:** Laser Fundamentals is a required prerequisite for this course in order to meet the current requirements by the Arizona Radiation Regulatory Agency (ARRA) for LSO training in dental office settings.

**Educational Objectives**

1. Summarize the responsibilities of the Laser Safety Officer and provide specific guidelines for developing a laser safety program.
2. Provide the required knowledge and understanding of laser systems, nominal hazard zones (NHZ), maximum permissible exposure (MPE), and the optical density (OD) of protective eyewear.
3. Examine laser hazard class details and discuss laser hazard evaluations.
4. Outline engineering, administrative, and procedural control measures.
5. Provide guidance for appropriate audit and record keeping requirements, including training.
Science and Research

Thursday, 2:00 p.m. – 2:20 p.m. Rooms 107-108

STUDENT SCHOLAR
The Effect of Pulsed Low-Level Laser Therapy on Rate of Tooth Movement and Pain Reduction in Orthodontic Patients: A Randomized Clinical Trial

Monica Gawlik, DDS, MS, Katherine Freeman, Anthony Maganzini
Montefiore Medical Center, New York, New York, USA

Objective
To determine the effect of pulsed low-level laser therapy (LLLT) on the rate of tooth movement and on pain experienced relative to no laser therapy in humans.

Materials and Methods
Eleven patients requiring extraction of maxillary first premolars were recruited and Nickel-Titanium (NiTi) coils were employed for bilateral canine retraction. In this split-mouth randomized clinical trial, one-half of the mouth was irradiated and served as the treatment group; the non-irradiated half was considered the control. A gallium-aluminum-arsenide semiconductor diode laser emitting infrared radiation at 810 nm with a power output of 0.2 W and a frequency of 2 Hz was used. The laser was applied to the buccal and palatal aspect of the tooth for 80 seconds weekly for 7 weeks. Tooth movement was measured on progress models and patients were asked to record the level of pain experienced on days one through seven following laser application using the Faces Rating Scale.

Results
The difference in rate of tooth movement between sides was greatest after initial activation of the NiTi coils. The rate of tooth movement in both treatment and control groups significantly decreased over time but there was no statistically significant difference in the trends between groups. Overall there was significantly less pain on the laser-treated side as compared to the non-laser side.

Conclusion
Although pulsed LLLT does not appear to increase the rate of canine retraction relative to no laser therapy over the time points tested, pain in orthodontic patients can be effectively reduced with the administration of 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
1. Gain new knowledge in the use of low-level laser therapy (LLLT) in daily orthodontic practice.
2. Determine the effect of pulsed LLLT on the rate of tooth movement and on pain experienced relative to no laser therapy in humans.

Thursday, 2:20 – 3:00 p.m. Rooms 107-108

Near-IR Laser Noncontact and Contact Tip-Tissue Thermal Interaction Differences

Peter Vitruk, PhD, MinstP, CPhys1, Robert Convissar, DDS2, Georgios Romanos, DDS, PhD3
1Luxarcare, Woodinville, Washington, USA
2New York Hospital Medical Center of Queens, Flushing, New York, USA
3Stonybrook University School of Dental Medicine, Stony Brook, New York, USA

The near-infrared (IR) wavelength absorption by oral mucosa is analyzed by melanin/water absorption spectra for the epithelium layer and by hemoglobin/water absorption spectra for the sub-epithelium medium. The noncontact (purely optical) laser-tissue interaction lacks spatial precision due to highly melanin-dependent absorption in epithelium, and due to extended penetration depth in sub-epithelium.

The heat transfer from the hot “initiated” near-IR laser tip through water-rich oral mucosa is analyzed by the heat transfer equation, and with boundary and initial conditions representing the contact mode of tip-tissue interaction. The heat penetration depth through the tissue is shown to be proportional to the root square of the tip-tissue contact time. Such (nonoptical, purely thermal) heat penetration depths controlled by tip-tissue contact time can be significantly smaller than the heat penetration depths controlled by the tissue’s near-IR absorption (purely optical and noncontact); e.g., 300-500 µm for 0.5-1.5 second tip-tissue contact time vs. 1,000 µm-range near-IR absorption depths (yet both exceed the 10 µm-range CO2 laser in water-rich oral mucosa).

The better spatially confined heat transfer from the hot “initiated” tip helps explain the proliferation of “nonoptical, contact” as opposed to “optical, noncontact” near-IR dental devices in everyday dental practice. Important for controlled spatial confinement of the heat are (1) tip-tissue contact time and (2) prevention of optically “leaky” tips, both of which are important in prevention of thermal side effects, such as excessive spread of soft tissue necrosis and hard tissue overheating.

Educational Objectives
1. Characterize the difference in tissue interaction between contact and noncontact near-IR lasers.
2. Understand heat penetration through epithelial and sub-epithelial tissue layers using contact and noncontact near-IR dental lasers.
3. Determine heat penetration depth in relationship to the square root of tip/tissue contact time.
Thursday, 3:30 p.m. – 5:00 p.m. Rooms 107-108

**Advanced Laser Science: An Interactive Panel Discussion**

Craig Gimbel, DDS¹ and ALD Science and Research Committee

¹Private Practice, Denville, New Jersey, USA

Sweating the small stuff is often the key to opening doors to new opportunities, new advancements, new technologies. In this case, the discussion is on really small stuff: photons, laser pulses, laser-tissue interaction, absorption chromophores, ablation, and similar topics. The interactive discussion is a snapshot of an ongoing project of the Science and Research Committee’s challenge to stay current with the latest trends and developments facing the ever-evolving light-based technologies and their applications in dentistry. In an effort to update the ALD’s hard and soft tissue laser position papers as well as develop a low-level laser therapy (LLLT) position paper, the Committee will discuss specific changes and challenges, share viewpoints, and engage the audience with thought-provoking questions.

**Educational Objective**

1. Summarize the efforts of the Academy of Laser Dentistry’s Science and Research Committee to stay abreast of developments in light-based technologies as they apply to dentistry.

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Friday, 10:45 a.m. – 11:15 a.m. Room 111

**The Technological Evolution of the 9300-nm CO₂ Hard and Soft Tissue Laser**

Nathan Monty, MA
Convergent Dental, Natick, Massachusetts, USA

This presentation summarizes the relevant scientific research involving lasers in the mid-infrared region that led to the development of dentistry’s first CO₂ laser cleared by the U.S. Food and Drug Administration for intraoral hard and soft tissue applications. The unique hydroxyapatite absorption characteristics related to 9.3 micrometers for optimum energy transfer into dental hard tissues will also be discussed, as will its soft tissue surgical abilities which are similar to that of the 10.6-µm CO₂ laser. An implementation example and selected clinical cases will be reviewed.

**Educational Objectives**

1. Summarize the research that proved the absorption efficiency and clinical benefits of the 9.3- and 9.6-micrometer laser wavelengths.
2. Explain how the absorption characteristics of 9.3 micrometers in hydroxyapatite and water enable faster and finer ablation of hard tissue and excellent hemostasis for soft tissue.
3. Review the inner workings of the computer-controlled beam delivery system, and determine how it provides unprecedented control and enables nontechnical users to achieve excellent clinical results.
4. Observe clinical examples of hard and soft tissue treatments with a 9.3-micrometer CO₂ laser.

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Friday, 11:15 a.m. – 12:15 p.m. Room 111

**DEMONSTRATION: The Use of the 9300-nm CO₂ Computer-Aided Preparation (CAP) Dental Laser System for Cavity Preparation**

David Fantarella, DMD
Private Practice, North Haven, Connecticut, USA, and Convergent Dental, Natick, Massachusetts, USA

This presentation will demonstrate the advantages of the first 9300-nm CO₂ computer-aided dental laser system (Solea, Convergent Dental, Natick, Mass., USA) cleared by the U.S. Food and Drug Administration. Dr. Fantarella will present cases where he used this laser system to prepare teeth for milled restorations without the need for the drill. Soft tissue techniques will be taught as well, demonstrating precision and control that until now was unavailable from any dental laser. Finally, he will also discuss how he leverages this new all-tissue laser along with other technologies in his practice to achieve better clinical results and improved practice growth.

**Educational Objectives**

1. Recount the advantages of computer-aided cavity preparation.
2. Understand why the CO₂ laser at 9300 nm sets a new standard for speed and precision in a dental laser.
3. Observe the ablation of hard and soft tissue with the 9300-nm CO₂ laser.
4. Recognize the benefits of the integration of the 9300-nm CO₂ dental laser with other digital dental technology.
A Comparison of Enamel and Cementum Ablation Efficiency of an Er:YAG Laser Using QSP, SSP, and SP Pulse Duration Modes: An In Vitro Study

Matjaz Lukac, PhD, Tomaz Suhovrnik, BSc, Cene Filipic, PhD  
1. University of Ljubljana, Faculty of Physics, Ljubljana, Slovenia  
2. Institute of Laser Physics, Ljubljana, Slovenia

Objectives
The aims of this in vitro study were to investigate the ablation efficacy of an Er:YAG laser system equipped with a new Quantum Square Pulse (QSP) pulse duration modality, and to compare it with the ablation efficacy of other erbium laser pulse duration modes.

Materials and Methods
The experiments were conducted on randomly chosen extracted premolar and molar teeth which were stored in a physiological saline solution immediately following extraction. Before each ablation experiment, the tooth was positioned to have its surface perpendicular to the laser beam, and to be at the focal distance of the noncontact laser handpiece. Measurements were made on enamel and cementum under water/air spray conditions. Each ablation data point represented an average obtained from 10 different cavities, each made with 20 or 30 consecutive pulses of the same laser energy delivered to the same spot. Single pulse laser energies used were in the range of 170-420 mJ. Ablation measurements were made with QSP, Super-Short Pulse (SSP), and Super Pulse (SP) pulse duration modes of an Er:YAG laser (LightWalker AT, Fotona, Ljubljana, Slovenia).

Results
The measurements revealed a very significant increase in ablation efficacy of the QSP Er:YAG mode in comparison to other tested modes.

Conclusions
An important advantage of the QSP mode is that it significantly reduces the undesirable effects of laser beam scattering and absorption in the debris cloud during cutting of dental tissues. Due to the enhanced ablation efficacy of the QSP mode, a larger percentage of the Er:YAG laser is utilized for ablation, and not for the undesirable heating of the treated tissue. Consequently, dentists using QSP mode, in comparison to other erbium laser pulse duration modes, are expected to benefit from significantly faster ablation and greater precision.

Educational Objectives
1. Understand Quantum Square Pulse (QSP™) technology.
2. Compare the enamel and cementum ablation rates using QSP, SSP, and SP pulse duration modes.
Specific CO\textsubscript{2}-pulsed-laser irradiation markedly inhibits caries progression in pits and fissures in comparison to fluoride varnish alone over 12 months. SOPROLIFE evaluations confirmed the ICDAS results. Supported by NIH/NIDCR grant DE09958.

**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**
1. Learn about caries prevention using short-pulsed 9.6-µm CO\textsubscript{2}-laser irradiation.

Friday, 3:30 p.m. – 4:30 p.m. Room 111

**Science and Research:**
An Interactive Panel Discussion

Dr. Peter Rechmann, Mr. Nathan Monty, Dr. David Fantarella, Dr. Larry Kotlow, Dr. Matjaz Lukac

This moderated program is designed to provide an informal and deeper exchange of information related to the Science and Research presentations just concluded. Attendees are afforded the opportunity to ask questions of the presenters to gain additional insight into recent investigations and applications, and then to consider the possible implications for clinical practice.

**Educational Objective**
1. Summarize the findings of some of the most recent studies and uses of lasers in the dental field.
Laser Utilization in Endodontics

Friday, 8:00 a.m. – 9:50 a.m. Rooms 109-111

The Science of Photon-Induced Photoacoustic Streaming (PIPS) and Its Application in Endodontics and Laser Dentistry

Enrico DiVito, DDS
Arizona School of Dentistry and Oral Health, Mesa, Arizona, USA and Private Practice, Scottsdale, Arizona, USA

A recent advancement in the delivery of laser energy into the root canal system has many dentists, specialists, and investigators excited. Root canal morphology is highly complex and is composed of multiple portals of exit, fins, deltas, isthmuses, and irregularly shaped canals. These canal irregularities are challenging areas to thoroughly debride, irrigate, and disinfect. Lasers are used to activate irrigation solutions. The creation of a new system for laser-activated irrigation (LAI) using a 2940-nm Er:YAG laser (LightWalker® DT, Fotona, Ljubljana, Slovenia) to produce “photon-induced photoacoustic streaming” (PIPS®) in combination with specific protocols, parameters, and irrigants allows removal of both vital and necrotic debris from the intricate anatomy inside the root canal system. This presentation shows the results of light microscopy, bacteriological testing, scanning electron microscopic (SEM) images and confocal testing used to compare the efficacy of the various irrigation techniques.

Educational Objectives
2. List the advantages and disadvantages of current irrigation techniques.
3. Explain the scientific rationale of this new laser-assisted method of irrigation.
4. Name the benefits of laser-activated irrigation (LAI) with PIPS.

Friday, 10:45 a.m. – 12:15 p.m. Rooms 102-106

PARTICIPATION COURSE: Photon-Induced Photoacoustic Streaming (PIPS) and Its Application in Endodontics and Laser Dentistry

Enrico DiVito, DDS, Roberto DiVito, DDS
Arizona School of Dentistry and Oral Health, Mesa, Arizona, USA, and Private Practice, Scottsdale, Arizona, USA

The goals for debridement and removal of pulp remnants as well as microorganisms and microbial toxins from the root canal system are considered essential for endodontics success. However, endodontic techniques currently used fall short of this goal. This is mainly due to the complex anatomy of the root canal system, the type and resistance of bacterial colonization, the limitation of rotary instrumentation to remove all tissues from the surfaces after completion of the preparation, and the limitations of commonly used irrigants to penetrate the dentin walls.

Irrigation is an essential part of root canal therapy because it allows for cleaning beyond what might be achieved by root canal instrumentation alone. Recently the use of lasers has been shown to enhance the cleaning action. A laser-activated irrigation system (LAI) called photon-induced photoacoustic streaming (PIPS) will be demonstrated during the workshop immediately following the lecture.

Participants are asked to bring their own accessed and instrumented single- or multi-rooted extracted teeth to the workshop for use with LAI. PIPS will be described and performed by the participants themselves under the direction of Drs. Enrico and Rob DiVito. This nonthermal LAI application will demonstrate the unique efficiency and profound ability to negotiate and clean the most complex and morphologically intricate canal shapes without the need to over-instrument the root canal system. This is a truly minimally invasive and dentin-sparing endodontic tool.

Educational Objectives
1. Experience the ease of using PIPS without the need to over-instrument and remove precious root dentin.
2. Differentiate between thermal laser-activated irrigation and the subablative nonthermal benefits of PIPS.
3. Use the latest erbium:YAG laser system by Fotona to perform PIPS.
A Combined Endodontic Laser-Supported Treatment Concept

Norbert Gutknecht, DDS, PhD
RWTH Aachen University Hospital, Aachen, Germany

Endodontics has always had a special position in conservative dentistry. If endodontic treatments fail it inevitably leads to surgery or the loss of a tooth, both of which are significant consequences for the patient.

The pathological reaction is caused by a bacterial root canal system in which certain species of bacteria thrive to produce the clinical picture of periapical periodontosis. Conventional endodontic treatment consists of cleaning the root canal by mechanical means and irrigation with antibacterial solutions. One distinct disadvantage of these solutions is that bactericidal effects are only present in the root canal. Due to the narrow diameter of the dentinal tubules and the high surface tension of liquid solutions, the solutions can penetrate into only a small part of the canal tissue. Chemical disinfectants reach only 100 µm into the adjoining root dentin. Experiments performed by Kouchi et al. show that during infection, bacteria colonize the dentinal tubules up to 1100 µm from the canal lumen (Kouchi Y, Ninomiya J, Yasuda H, Fukui K, Moriyama T, Okamoto H. Location of Streptococcus mutans in the dentinal tubules of open infected root canals. J Dent Res 1980;59(12):2038-2046). This explains why bacteria in the deep dentin layers are not destroyed by chemical disinfectants.

For many years, lasers could only be used with a rigid delivery system, such as a mirror-joint. Only the development of new light-conducting materials made the application of diverse wavelengths in the root canal possible. By using a flexible radial-firing tip (RFT) fiber, the radiation can be led directly into the root canal and can therefore also act in the apical third. During the past few years, several laser systems have gained widespread acceptance in endodontic therapy because lasers have been shown to be very effective in cleaning and disinfecting the root canal lumen.

The combination of an Er,Cr:YSGG laser and a 940-nm diode laser has the ideal properties for this application. The first one is well absorbed in water and hydroxyapatite, so that the smear layer, organic material, and infected root canal wall dentin can be well removed, showing open lateral dentinal tubules. The second wavelength is scarcely absorbed by the dentin, therefore providing a sufficient depth of penetration, a prerequisite to the good bactericidal effects. The crown-down technique in combination with these two laser treatments will provide the highest possibility for a successful endodontic treatment of highly infected root canals.

Educational Objectives
1. Describe the biophysical interaction of different laser wavelength in the root canal.
2. Learn when and how to integrate a specific laser wavelength in endodontic treatment.
3. Summarize the advantages and disadvantages of different laser wavelength in the root canal.
4. Differentiate between proposed endodontic treatment concepts.
**Effect of Er,Cr:YSGG Laser Irradiation with Radial-Firing Tips on the Push-Out Bond Strength of Resilon/RealSeal SE Sealer**

*Sara Ehsani, DDS, Behnam Bolhari, Ardavan Etemadi*

Tehran University of Medical Sciences, Tehran, Iran

Various methods are used for smear layer removal in endodontics such as application of Er,Cr:YSGG lasers. This laser system may influence the bond strength of resin-based sealers. The aim of the present study was to evaluate the effect of Er,Cr:YSGG laser irradiation on the push-out bond strength of Resilon®/RealSeal™ Self-Etch (SE) sealer compared with a treatment using ethylenediaminetetraacetic acid (EDTA) and sodium hypochlorite (NaOCl).

After root canal preparation of 60 single-rooted extracted teeth, samples were divided into two experimental groups and one positive control group (n = 20 in each group). In group 1 smear layer was removed by irrigation with 17% EDTA and 5.25% NaOCl. In group 2 smear layer was removed using a 2.78-µm Er,Cr:YSGG laser (WaterLase Millennium, Biolase, Irvine, Calif., USA) with radial-firing tips (RFT3) (parameters: 1.5 W, 140 µs, 20 Hz, and 15% water to 15% air ratio), moving at 2 mm/s apicocoronally. Group 3 served as positive control group. Roots were obturated with Resilon RealSeal SE and subjected to a push-out test. Data were analyzed using one-way analysis of variance (ANOVA) and Tamhane tests.

The results showed no significant difference between push-out bond strength of root canal fillings in the EDTA + NaOCl group and the 1.5 W laser group (P > 0.05). The positive control group showed the lowest push-out bond strength.

The investigations indicated that the application of Er,Cr:YSGG laser with radial-firing tips did not adversely affect the push-out bond strength of RealSeal SE sealer to dentin.

**Educational Objective**

1. Evaluate the effect of Er,Cr:YSGG laser irradiation on the push-out bond strength of RealSeal Self-Etch (SE) sealer to dentin.

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**The Efficacy of Er,Cr:YSGG Laser Therapy in Smear Layer Removal**

*Sara Ehsani, DDS¹, Behnam Bolhari², Hamid Tofighi²*

¹Tehran University of Medical Sciences, Tehran, Iran, ²Shahed Dental School, Tehran, Iran

The purpose of this study was to evaluate and compare the efficacy of erbium, chromium:yttrium-scandium-gallium-garnet (Er,Cr:YSGG) laser irradiation at different output powers with conventional treatment in smear layer removal. Sixty single-rooted extracted teeth were included. After instrumentation, samples were divided into three experimental groups and a positive control group (n = 15 in each group). In group 1 the smear layer was removed by irrigation with ethylenediaminetetraacetic acid (EDTA) and sodium hypochlorite (NaOCl). In group 2 the smear layer was removed using 2.78-µm Er,Cr:YSGG laser irradiation (WaterLase Millennium, Biolase, Irvine, Calif., USA) with the output power of 1.5 W, and in group 3 the smear layer was removed with the same laser but with a power of 2.5 W. Group 4 served as positive control group. The teeth were split into halves and prepared for scanning electron microscope (SEM) observation. Images from coronal, middle, and apical thirds of the roots were analyzed using the one-way analysis of variance (ANOVA) test. The analysis of the root canal surface in group 4 (positive control) showed the presence of a heavy smear layer throughout the entire length of the canal. In all groups, the SEM results of the apical third of the canal presented the highest amount of debris and smear layer. In both groups 1 and 2, no smear layer was present in the coronal and middle parts of the surfaces of most samples. In group 3, mostly unclean surfaces with a significant amount of debris and smear layer were observed. Only a few dentinal tubule orifices were visible in group 3. Based on the results of the present study, root canal treatment with an Er,Cr:YSGG laser at 1.5 W output power showed similar cleanliness and removal of smear layer and debris compared with treatment using EDTA + NaOCl. However, the application of Er,Cr:YSGG laser with the output power of 2.5 W resulted in unclean root canal walls covered with smear layer and debris.

**Educational Objective**

1. Compare the ability of Er,Cr:YSGG irradiation at different output powers with conventional treatment to remove the smear layer in the apical, middle, and coronal thirds of instrumented root canals in extracted single-rooted teeth.
Pediatric Dentistry

Friday, 8:00 a.m. – 5:00 p.m. Room 107

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 full-day course will introduce dentists and hygienists to the exciting world of laser dentistry. This course will be taught by two pediatric dentists that are Masters in Laser Dentistry (ALD) and other lecturers who will present this dynamic program that will revolutionize your practice. Lecturers will share their knowledge on lasers and discuss laser safety, laser physics, and soft and hard tissue procedures including infant laser surgery.

A multimedia approach will be used to present a brief review of the history and physics of laser dentistry and the use of the erbium laser for hard and soft tissue dentistry including cavity preparations, pulp treatments, as well as many soft tissue procedures. The use of soft tissue lasers for soft tissue surgery including gingivectomies, operculectomies, exposures, etc. will be illustrated.

The sessions will include the diagnosis and treatment of the lingual and maxillary frena; breastfeeding of newborns and infants; excision of mucocceles and fibromas; and hard-tissue laser surgery on teeth and bone. The soft tissue surgery lecture will include gingivectomies, esthetic recontouring, operculectomies, and surgical exposures.

There will be a hands-on session to enable participants to learn by doing. Instructors will be available to guide you through these procedures on pigs’ jaws and extracted teeth. Erbium, diode, and CO₂ lasers will be available for use.

Educational Objectives
1. Provide a brief overview of laser history, the physics and types of lasers, and their specific uses in dentistry.
2. Discuss how the erbium laser can be used for hard-tissue cavity preparations with reduced need for a local anesthetic.
3. Learn how to perform soft-tissue surgeries with a laser, including frenectomies, gingivectomies, biopsies, mucoccele removal, herpetic and aphthous ulcer treatments, and operculectomies.
4. Decide on which laser is right for one’s dental practice.

Friday, 1:30 p.m. – 1:50 p.m. Room 107

Orofacial Myofunctional Therapy (OMT) after Frenuloplasty

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

The surgery was successful! What’s the problem?

Laser dentistry has made the frenuloplasty – commonly known as frenectomy – both safer and more comfortable for patients who receive corrective surgery for ankyloglossia (tongue-tie). Although we celebrate these benefits, we have also heard that frenuloplasties do not always provide satisfactory results. Why? A large piece of the frenuloplasty puzzle is often missing. This presentation and demonstration will emphasize how we approach the postoperative training of proper physiological activity of the tongue after frenuloplasty.

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

Educational Objectives
1. Specify advantageous approaches toward postoperative training of the tongue after frenuloplasty.
2. Evaluate treatment exercises for postoperative tongue-tie patients.
Friday, 1:50 p.m. – 2:20 p.m. Room 107

5 Keys for Successful Pediatric Soft Tissue Laser Dentistry

Rishita Jaju, DMD
Ashburn Children's Dentistry, Ashburn, Virginia, and Children’s National Medical Center, Washington, DC, USA

This presentation emphasizes the importance of various considerations while using lasers in soft tissue pediatric dentistry. Aspects of a successful procedure will be discussed including: Patient selection and management, laser wavelength selection and rationale, tissue biotype considerations, technique, and energy parameters.

Educational Objectives
1. Understand proper pediatric patient selection and management during laser procedures.
2. Determine appropriate laser wavelength selection for intended outcomes.
3. Relate the importance of tissue biotype considerations.
4. Describe the importance of hand technique and laser energy parameters for long-term success.

Friday, 2:20 p.m. – 3:00 p.m. Room 107

Using the CO$_2$ Laser at 9300 nm in Pediatric Dentistry

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

Over 20 years ago it was suggested that the CO$_2$ laser operating at a wavelength of 9300 nm could ablate both hard and soft tissue rapidly and safely for the dental structures. In 2010 Convergent Dental began developing such a laser. In 2013 the laser was produced and the U.S. Food and Drug Administration provided marketing clearance for this laser for both hard and soft tissue ablation. This presentation will provide examples of soft and hard tissue procedures completed on children.

Educational Objectives
1. Introduce the 9300-nm wavelength CO$_2$ laser for use in dentistry.
2. Review soft tissue treatments using the 9300-nm CO$_2$ laser.
4. Specify techniques for using the 9300-nm CO$_2$ laser safely on children and infants.

Friday, 3:30 p.m. – 5:00 p.m. Rooms 104-106

PARTICIPATION COURSE: Pediatric Dentistry Laser Hands-On Workshop

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

This hands-on program will enable the participant to use various laser wavelengths from several manufacturers to learn how to prepare hard tissue (cavity preparations) and perform soft tissue surgery. Procedures include frenectomies, gingivectomies, biopsies, mucocele removal, herpes and aphthous ulcer treatments, and operculectomies. The instructors are Masters in Laser Dentistry (ALD) and have performed laser dentistry for more than 10 years. Using pig jaws and extracted teeth, participants will learn the advantages of each laser and how to effectively and efficiently perform many techniques. This introduction will allow you to decide which laser (wavelength) is right for you and your practice.

Educational Objectives
1. Simulate soft-tissue surgeries on tissue specimens with a laser.
2. Learn how to perform frenectomies on newborns, infants, and toddlers.
3. Practice hands-on applications with various laser wavelengths including diode, erbium, CO$_2$, and Nd:YAG.
Periodontics and Periodontal Maintenance

Friday, 10:45 a.m. – 12:15 p.m. Room 109

**PANEL DISCUSSION: Myths, Misconceptions, and Controversies in Laser-Assisted Periodontal Therapy and Maintenance**

Walid Altayeb, DDS, MScD, PhD¹; Laura Braswell, DDS²; Susan Cutler, DMD³; Jan M. LeBeau, RDH, BS⁴

¹Private Practice, Doha, Qatar
²Private Practice, Atlanta, Georgia, USA
³Director of Medical Affairs, OraPharma, Inc., Bridgewater, New Jersey, USA
⁴Pacific Dental Services, Moorpark, California, USA

This panel discussion is intended to confront various misconceptions and controversies that may be contributing to the resistance of dental lasers being more widely accepted as an integral adjunct to a periodontal maintenance program. Several short presentations will provide the basis for guided discussion from both clinical and scientific research perspectives. The panel will include a mix of hygienists, periodontists, and general dentists. Discussion will include an examination of the end goal in treatment versus the specific laser device in order to provide a more thorough understanding of the value and appropriate use of dental lasers. A review of verbal skills in treatment presentation will be addressed as a basis for providing appropriate information with the intention to eliminate sending the wrong message and thus eliminating myths and misconceptions.

**Educational Objectives**

1. Address some of the controversies about the role of lasers as an adjunct in periodontal therapy.
2. Provide a more solid foundation for the appropriate use of the dental laser, including how, when, where, and why.
3. Reexamine the end goal of what periodontal therapy is trying to accomplish and then apply the benefits of various lasers while also understanding their limitations.

Friday, 1:30 p.m. – 2:00 p.m. Room 109

**Adjunctive Use of the Diode Laser in Nonsurgical Periodontal Therapy: Exploring the Controversy**

Mary Somborger Porteous, RDH, BS, MS¹, Dorothy J. Rowe, MS, PhD²

¹Private Practice, Danville, California, USA
²University of California, San Francisco, California, USA

Despite the controversy regarding clinical efficacy, some dental practitioners use the diode laser as an adjunct to nonsurgical periodontal therapy. The technique to maximize successful laser therapy outcome is controversial as well. The purpose of this review is to explore the scientific foundation of the controversy surrounding the use of the diode laser as an adjunct to nonsurgical periodontal therapy. Further, this paper addresses the weaknesses in study design, the heterogeneity of methodology in the published clinical studies, especially the laser parameters, and how these issues impact the collective clinical and microbial data and, thus, conclusions regarding clinical efficacy. Evaluation of the literature identifies possible mechanisms that could contribute to the varied, often conflicting results among laser studies that are the foundation of the controversy surrounding clinical efficacy. These mechanisms include: current paradigms of periodontal biofilm behavior; tissue response to laser therapy being dependent on tissue type and health; and that the successful therapeutic treatment window is specific to the target tissue, biofilm composition, laser wavelength, and laser energy delivered. Lastly, this paper discusses laser parameters used in the various clinical studies, and how their diversity contributes to the controversy. Although this review does not establish clinical efficacy, it does reveal the scientific foundation of the controversy and the study outcome measures that drive the continued use of diode lasers, as dental practitioners seek a therapeutic treatment for providing more effective nonsurgical periodontal care.

**Educational Objectives**

1. Name three mechanisms that may contribute to the varied and conflicting results studies involving the adjunctive use of diode lasers in nonsurgical periodontal therapy.
2. List two studies that may support the clinical efficacy of the use of a diode laser as an adjunct to nonsurgical periodontal therapy.
3. Name two studies that may support the clinical efficacy of the use of a diode laser as an adjunct to nonsurgical periodontal therapy in patients of suboptimal health.
4. Identify two studies that have contributed to establishing the current diode laser use technique and power settings that must be respected to mitigate collateral damage.

Douglas Gilio, DDS
Private Practice, Visalia, California, and University of Southern California, Los Angeles, California, USA

The purpose of this course is to introduce dentists and hygienists to the numerous benefits of DNA bacterial analysis and to stress the importance of identifying host-specific bacteria before treatment. These important test results will identify microbial levels and species taken during the initial patient exam that may provide specific analysis data for the dentist and hygienist in order to develop the most appropriate diagnosis and treatment plan.

Laser Pocket Therapy for Periodontal Maintenance is one of many treatment options available for the treatment of chronic periodontal disease. Once the microbial fingerprints have been identified, the care provider has an advantage of the identification for specific flora causing pathogenesis and an ideal choice of therapy can be selected.

Attendees will learn proper techniques for gathering oral microbial DNA samples, how to write up the analysis report, and how to mail samples to the laboratory of choice to be cultured and identified.

Upon receipt of the periodontal pathogens presumptive identification analysis letter, the care provider must discuss the findings with the patient. This workshop provides basic communication skills that clearly educate the patient about the laboratory analysis results, and explains the best choice of antibiotic therapy for the microbial species identified. Finally, the workshop suggests methods of periodontal disease treatment options.

Many treatment options are available based on the type of bacteria analysis results. This workshop focuses on periodontal maintenance only after initial periodontal treatment. Participants will have the opportunity to review current laser techniques and evidence-based research for Nd:YAG, CO₂, Er:YAG, and various diode laser devices. Therapy parameters will be discussed including ideal power settings, duration, and application techniques. Dr. Gilio will review 20 years of anecdotal experience and observations of laser pocket therapy for periodontal maintenance as well as traditional oral antiseptic irrigants and chemotherapeutics.

Note: The presenter acknowledges the work of laser research pioneers Dr. John Featherstone, Dr. Peter Rechmann, Dr. Joel White, Dr. Akira Aoki, Dr. Dan Fried, Dr. Georgios Romanos, and Dr. Gorgen Slots.

Educational Objectives
1. Apply DNA-gathering techniques with paper points, vital for valid research links and DNA microbial testing.
2. Discuss the importance of identifying specific bacteria before starting treatment for chronic periodontal disease and research baseline.
3. Discuss routine paper work, patient questions including patient allergies, food and medication, medical issues.
4. Choose a microbial testing lab best for your patient needs and discuss recommended antibiotics within the patient’s limitations.
5. Summarize the advantages and disadvantages of different laser wavelengths and recognize laser energy absorption of tissue chromophores.

Friday, 2:00 p.m. – 2:30 p.m. Room 109

Periodontal Health: Built On Comprehensive Communication

Arthur B. Levy, DMD¹,²; Thomas Duddy; Susan Cutler, DMD¹
¹OraPharma, Bridgewater, New Jersey, USA
²Private Practice, Chester, New Jersey, USA

Through this presentation, the dental staff will be able to see themselves as the true gatekeepers of health care. With active and periodic maintenance visits, the dental team can diagnose and advise treatment of periodontal disease which has been shown to have a close correlation to general systemic health. The communication skills necessary to help patients understand this connection will be explored and suggestions will be made to improve patient understanding. The conversion of the patient’s needs to an accepted treatment plan will help the office, the patient, and the staff grow and prosper in the coming years.

Educational Objectives
1. Discuss and understand the prevalence of periodontal disease.
2. Show how the data collection and monitoring have made the dental staff the gatekeepers of health care.
3. Explore the communication skills necessary to present a cohesive and focused approach to solving the patient’s periodontal problems.
4. Translate the patient’s periodontal status into an accepted treatment plan aimed at helping the patient to maintain periodontal health for a lifetime.
The Hygiene Forum –
Panel Discussion Session

Jeanette Miranda, RDH¹, Angie Mott, RDH²,
Mary Lynn Smith, RDH³
¹Private Practice, Sioux Falls, South Dakota, USA
²Private Practice, Tulsa, Oklahoma, USA
³Private Practice, McPherson, Kansas, 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. Angie Mott, Jeanette Miranda, and Mary Lynn Smith have a combined experience of more than 70 years in dental hygiene. Each serves on the Academy of Laser Dentistry’s Auxiliary Committee. Ms. Mott has achieved ALD’s Recognized Course Provider status. Dental hygiene laser education is a passion for all three facilitators.

Educational Objective
1. Receive answers to questions about laser-assisted periodontal therapy in a collegial and informative learning environment.
Low-Level Laser Therapy (LLLT), Myofacial Pain, Oral Medicine, Oral Diagnosis, Oral Pathology

Saturday, 8:00 a.m. – 9:00 a.m. Rooms 109-111

Laser Phototherapy – Past, Present, and Future

Jan Tunér, DDS
Private Dental Clinic, Grängesberg, Sweden

The objective of this presentation is to give an overview of the history of laser phototherapy (LPT), describe its current scientific status, and make some suggestions for future steps in the scientific and clinical field. The advantages of the ruby and the CO₂ lasers were rapidly accepted in medicine. However, the acknowledged qualities were primarily the ability of these lasers to cut and coagulate soft tissue. The McGuff group, on the other hand, presented a number of studies during 1964-1966, showing that the red laser light had a remarkable tumoricidal effect. Sadly enough, these findings soon fell into oblivion, but were observed by Mester. The mechanism was not understood, but already in 1979 it was shown that low energies of laser light could increase the production of mitochondrial adenosine triphosphate (ATP). Very low-powered "low-level lasers" were commercialized in the mid-80s. A number of minor studies indicated possibilities to use these lasers to improve wound healing, salivary secretion, and pain attenuation, among other things. During the 80s and 90s low-level laser therapy stayed an odd and controversial medical option, often met with disbelief. Things started to change in the beginning of the new millennium. In the year 2000 only around 20 papers on the subject were found on PubMed, but kept growing and are now in the range of 300 annually. Several of the early claims have been verified and the knowledge about the basic cellular mechanisms has increased rapidly. LPT as a scientific method has matured and the question today is not whether it works, but how to use it with optimal parameters for the various indications. There is still a large void to fill.

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

1. Become informed about the historical background of laser phototherapy.
2. Consider the current scientific evidence about laser phototherapy.
3. Explain reasons for success and failure in LPT research.
4. Look into the future and address necessary steps to increase credibility of LPT.

Saturday, 9:00 a.m. – 10:00 a.m. Rooms 109-111

Photobiomodulation: (Re)tooling Our Clinical Armamentarium

Praveen Arany, BDS, MDS, MMSc, PhD
Chief, Cell Regulation and Control Unit, National Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda, Maryland, USA

The excitement of the invention of the LASER was quickly followed by careful scrutiny of its biological effects. The new tool was viewed with some skepticism as a natural comparison was made with other, more powerful forms of ionizing electromagnetic radiation such as gamma and X-rays. Surprisingly, among its earliest effects, Mester's pioneering work noted the ability of low-power lasers to stimulate wound healing and hair growth. But it soon became apparent that using the same tool at different settings produced dramatically different biological outcomes. Perhaps the best exemplar of the dichotomy of laser technology is its popular use for both hair removal and hair regrowth! So where are we with this technology in dentistry? While the laser is now a standard surgical tool in the dental clinic, there are exciting new applications developing on many fronts. The use of novel light devices now spans a wide range of clinical applications from hard tissue excavation to sterilization-disinfection and photobiomodulation. The latter specifically involves using low-power light devices to reduce pain and inflammation and improve wound healing and tissue regeneration. Currently, the biggest obstacle in its widespread acceptance is our lack of adequate understanding of its precise molecular mechanisms. This presentation aims to provide an overview of recent advances in lasers in dentistry with emphasis on current clinical and basic research in photobiomodulation.

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

1. Specify current low-power laser applications.
2. Review our current understanding of the biological mechanisms of low-power lasers.
3. Identify the appropriate device parameters and biological contexts for effective use of lasers in dentistry.
Myofacial Pain, LLLT

Saturday, 10:30 a.m. – 11:00 a.m. Room 111

A Study Comparing Visible Red and Infrared Laser Wavelengths for Dental Analgesia

Gerry Ross, DDS
Private Practice, Tottenham, Ontario, Canada

It has been shown that low-level lasers can affect the depolarization of C fibers to give analgesia. This finding can be significant in dentistry since C fibers carry the pain sensations from the dental pulp. A number of authors including myself have reported this effect, but no one has reported the ideal wavelength. Roberta Chow has written a number of articles using this analgesia technique in treating back and neck pain and has found high doses give the maximum analgesia/anesthesia.

Before beginning the study, I used 8 J and 16 J prior to restorative treatment and found 16 J to give the best results. This is the dose used for all patients. 16 J was applied to the apex of each root and to the surface of the tooth.

All patients who wished to undergo dental treatment without the use of needles were placed into the study which uses 660 and 808 nm wavelengths. The patients were informed of the study and after treatment they were asked to rate the pain they experienced based on a 0-10 visual analog scale (VAS).

The goal was to treat 100 patients with each wavelength in groups of 20 patients. Every 20 patients the wavelength was alternated.

The preliminary data will be presented.

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
1. Illustrate the mechanism of dental analgesia induced with low-level lasers.
2. Provide a technique that clinicians can immediately apply in their practices.
3. Show which laser wavelength will give the best results.

Effect of Low-Level Laser Therapy (Q Laser) on Hypertension: Double-Blind Placebo Research

Renu Pandey, Larry Lytle, BDS, DDS, PhD, Alok Mishra
1 Nehru Gram Bharti University, Allahabad, India
2 2035 Private Membership Association, Rapid City, S.D., USA
3 MLN Medical College, Allahabad, India

Low-level laser therapy (LLLT, Q Laser) is a 100% safe technique that functions at the atomic level by carrying electrons on the soliton waves to needy areas without producing any known side effects.

103 patients suffering with hypertension were treated with LLLT according to the protocol provided by the manufacturer. A double-blind placebo investigation was done.

The results of 103 patients undergoing Q Laser treatment were analyzed. Fifty-four patients were kept in group A (using laser instrument A1, A2, or A3, as described below) and 49 in group B (using placebo instrument B1, B2, or B3). The mean baseline systolic/diastolic blood pressure of groups A1, A2, A3, B1, B2, and B3 were 151.2/93.56, 152.5/94.59, 151/92.79, 153.8/96, 142.1/87.65, and 146.5/93.54, respectively. The systolic and diastolic blood pressure of Group A was decreased by an average of 15.33% and 7.98% respectively after the treatment of 18 days. On the other hand, Group B showed a decrease of 1.73% and 1.29% for systolic and diastolic blood pressure respectively.

In conclusion, patients in Group A were treated with a laser instrument that has capacity to reduce hypertension. The placebo instrument used for group B did not show any significant results. This study showed the laser system to be an effective and safe method of treating hypertension.

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
1. Study the effect of low-level laser therapy on hypertension patients.
2. Introduce a new approach to solve hypertensive problems with low-level lasers at an atomic level.
3. Attempt to change the attitude and approach of the learner to solving hypertension problems.
Saturday, 11:30 a.m. – 12:00 p.m. Room 111

**Photodynamic Therapy in Dental Practice**

Arun Darbar, BDS, DGDP (UK)
Smile Creations Private Practice, Leighton Buzzard, Bedfordshire, United Kingdom

With the continued resistance to systemic antibiotics and the need for localized treatment for infections, photodynamic therapy (PDT) could offer an alternative and effective treatment modality. The use of laser light at given wavelengths, in conjunction with specific dyes that can target cells for destruction without affecting the healthy cells in the treatment of cancer, has been demonstrated. The use of the same modality for destruction of pathogens is an invaluable adjunct for the success of some dental procedures. The advantages and limitations of this form of treatment with clinical cases where this treatment is most appropriate will be discussed. The objective of this presentation is to ensure a complete and clear understanding of the subject. This will then enable the practitioner to apply this mode of treatment in practice. Cases where PDT is most effective will be demonstrated so that this modality can be incorporated into the treatments offered to patients with an educated and realistic expectation of the outcomes.

**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**
1. Increase awareness of emerging modalities for the treatment of infections.
2. Understand the science to support clinical findings for photodynamic therapy.
3. Apply this modality in everyday dental practice.
4. Choose the cases that would benefit the most from PDT.

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Saturday, 1:00 p.m. – 2:00 p.m. Room 111

**A Closer Look at the Mechanism of Action and Dosimetry in LLLT**

James Carroll, AMInstP, FRSM
Thor Photomedicine, Chesham, Bucks, United Kingdom

There are four main clinical benefits of low-level laser/light therapy (LLLT):

1. Better speed and quality of tissue repair (skin, epithelium, dentin, bone, tendon, ligament, muscle, and nerve)
2. Faster resolution of inflammation
3. Faster reduction of edema
4. Analgesia.

This presentation will discuss these 4 main clinical effects, the mechanisms of action, and related irradiation and dose parameters for successful Low Level Laser/Light Therapy. Primary, secondary, tertiary, and quaternary effects will be identified. Effects depend on wavelength, irradiance, pulse regime, coherence, and irradiation time. How much is enough and how much is too much? This presentation will highlight the common errors and suggest the effective ranges for LLLT in your practice.

**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**
1. Understand the mechanisms of action for LLLT.
2. Review the irradiation parameters.
3. Review the dose parameters.
4. Determine the misinformation in published research papers and misinformation disseminated on Web sites regarding LLLT.
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.

Cases treated in our dental practices will be demonstrated with the protocols used. Discussion will include the various protocols used with different types of diffusers and handpieces available and how those variables affect the doses used.

**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**

1. Specify LLLT doses to use for different conditions.
2. Calculate dose relative to the type of handpiece being used.
3. Learn how to use LLLT therapy and become comfortable and confident in providing this therapy safely, effectively, and efficiently.
Saturday, 10:30 a.m. – 11:30 a.m. Rooms 109-110

**The Must-Know Oral Lesions and How They Relate to Laser Care**

J.E. Bouquot, DDS, MSD
Maxillofacial Center for Education & Research, Morgantown, West Virginia, USA; University of Texas Health Science Center at Houston, Houston, Texas, USA; West Virginia University School of Dentistry, Morgantown, West Virginia, USA

Among the huge number of possible oral and maxillofacial lesions, there is a subset of lesions about which the practicing dentist MUST know. These Must-Know oral lesions have been compiled by Dr. Bouquot into a hyperlinked PowerPoint Atlas with more than 700 clinical photos. This Atlas has become the most popular differential diagnosis aid in dentistry, worldwide, and will be available free to participants via a DropBox link. The seminar will review diagnostic groupings of orofacial disorders with an emphasis on those with potentially serious consequences or systemic connections, and those with a track record of laser or light-emitting diode (LED) therapy. A variety of diagnostic/treatment instruments from the literature will be included in this presentation.

**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**

1. Identify oral lesions which MUST be known by practicing dentists.
2. Describe systemic or serious consequences of selected Must-Know lesions.
3. Explain how laser and LED treatments are used on a variety of these Must-Know lesions.
4. Name pitfalls and advantages to laser/LED therapy of a variety of Must-Know lesions.

Saturday, 11:30 a.m. – 12:00 p.m. Rooms 109-110

**Treatment of Intraoral Lipomas Using the 810-nm Diode Laser**

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

Lipomas are the most common benign tumors of the human body. They can be found solitarily but also with multiple occurrences. They vary highly in size from minute to large growths up to kilograms in weight. They occur mostly in patients between 40 and 50 years of age. In the oral cavity they appear as soft, slightly elastic lesions that do not hurt and normally bring the patients to the practice because of their large dimension.

This presentation reports on a patient with a large lipoma in the mandibular vestibule. After clinical inspection and examination, the lesion was excised with an 810-nm diode laser (Claros®, Elexxion AG, Radolfzell, Germany) with the clinical parameters of 30 W output power, gated, 12000 Hz, 10 microsec pulse width, and 300-micron fiber. There was minimal thermal damage, little bleeding, no postoperative complications, and no recurrence up to two decades. The advantages and operation technique and patient outcome are shown and discussed, along with a follow-up of patients treated in the last two decades. The diode laser is a good instrument in the treatment of oral lipomas. Using the correct parameters minimizes the risk of thermal damage to surrounding anatomical structures. In comparison to conventional techniques, the diode laser has definitive advantages for the surgeon and patient.

**Educational Objectives**

1. Recognize how to use the 810-nm diode laser with the correct parameters to minimize thermal damage.
2. Visualize the operating field to minimize traumatizing anatomical structures.
3. Evaluate the efficacy of the 810-nm diode laser in the treatment of oral lipomas.
A Clinical Study of NightLase: A Unique New Approach to the Management of Snoring and Sleep Apnea, Using the Fotona LightWalker® Family of Er:YAG Lasers

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

Objective
To evaluate the efficacy of NightLase as an alternative treatment in reducing snoring as the first phase of this clinical study. Phase two addresses sleep apnea specifically.

Methods
A proprietary method was devised to use the observations of patients and partners or other family members. Methods of this study will be discussed during the presentation.

Results
A significant reduction in snoring and improvement in sleep quality was reported by patients, sleep partners, and family members.

Conclusions
In comparison to continuous positive airway pressure (CPAP), surgical corrections, and appliance therapy, NightLase is beneficial as a nonsurgical, noninvasive, nonablative treatment on its own or as a co-therapy with appliance therapy.

Educational Objectives
1. Determine an alternative treatment for the treatment of snoring or sleep apnea that can be used by dental practitioners.
2. Investigate an alternative to surgical implants, radiosurgery of the palate, and soft palate and uvula removal or reductions.
3. Expand the use of dental Er:YAG lasers in the treatment of sleep apnea and snoring.
4. Expand the learner’s awareness of the medical implications of snoring and sleep apnea.

Post-Treatment Management of Oral Surgical Sites

John E. Hall, DDS
MCMP, Grand Prairie, Texas, USA

Postsurgical oral wound care is an important, although often ignored, part of patient care. Postsurgical care should provide pain relief, reduce microbial and chemical contamination, and promote optimal healing. Unfortunately, almost all agents used to control microbial growth actually hinder the healing process, and pain relief usually involves narcotics or other drugs with potential adverse events. Information will be presented to demonstrate how the required benefits of postsurgical oral wound care can be easily and safely provided with a drug-free, all-natural topical gel, benefiting both the patient and the practice.

Educational Objectives
1. Describe the basics of wound healing.
2. Specify issues and concerns with current wound management.
3. Identify the benefits of drug-free wound management with the use of all-natural topical nutrients.

PARTICIPATION COURSE: Expand Your Practice with Laser-Assisted Oral Medicine and Biopsy Techniques

Robert Convissar, DDS
New York Hospital Medical Center of Queens, Flushing, New York, USA

Lasers have proven their effectiveness in treating a variety of oral dermatopathologies and diseases, and for biopsy techniques. This hands-on course will give attendees the skills necessary to expand their practice to include treatment of virtually any oral dermatopathology and includes a simple procedure for laser-assisted biopsy techniques.

Educational Objectives
1. Understand how to use any laser wavelength to perform simple intraoral biopsies.
2. Discuss how to use any laser wavelength to treat simple oral dermatopathologies.
Practice Management

Saturday, 10:30 a.m. – 11:30 a.m. Room 108

**Dental Insurance from the Payer’s Perspective**

Richard M. Celko, DMD, MBA
Avesis Corporation, Natrona Heights, Pennsylvania, USA

This presentation is designed to educate oral health care providers on what the appropriate documentation is for certain procedures and how to reduce the chances for delays, modifications, and denials of dental claims. Descriptors from the American Dental Association’s (ADA’s) latest Current Dental Terminology (CDT) Manual will be reviewed and information surrounding medical necessity will be discussed. Treatment modalities and outcomes will also be discussed. Required diagnostic materials for certain procedures will be reviewed and some Web-based resources will be presented.

**Educational Objectives**
1. Determine the documentation required for dental claims, based on the latest version of the ADA’s latest CDT Manual, to reduce the frequency of delays, modifications, and denials.
2. Indicate the required diagnostic materials for certain procedures.
3. Compile Web-based resources useful in submitting claims.

Saturday, 11:30 a.m. – 12:00 p.m. Room 108

**Health Care Reform and Funding Incentives**

Ross D. Seymour, MITPM
HIPAA Certified Project Manager and CEO, Med I.T., Inc., Orange, California, USA

This presentation provides an overview of Health Care Reform and describes how it affects the health care professional. Included is an elaboration of technology requirements moving forward into Health Care Reform, as well as a description of the term “meaningful use” and how it affects the health care professional. Funding incentives available to assist with compliance requirements are specified.

**Educational Objectives**
1. Specify what is meant by “Health Care Reform.”
2. Define the term “meaningful use.”
3. Identify the objectives of Health Care Reform as it relates to technology.
4. Indicate how Health Care Reform affects the health care professional.

Saturday, 1:00 pm – 2:30 pm Room 108

**Medical Billing Dental Procedures**

Mr. Hootan Shahidi, MPH
Cross Over Dental Enterprises, Tarzana, California, USA

This presentation will describe who may bill medical insurance, the legality of billing medical insurance, and the rationale for medical billing. An examination of specific claims will be included, along with a discussion of profitability for the practice and how it helps patients. A detailed look at the medical billing process is presented, including eligibility checks, understanding benefits, prior authorization / pre-determination, and filing the claim. Finally, an analysis is provided of what is covered and how, with an explanation of covered procedures and the International Classification of Diseases ICD-9, and the critical importance of Subjective, Objective, Assessment, and Plan (SOAP) notes.

**Educational Objectives**
1. Develop an understanding of the benefits of medical billing in dental practices
2. Delineate the “whole” process of medical billing.
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Biolase - Booths 600-602

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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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Disclosure: Dr. Walid has no financial support or any corporate organization offering financial support or grant monies relative to this presentation.

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

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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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Dr. Bouquot is the Director of Research of the Maxillofacial Center for Education & Research, an adjunct professor and past chair at the University of Texas Health Science Center at Houston; and an adjunct professor at the West Virginia University School of Dentistry. He was trained at the University of Minnesota, Mayo Clinic, and the Royal College of Dentistry, Copenhagen, Denmark. For 26 years he chaired diagnostic science departments in two dental schools: West Virginia University (WVU) and the University of Texas in Houston. He is co-author of the most popular textbook of oral pathology and has been president of the American Board of Oral & Maxillofacial Pathology, a senior visiting scientist of the Mayo Clinic, president of two national oral pathology organizations, and director of the American Cancer Society’s national Board of Directors. He has won more than 50 teaching, service, and research awards, including the St. George Medal, the highest award given by the American Cancer Society, the Distinguished Alumnus Award from the University of Minnesota, the Lifetime Achievement Award from WVU, and the Distinguished Dentist Award from the West Virginia Dental Association. He has published more than 320 papers, abstracts, and book chapters, including a chapter on the use of low-level laser therapy (LLLT) for alveolar bone, in a textbook authored by U.S. Food and Drug Administration (FDA) scientists. Dr. Bouquot’s precancer, oral disease epidemiology, and bone research has been cited thousands of times in the literature. He has received a National Institutes of Health (NIH) grant to study human papillomavirus (HPV) and was one of only 5 dentists invited by the FDA to review his LLLT research with its scientists. He has given more than 1,700 research and continuing education presentations in almost 30 countries. In his seminars he emphasizes clinical features of disease, differential diagnosis and disease management, with much practical information based on his lifetime experience in an active clinical oral pathology (oral medicine) practice and one of the nation’s largest oral pathology biopsy services. He manages the two most popular oral pathology Web sites, which received 4.4 million hits last year. His BouquotToGo PowerPoint presentations of disease are used by thousands of dental professionals worldwide.

Disclosure: Dr. Bouquot was once on the Scientific Advisory Board of Biolux (unpaid position). He has co-authored the PowerPoint Atlas called “Must Know Oral Lesions,” which is available for free.

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Disclosure: Dr. Braswell has reported no commercial affiliations or  
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Disclosure: Dr. Celko is a former Chief Dental Officer of New York-  
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Disclosure: Dr. Convissar has reported no commercial affiliations or  
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Dr. Cutler received her dental degree from the University of Pennsylvania School of Dental Medicine and is a graduate of that University’s program in Graduate Periodontics and Implant Dentistry. She built a successful and well-respected periodontology and implantology private practice in Bryn Mawr, Pennsylvania which she operated as sole proprietor for 13 years. Her academic appointments have included clinical assistant professor of periodontics at the University of Pennsylvania School of Dental Medicine, and lecturer at Temple University School of Dental Medicine. Dr. Cutler has published numerous articles in the *Journal of Periodontology*, *International Journal of Periodontics and Restorative Dentistry*, *Journal of the American Dental Association*, and the *Clinical Oral Implant Research* journal, among other peer-reviewed publications. She is a member of the American Academy of Periodontology, American Dental Association, and Academy of OsseoinTEGRATION. She is a Diplomate of the American Board of Periodontology. Her areas of expertise include laser dentistry, periodontics, infections, implantology, biofilms in periodontal disease, and tissue engineering.

**Disclosure:** Currently, Dr. Cutler serves as the Director of Medical Affairs for OraPharma, Inc., a subsidiary of Valeant Pharmaceuticals.  
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Dr. Arun Darbar has been at the forefront of laser dentistry for two decades. He has lectured extensively all over the world on the subject and was instrumental in converting a high-powered laser to deliver low-level laser therapy (LLLT). He is a founding member of the World Clinical Laser Institute (WCLI) and the British Society for Occlusal Studies (BSOS). He is an accredited member of the British Academy of Cosmetic Dentistry (BACD) and is involved with their credentialing committee. A dedicated ALD member, Dr. Darbar is a committee member and has been an examiner for Standard Proficiency. He has been a winner at the Smile awards for the past 4 years and is passionate about lasers and advanced restorative dentistry. He continues to write articles on the subject and is always looking for new technologies to incorporate in his private practice.

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

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**Disclosure:** Dr. Rita Darbar has worked as a laser consultant for the research and development department at Biolase Technology Inc.

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Dr. Enrico DiVito is innovator of the PIPS technique, along with his research team at Medical Dental Advanced Technologies Group (MDATG) of which he is a partner. MDATG performs research and testing for PIPS applications. MDATG also has a licensing affiliation with Technology4Medicine.

**Disclosure:** Dr. Enrico DiVito is innovator of the PIPS technique, along with his research team at Medical Dental Advanced Technologies Group (MDATG) of which he is a partner. MDATG performs research and testing for PIPS applications. MDATG also has a licensing affiliation with Technology4Medicine.

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**Disclosure:** Dr. Roberto DiVito’s father developed the PIPS technique.

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

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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 also demonstrates technology for Henry Schein, and is a former trainer for Biolase.  
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Disclosure: Dr. Gawlik reported no commercial affiliations or personal conflicts of interest relative to this presentation.  
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Disclosure: Dr. Gilio has reported no commercial affiliations or personal conflicts of interest relative to this presentation.  
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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.  
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Prof. Dr. Gutknecht studied medicine and dentistry from 1979 to 1989 at the Universities of Bochum, Florence, and Aachen. Since 1989 he has been working as a scientific researcher at the University Hospital of the RWTH Aachen University. In 1990 and 1992 he conducted scientific research studies in the field of dental laser therapy at the University of California San Francisco, USA. In 1993 he completed his doctoral thesis. In 1995 Prof. Dr. Gutknecht received his “Master in application of NdYAG lasers in dentistry” in Phoenix, Arizona, USA. In 1998 he was appointed as an associate professor in the Department of Operative Dentistry at Aachen University Medical and Dental Faculty. In 2003 he was appointed as a full professor at the Department of Operative Dentistry at Aachen University, Medical and Dental Faculty. Prof. Dr. Gutknecht holds various positions at RWTH Aachen University, is a member of numerous scientific organizations, has served as editor of various publications, and has authored several books on lasers in dentistry. He is the CEO and Scientific Director of AALZ Aachen Dental Laser Center.

Disclosure: Prof. Dr. Gutknecht is the chief executive officer and scientific director of the Aachen Dental Laser Center (AALZ, Aachener Arbeitskreis für Laserzahnheilkunde). Biolase Technology has provided travel expenses for Dr. Gutknecht.

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Dr. Hall is a 1978 graduate of Baylor College of Dentistry and practiced general dentistry in Arlington, Texas, for 8 years until his retirement from dental practice. He has worked as a consultant for various companies involved in pharmaceuticals, dietary supplements, and veterinary medicine, and has developed and overseen clinical trials (Phases I-III) in ulcerative colitis, cancer, and AIDS, as well as those involving various intraoral conditions. Dr. Hall has helped develop several products for medical, dental, and veterinary use, and is co-inventor of two patented wound care products. He is co-author of six papers published in medical and dental journals.

Disclosure: Dr. Hall currently works with MCMC (McMerlin Dental Products, LP), Grand Prairie, Texas, where he is involved in product development, clinical trials, and education.

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Dr. Hendy is a graduate of the University of the Pacific Dental School and holds a master’s degree in laser dentistry from the University of Vienna, Austria. He has 12 years of experience in research and development in laser dentistry. Dr. Hendy lectures and publishes internationally on laser dentistry and is a reviewer for Lasers in Medical Science.

Disclosure: Dr. Hendy works with several laser companies (including Biolase, Irvine, Calif. and Technology for Medicine, San Clemente, Calif.) to develop tips and new procedures in laser dentistry. The companies provide the tips that he designs. He then studies the effects of the designs, applying this knowledge to all lasers on the market.

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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 Fellowship 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. Kolnick attended dental school at the University of the Witwatersrand in Johannesburg, South Africa. After graduating cum laude, he was awarded the University Scholarship for Overseas Postgraduate Study. He moved to New York where he graduated from the postdoctoral endodontic program at Columbia University. Dr. Kolnick maintains a private practice, limited to endodontics, in White Plains and Mt. Kisco, New York. His practice is dedicated to fostering excellence in endodontics through education and the incorporation of state-of-the-art technology. Dr. Kolnick has been committed to endodontic education, first as an associate clinical professor in Endodontics at Columbia University and then as an attending at Westchester Medical Center and an associate clinical professor in Endodontics at New York Medical College. Although he no longer holds these positions, he continues to lecture extensively on a local, national, and international level and has published several articles on endodontics.

Disclosure: Biolase Technology has provided travel expenses for Dr. Kolnick.

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Dr. Kotlow is a Board-certified Pediatric Dentist practicing in Albany, New York. He is a graduate of the State University of New York (SUNY) Buffalo Dental School and received his pediatric training at the Cincinnati, Ohio Children's Hospital. He has advanced proficiency certification in the use of Er:YAG lasers and standard proficiency certification in the use of the Nd:YAG and diode family of lasers from the Academy of Laser Dentistry. Dr. Kotlow has achieved Mastership status in the Academy of Laser Dentistry. He has written more than 30 papers on using lasers and pediatric dentistry and has contributed chapters in three textbooks on using lasers in pediatric dentistry. He has been using lasers since 2000. Dr. Kotlow has lectured worldwide in Australia, Israel, Taiwan, France, Italy, and Canada as well as in meetings of the Academy of Laser Dentistry and the American Academy of Pediatric Dentistry. Dr. Kotlow is the co-recipient of the Academy of Laser Dentistry’s 2014 Leon Goldman Award for Clinical Excellence in Laser Dentistry.

Disclosure: Dr. Kotlow 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 has provided Technology 4 Medicine with consultation services on the XLASE® and the LightWalker® lasers.

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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.

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Ms. LeBeau is the Director of Dental Hygiene for Pacific Dental Services supporting operational standards and clinical best practice for 350 affiliated dental practices. In 2009 she integrated the use of soft-tissue diode lasers into 350 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.

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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 the FDU School of Dental Medicine in 1989.

With the U.S. Food and Drug Administration (FDA) marketing clearance of the Nd:YAG laser, Dr. Levy immediately became active in this emerging technology. In 1990, he was a charter member of the International Academy of Laser Dentistry as well as the Metropolitan Academy of Laser Dentistry of New York and New Jersey. Through these organizations, he continues to teach about lasers in dentistry. Dr. Levy currently serves on the Board of Directors of the Academy of Laser Dentistry as its Immediate Past President. He serves as a Clinical Consultant and Lecturer for OraPharma, Inc. on Periodontal and Laser Therapy using A Combined Therapeutic Approach.

Dr. Levy maintains an active private practice in Chester, New Jersey emphasizing laser as well as cosmetic dentistry. He is married to his wife of 33 years, Mitzi, and has 5 children and 7 grandsons.

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Dr. Lomke has been in private practice as a general dentist in Maryland for more than 34 years. He graduated from the University of Maryland Dental School in 1979. He is an ALD-Recognized Course Provider as well as a clinical trainer in diode, erbium, and CO2 laser wavelengths. Dr. Lomke is currently a member of the ALD Board of Directors, the ALD Education and Certification Committees, and chair of the Honors Review Committee. He was awarded ALD Mastership in 2008. He lectures on laser dentistry to other dental professionals from around the United States as well as to international audiences. Dr. Lomke currently serves as an associate research professor at the University of Maryland Dental School in Baltimore.

Disclosure: Dr. Lomke has provided lectures and hands-on training for various dental laser companies for which he has received honoraria.

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Dr. Lukac obtained the MSc degree in laser physics at the University of Ljubljana, and carried out his PhD research work in laser spectroscopy at the University of California in Berkeley, California, USA. He has been involved in the field of lasers and laser medicine for the last 30 years, and has published over 40 original scientific papers. Dr. Lukac is presently the CEO of a laser manufacturer, Fotona d.d., in Ljubljana, Slovenia. He is also a member of the prestigious national Engineering Academy of Slovenia and has in 2010 served as its president.

Disclosure: Dr. Lukac is the CEO of the laser manufacturer Fotona. Fotona provided the laser system used in the experiments. The co-authors, Tomaz Suhovrsnik and Cene Filipic, have no financial interest in Fotona, and did not receive any financial compensation for carrying out the research.

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Dr. Larry Lytle, retired dentist and past Academy of Laser Dentistry (ALD) member, currently holds several patents on LLLT. He is the author of 7 books and many papers on health, energy, and low-level lasers. Currently, he conducts Healing Light Personal Proof Workshops for distributors of the QLaser System.

Disclosure: Dr. Lytle is trustee of QLasers PMA.

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

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Dr. Margolis is an adjunct clinical assistant professor at the University of Illinois, College of Dentistry, Chicago, Illinois. He has mastership certification from the World Clinical Laser Institute and the Academy of Laser Dentistry, where he has also achieved advanced and educator certification. Dr. Margolis was recently selected as a top continuing education lecturer for 2014 by Dentistry Today. He is a co-author of Pediatric Laser Dentistry: A User’s Guide. Quintessence Publishers, 2011. He is in full-time private practice of pediatric dentistry in Highland Park, Illinois. Dr. Margolis is the co-recipient of the Academy of Laser Dentistry’s 2014 Leon Goldman Award for Clinical Excellence in Laser Dentistry.

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

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Ms. Miranda has practiced dental hygiene for 33 years and has worked with dental lasers for 9 years. She has achieved diode laser Standard Proficiency with the World Clinical Laser Institute (WCLI) and the Academy of Laser Dentistry (ALD), and diode laser Fellowship status with the WCLI. Jeanette has completed two of the three sections of ALD’s Advanced Proficiency and hopes to pass the final section at this conference. Ms. Miranda is a member of ALD and serves on the Laser Safety Committee and as chair for the Auxiliary Committee. In addition to lecturing on periodontal treatment with lasers, she teaches diode laser courses with Dr. Edward Kusek and Dr. Fred Margolis.

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

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Mr. Monty serves as Chief Technical Officer (CTO) for Convergent Dental which he founded in 2011. Prior to Convergent Dental, he started Lite Laser, a micro laser printing system for packaging and labeling which he subsequently sold to Danaher Corp. Before that, Mr. Monty worked in various capacities in companies focused on applications for laser and specialty processing technologies. He holds numerous patents in laser technology.

Disclosure: Mr. Monty is founder and CTO of Convergent Dental.

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Ms. Mott has been a clinical hygienist for over 20 years. She is a member of the Academy of Laser Dentistry (ALD), 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 Regulatory Affairs Committee, and serves on the Education, Certification, Membership, and Auxiliary 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 dental hygiene conference. She has authored several published articles and has written chapters for laser books. Ms. Mott has co-authored her own book about laser hygiene. She works clinically with lasers 4 days a week in dental hygiene. Ms. Mott is the recipient of the Academy of Laser Dentistry’s 2014 John G. Sulewski Distinguished Service Award.

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

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Dr. Nagai received his DDS from the Osaka Dental University, Japan in 1987 and studied at the Harvard School of Dental Medicine as a Clinical Fellow from 1989 to 1992 when he practiced at the Massachusetts Veterans Administration Medical Center in 1990 and the Massachusetts General Hospital in 1991. Dr. Nagai serves as a board member of the Japanese Society for Laser Dentistry, the Academy of Laser Dentistry, Asia and Pacific Division of the World Federation for Laser Dentistry (International Society for Lasers in Dentistry), the Japanese Academy of Color for Dentistry, and the Japan Society for Dental Anti-Aging. He is a committee member of the Japan Academy of Esthetic Dentistry, the Japan Society for Laser Surgery and Medicine, and Japan Association of Microscopic Dentistry, and is a vice president and chief instructor of the Japanese chapter of the Academy of Laser Dentistry. Dr. Nagai is also a member of International Society for Oral Laser Applications and Academy of Microscope Enhanced Dentistry. He was awarded the Leon Goldman Award for Clinical Excellence in Laser Dentistry from the Academy of Laser Dentistry in 2010 and the Excellent Presentation Prize of the Japanese Academy of Color for Dentistry in 2008. Dr. Nagai maintains a full-time practice in Tokyo, Japan.

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Dr. Dr. Neckel 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 staff 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 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. He is a Visiting Lecturer at the University of Genua, Italy, and part of the lecturing staff of the SOLA (Society for Oral Laser Applications) Academy.

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Dr. Renu Pandey is an Assistant Professor at the Nehru Gram Bharti University, Allahabad, India. She has a master’s degree in Zoology, a doctoral degree in Biotechnology with special emphasis on the molecular etiology of cancer, and a master’s degree in Business Administration. She had academic responsibilities as Guest Faculty at the University of Allahabad teaching postgraduate- and undergraduate-level biotechnology, molecular biology, microbiology, cell biology, genetics, physiology, and biochemistry. Dr. Pandey holds a certificate from the Council of Scientific and Industrial Research in India. She has published 7 papers in national and international journals, presented 10 papers at conferences, and received the Young Scientist Award for Best Presentation at 3 conferences. She was the director of research using the QLaser to control hypertension at the Phoenix Hospital, Allahabad. The results were published in the peer-reviewed International Journal of Engineering Research and Development. Currently, Dr. Pandey is Research Director for 2035 Inc., the developer of the QLaser.

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Dr. Patthoff is a general dentist in Martinsburg, West Virginia and is chair of ALD's Ethics Committee. He co-authors an ethics column in AGD Impact with Dr. David Ozar and has presented and consulted on multiple American College of Dentists (ACD) ethics presentations, courses, summits, and initiatives. He is consultant to the American Dental Association (ADA) Council on Ethics Bylaws and Judicial Affairs and co-edited a special edition of the Journal of Dental Education on professional ethics.

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

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

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Dr. Romanos is professor and associate dean for clinical affairs, Stony Brook University, School of Dental Medicine, Department of Dental Medicine, Stony Brook, New York. He is a the chair of the North American Division of the World Federation for Laser Dentistry, and a Diplomate of the American Board of Periodontology, licensed in the USA and Europe. Dr. Romanos has been fully trained in Periodontology (in the USA and Germany), and Oral Surgery and Prosthodontics (in Germany). He is a professor of oral surgery and implant dentistry at the University of Frankfurt (Germany); a former professor at the New York University and Eastman Institute for Oral Health (Rochester, New York), and director of the laser unit. Dr. Romanos is the author of over 250 publications and 3 books, and is a national and international speaker and educator. His research includes immediate loading of dental implants, periimplantitis therapy, and bone regeneration.

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Dr. Ross has been an ALD member since its beginning and holds both Standard and Advanced proficiency. His special interest is low-level lasers which he has been using since 1993. He has written over 10 papers on the subject and has given more than 200 lectures all over the world to both dental meetings as well as low-level laser meetings. He also serves as a peer reviewer for 4 different laser journals. Dr. Ross is a past president of the North American Association for Light Therapy (NAALT) and the American Society for Laser Medicine and Surgery (ASLMS), and holds fellowship status from ASLMS. He states he believes photobiomodulation can change things for the better for both dentists and patients and it is his mission to help accomplish this.

Disclosure: Dr. Ross is president of Laser Light Canada which sells phototherapy products. He also receives a fee for teaching laser courses by Zoltec Lasers. Neither company played any part in the research and he received no remuneration or travel expenses to attend this meeting.

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Ms. Smith has been a registered dental hygienist for 19 years in both Texas and Kansas. She holds Standard Proficiency in both the Nd:YAG (1064 nm) and diode laser (810 nm) and received her Advanced Proficiency status in 2007 with the Nd:YAG laser wavelength. She has contributed to the dental community through lectures, hands-on workshops, and published works. She considers it a privilege to be among other laser users and share from her own joy of daily dental hygiene practice.

Disclosure: Ms. Smith consults independently for DEKA Laser Technologies, Inc. and has been compensated.
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Ms. Sornborger Porteous is a dental hygienist in private practice in Danville, California. She received her Standard Proficiency training and Certification from Dr. Will Gianni in 2001, and has been using a diode laser in her hygiene practice ever since. Mary graduated from the University of California – San Francisco (UCSF) in 1975 with her Bachelor of Science in Dental Hygiene. She later returned to UCSF to explore her interest in lasers, and in 2012, earned her Master of Science in Dental Hygiene. Mary’s Capstone Project included a literature review on diode lasers that has been accepted for publication in the Journal of Dental Hygiene, and the writing of a grant proposal for a Randomized Clinical Trial.

Disclosure: Mary Sornborger Porteous serves as a guest speaker on the research software “RefWorks” and “Write-N-Cite.”
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Dr. Sun has been highly regarded in the fields of dental ceramics, cosmetic, laser, prosthodontic, orthodontic, and implant dentistry for over three decades. Her patient care philosophy incorporates orofacial myofunctional therapy as well. In addition to being the first female Accredited Fellow in the American Academy of Cosmetic Dentistry, Dr. Sun is a Master of the Academy of General Dentistry, a Master of the International Congress of Oral Implantologists, and a Master of the Academy of Laser Dentistry. Dr. Sun is also a Master Smoothie Maker. Her favorite is cucumber-kiwi-pear with a pinch of parsley.

Disclosure: Dr. Sun has reported no commercial affiliations or personal conflicts of interest relative to this presentation.
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Dr. Tunér is a dentist in general practice, having graduated from the Karolinska Institute in Stockholm in 1968. He has been working with laser phototherapy since 1986. He was the co-founder of the Swedish Medical Laser Society in 1998 and was a board member of the World Association for Laser Therapy during 2000-2010. He is the author of several books about LPT, has lectured worldwide, and is the co-author of a large number of scientific studies.

Disclosure: Dr. Tunér is co-owner of Prima Books, an Internet store for LPT literature.
Contact Dr. Tunér by e-mail at jan.tuner@swipnet.se.

Peter Vitruk, PhD, MInstP, CPhys
Luxarcare, Woodinville, Washington, USA
Peter Vitruk is an inventor, technologist, and scientist with a focus on surgical lasers. He has a PhD in radio frequency (RF) plasma and laser technologies with more than 20 years of new product development experience. He is one of the leading authorities worldwide on gas discharge physics and structure and stability of radiofrequency discharges.

Disclosure: Peter Vitruk is the founder of Luxarcare.
Contact Dr. Vitruk by e-mail at pvitruk@lightscalpel.com.
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