Advance Program

Conference General Chair
John O’Hagan, Public Health England

Medical Practical Applications Seminar Co-chairs
Kay Ball, Otterbein University
Vangie Dennis, Emory Healthcare
Patti Owens, AestheticMed Consulting International
Leslie Pollard, Southwest Innovative Solutions, Inc.

Laser Safety Scientific Sessions Chair
Karl Schulmeister, Seibersdorf Laboratories

Technical Practical Applications Seminar Co-chairs
Eddie Ciprazo, University of California, Berkeley
Jamie King, Lawrence Livermore National Laboratory

Conference Platinum Sponsors

Honeywell
Partners in Laser Safety

www.rli.com
www.honeywellsafety.com/americas/laser

**Laser Protective Eyewear**
Spectacles, OTG and Goggles
Glass or polymer
ANSI/CE compliant
Wide variety of frame styles
Prescription inserts available

**Laser Safety Training**
Laser Safety Officer
Advanced Laser Safety Officer
Principles of Lasers and Laser Safety
Safety of Lasers Outdoors
Laser Safety Masterclass
Laser Safety for Art and Entertainment
Measurements for Laser Safety
Non-Ionizing Radiation

**Laser Safety Consulting**
FDA/CDRH Consulting Services
IEC/International Consulting Services
Laser Enclosure Design & Manufacturing
Laser Facility Design
ISO 17025 Testing Laboratory

(800) 94-LASER

**Barriers and Curtains**
LAZ-R-Shroud™ is a laser barrier system that provides protection against beams emitted and scattered from various laser sources.
Compliant with ANSI and IEC Standards
Laser exposures of up to 300 W/cm²
Ceiling, frame mount or custom designs
Call for free barrier hazard analysis
**ILSC® 2017 CONFERENCE AGENDA**

*Program subject to minor changes*
John O’Hagan  
Public Health England,  
Oxfordshire, Great Britain

I look forward to meeting all of you at this year’s ILSC in Atlanta, GA. The 2017 Laser Safety Scientific Sessions will provide state-of-the-art information on laser safety, from basic science to current thinking on managing risks. The two Practical Applications Seminars—Medical and Technical—will provide an opportunity to learn about practical issues from leaders in their respective fields.

This year’s presentations will consist of looking forward, particularly with the challenges of lasers being in the public domain. However, we will also look back. It is important to recognize how we got to where we are. We are also introducing a new Open Forum. You will have the opportunity to ask your laser safety questions to a panel of experts.

I hope you will find ILSC 2017 a tremendous source for information and networking opportunities.

Special Thanks to the ILSC® 2017 International Advisory Board

Roy Henderson, Bioptica, Kent, Great Britain
Benjamin Rockwell, San Antonio, TX, USA
David Sliney, Consulting Medical Physicist, Fallston, MD, USA
John Tyrer, Loughborough Univ., Loughborough, Great Britain
Kunihiko Washio, Paradigm Laser Research Ltd., Tokyo, Japan
Trevor Wheatley, UNSW Australia, Campbell, Australia
Sheldon Zimmerman, Lead Naval Technical Laboratory for Laser Safety, Dahlgren, VA, USA

Table of Contents

Receptions .............................................6  
Technical Practical Applications Seminar ..........11
Scientific Sessions ......................................7  
General Information ....................................12
Medical Practical Applications Seminar ..........10  
Conference Registration Form .....................13
Opening Plenary Session: Outside Interests
Monday, March 20 • 8:30am

Plenary Session Chair:
John O’Hagan, Public Health England, Oxfordshire, Great Britain

Those of us who have been working in laser safety for many years risk becoming compartmentalized. Our Opening Plenary includes two speakers who are not directly involved with laser safety, but their work impacts what we do. Coincidentally, they are both medical practitioners.

Our first presentation is by Professor Jacques Abramowicz, Professor and Director of the Ultrasound Services Department of Obstetrics and Gynecology, University of Chicago. Jacques is also a member of a Core Group established by the World Health Organization (WHO) tasked with developing standards for health protection against non-ionizing radiation. To many of us, standards mean ANSI or IEC standards. However, in this context, WHO is considering the whole infrastructure for managing the risks from Government level down. The proposal is to include all non-ionizing radiations—laser beams, of course, but also other optical radiations, electromagnetic fields and ultrasound and infrasound.

The second presenter is Dr. Jeffrey Luttrull. Jeff routinely does what we always try to avoid in laser safety—he directs laser beams into the eyes of people. Most data for retinal damage thresholds comes from animal models and from this we have our MPE values. By deliberately trying to cause effects in retinal tissue without damaging it, it is possible to gain more confidence in the damage thresholds underpinning our laser safety standards. We will hear how shining laser beams into the eye may actually save peoples’ vision, rather than destroying it.

Plenary Speakers:

Non-ionizing Radiation: Lack of International Basic Safety Standards (OP101)
Jacques Abramowicz
University of Chicago

The Difference Safety Makes: Laser is the Future of Blindness Prevention (OP102)
Jeffrey Luttrull
Diseases and Surgery of the Macula, Retina, and Vitreous; Retina Diagnostic Laboratory of Ventura County

Closing Plenary Session: History and Future
Thursday, March 23 • 1:00pm

Plenary Session Co-chairs:
John O’Hagan, Public Health England, Oxfordshire, Great Britain
Karl Schulmeister, Seibersdorf Laboratories, Seibersdorf, Austria

The closing plenary session is based on the theme of “history and future” where two presentations will review early development phases of national and international product safety standards, while the presentation on laser illuminated light sources is dedicated to the state of the art and upcoming developments. A newly established “Open Forum” will provide a platform to discuss issues that surface during the conference, or perhaps an opportunity to ask a question that has been on your mind for some time.

Developmental History of the CDRH Standard for Laser Products (C101)
Jerome Dennis, Consulting Physicist

The Early Stages in the Development of the IEC Laser Performance Standard (C102)
David Sliney, Consulting Medical Physicist

Laser Illumination: an Alternative to Traditional Light Sources (C103)
Jan Daem, Barco

Open Forum (Q&A) (C104) – NEW for 2017
John O’Hagan, Public Health England

A Quick Look Back and a Long Look Forward (C105)
John O’Hagan, Public Health England
Welcome Reception  
**Sunday, March 19 • 4:00pm**

Join us on Sunday afternoon for pre-conference festivities at the Welcome Reception. Greet new attendees and catch up with old friends. Kick off the conference in a casual and friendly environment. Door prizes will be raffled off during the reception.

Awards Luncheon  
**Monday, March 20 • 12:00pm**

The opening day of ILSC® features an Awards Luncheon and presentation. Share in the honors shown to the George M. Wilkening Award and the R. James Rockwell Jr. Educational Achievement Award winners. Meet the LIA staff and enjoy lunch with old and new friends.

Laser Institute of America presents the George M. Wilkening Award to recognize individuals who have made extensive contributions to laser safety in science, medicine, industry or education. The R. James Rockwell Jr. Educational Achievement Award is presented in recognition of outstanding contributions in laser safety education.

The 2017 George M. Wilkening Award is presented to:  
**Wesley J. Marshall**  
Laser Safety Specialties, Wilmington, DE

The 2017 R. James Rockwell Jr. Educational Achievement Award is presented to:  
**John O’Hagan**  
Public Health England, Oxfordshire, Great Britain

Sponsor Reception  
**Tuesday, March 21 • 5:00pm**

The ILSC Sponsor Program provides several levels of sponsorship to give your company the opportunity to connect with Laser Safety Scientific Sessions, Technical Practical Applications Seminar and Medical Practical Applications Seminar attendees. All sponsor levels include booth space at the Tuesday evening Sponsor Reception. For more information, please contact the LIA Marketing Department at marketing@lia.org or +1.407.380.1553.
LASER SAFETY SCIENTIFIC SESSIONS (LSSS)

Conference Chair:
Karl Schulmeister, Seibersdorf Laboratories, Seibersdorf, Austria

The Laser Safety Scientific Sessions (LSSS) of ILSC® 2017 provide the platform for a truly outstanding assortment of presentations from all fields of laser safety—from safety management programs to the design of products, from bioeffects research to probabilistic risk assessment. Besides the traditional topics such as hazard evaluation and protective measures, the number of presentations related to the design of safe products reflects that laser technology permeates into various types of consumer products, and that safety by design is superior to safety by user protective measures. Attend ILSC 2017 for valuable networking opportunities as well as accessing the expertise of leading experts in national and international standardization and research!

LSS Session 1: Bioeffects I
Monday, March 20 • 10:40am
Session Chairs: Bruce Stuck, Army Medical Research (Retired); Robert Aldrich, NSWC Dahlgren

The Co-evolution of the ANSI Z136.1 Standard for Safe Use of Lasers and the Underlying Bioeffects Data Base (101)
David Lund, US Army Medical Research and Development Command

Inferring Injury Thresholds for the Human Retina from Medical Treatment Protocols (102)
Karl Schulmeister, Seibersdorf Laboratories

Damage Thresholds in Skin and Cornea using Tunable Ultrafast Lasers (103)
Adam Boretsky, Gary Noojin, David Stolarski, Engility Corporation; Dawson Nodurft, Texas A&M University; Benjamin Rockwell, Air Force Research Laboratory

Multiple-pulse Skin Damage Thresholds at 1070 nm (104)
Michael DeLisi, Adam Boretsky, Amanda Peterson, Aurora Shingledecker, Gary Noojin, David Stolarski, Engility Corp.; Morgan Schmidt, Robert Thomas, AFRL/RHDR

LSS Session 2: Bioeffects II
Monday, March 20 • 2:00pm
Session Chairs: Brian Lund, U.S. Army Institute of Surgical Research; Robert Thomas, US Air Force Research Laboratory

Ocular and Skin Exposure Limits in the 1050-1400 nm Spectral Region: Are They Protective? (201)
Bruce Stuck, Army Medical Research (retired); David Sliney, Consulting Medical Physicist

Are Laser Emissions from an Open Optical Fiber Less Hazardous than MPEs Suggest? (202)
David Sliney, Consulting Medical Physicist

Mechanisms of Photochemical Retinal Pigment Epithelium (RPE) Disruption in Living Primate Retina (203)
Jie Zhang, David Williams, Jennifer Hunter, University of Rochester

Estimation of Retina Thermal Response in Photochemical Damage Studies (204)
Chad Oian, Engility; Jie Zhang, Jennifer Hunter, University of Rochester; Robert Thomas, Air Force Research Laboratory

LSS Session 3: Bioeffects III
Monday, March 20 • 3:40pm
Session Chairs: David Sliney, Consulting Medical Physicist; David Lund, US Army Medical Research and Development Command

Effect of Light Scattering in Tissue on the Exposure Level (301)
Valentin Grimblatov, New York Presbyterian

Laser Eye Dazzle Scatter Function (302)
Leon McLin, 711th Human Performance Wing, Optical Radiation Bioeffects Branch; Craig Williamson, Defence Science and Technology Laboratory; John Michael Rickman, Michael Manka, Peter Smith, Paul Garcia, Engility Corp.

Laser Eye Dazzle Safety Framework (303)
Craig Williamson, Defence Science and Technology Laboratory; Leon McLin, Air Force Research Laboratory
Computer Modelling to Support Laser Safety Analysis of Irregular Pulse Trains (304)
Karl Schulmeister, Mathieu Jean, Seibersdorf Laboratories; Nico Heussner, Annette Frederiksen, Robert Bosch GmbH

LSS Session 4: Broadband Radiation
Tuesday, March 21 • 8:50am
Session Chairs: David Sliney, Consulting Medical Physicist; Jan Daem, Barco N.V.

Classification of Laser Illuminated Light Sources Under IEC 60825-1 Edition 3 (402)
Karl Schulmeister, Seibersdorf Laboratories GmbH; Jan Daem, Barco N.V.

Optical-safety of White, Laser Based Light Sources for Automotive Headlamp Applications (403)
Werner Halbritter, OSRAM; Josef Schug, Lumileds

Eye Safety of High-power LED Tactical Flashlights (404)
Erwin Lau, Edward Fei, James Brennan, Exponent, Inc.

LSS Session 5: Standards and Regulations
Tuesday, March 21 • 10:20am
Session Chairs: John O’Hagan, Public Health England; Jerome Dennis, Consulting Physicist

SE Regulations on Handheld Lasers (501)
Martin Lindgren, Swedish Radiation Safety Authority

FDA’s Proposed Change to the Regulation of Laser Pointers (502)
Patrick Murphy, International Laser Display Association; Daniel Hewett, FDA Center for Devices and Radiological Health

The Transformation of Laser Risks (503)
Shoji Mitsuhashi, SONY Corporation; Yuichi Hashishin, Kindai University; Kenji Murata, Optoelectronics Industry and Technology Development Association

The History of Class 3A - A Review (504)
David Sliney, Consulting Medical Physicist

LSS Session 6: Risk Analysis for Class 3R
Tuesday, March 21 • 1:30pm
Session Chairs: Anna-Karin Holmer, Combitech AB; Jay Parkinson, Phoenix Laser Safety LLC

Green, Continuous-wave, 5 Milliwatt Laser Pointers: Are They Safe and Should They be Sold? (601)
Bruce Stuck, Army Medical Research (retired)

Class 3R Laser Pointers Do Not Pose a “Serious Risk” in the EU RAPEX System (602)
Martin Lindgren, Swedish Radiation Safety Authority

A Survey of the Class 3R Accessible Emission Limits Relative to Bioeffects Data (603)
Robert Thomas, Air Force Research Laboratory; Amber Allardice, JBSA Fort Sam; Jeffrey Pfoutz, USAF Safety Center, Kirtland AFB; Benjamin Rockwell, US Army Public Health Command

Class 3R and the Upcoming Consumer Laser Safety Standard in Europe - a Challenge! (604)
Karl Schulmeister, Seibersdorf Laboratories

LSS Session 7: Non-beam Hazards
Tuesday, March 21 • 3:20pm
Session Chair: Tom Lieb, L*A*I International

NFPA 70E Article 330 Revision - Electrical Safety-related Work Practices for Use of Lasers (701)
Michael Woods, SLAC National Accelerator Laboratory

Industrial LGAC Filtration Principles and Methodology (702)
Randolph Paura, Dynamic Laser Solutions, Inc.

Z136.8 Preview (703)
Ken Barat, Laser Safety Solutions

LSS Session 8: Product Safety I
Wednesday, March 22 • 8:30am
Session Chairs: Sheldon Zimmerman, Lead Naval Technical Laboratory for Laser Safety; John Tyrer, Loughborough University

When Do FDA/CDRH Requirements Apply? (801)
Jay Parkinson, Phoenix Laser Safety, LLC; Elaine Parkinson, Flying Phoenix, LLC

Update on CDRH Laser Policies and Disclosures (802)
Jerome Dennis, Consulting Physicist

Laser Bird Repellents – A Pain in the Eye? (803)
Ronald Mallant, Royal Netherlands Navy

Considering the Movement of the Laser Source for Classification in IEC 60825-1 (804)
Nico Heussner, Raimund Reppich, Annette Frederiksen, Robert Bosch GmbH
LASER SAFETY SCIENTIFIC SESSIONS (LSSS)

LSS Session 9: Product Safety II
Wednesday, March 22 • 10:20am
Session Chairs: Casey Stack, Laser Compliance; Karl Schulmeister, Seibersdorf Laboratories

Emerging Optical Techniques vs Safety Classification (901)
Anna-Karin Holmér, Combitech AB

Surveying and Laser Safety - Scanning Instruments (902)
Thomas Piok, Andreas Walser, Ernst Ramseier, Jürg Hinderling, Leica Geosystems AG

Evaluating Extended Source Hazards (903)
Wesley Marshall, Laser Safety Specialties

Control Engineering Comes of Age – The Result of the Change in Attitude by UK Government to Industrial Injury, the Fines and Potential CE Compliancy Issues for All (904)
John Tyrer, Loughborough University

LSS Session 10: User Control Measures
Wednesday, March 22 • 1:30pm
Session Chairs: Ken Barat, Laser Safety Solutions; Ben Edwards, Cree Inc.

John Tyrer, Loughborough University

Zeroth Responders - LSOs Reporting Non-compliant Lasers - Why, How, and to Whom - A Step by Step Guide. (1002)
Nathaniel Leon, Johns Hopkins University; Scott Wohlstein, The Photonics Group

Prediction of the Resistance Time of Laser Protection Filters Under Laser Radiation (1003)
Hans-Joachim Krauß, Uwe Urmoneit, Manuel Dillmann, Bayerisches Laserzentrum GmbH (blz); Thomas Fröhlich, Laservision GmbH & Co. KG; Günter Ott, Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (BAuA)

Moving Beyond the Standard Operating Procedure (1004)
Ken Barat, Laser Safety Solutions

LSS Session 11: Hazard Assessment
Wednesday, March 22 • 3:20pm
Session Chairs: Wesley Marshall, Laser Safety Specialties; Roy Henderson, Bioptica

Field Radiometrics and Modeling & Simulation Analysis in Support of a Joint Technology Office (JTO) / NATO Field Test (1101)
Semih Kumru, Aaron Trevino, Joshua Musick, US Air Force

A Pragmatic Iterative Approach to Diffuse Reflection Hazard Calculations (1102)
Trevor Wheatley, Andrew Lambert, UNSW Australia

Probabilistic Ocular Exposure Model (1103)
Edward Early, Elharith Ahmed, Engility Corporation; Paul Kennedy, Robert Thomas, Air Force Research Laboratory

Constructing a Mathematical Model for a PRA Laser Hazard Assessment (1104)
Brian Flemming, Leonardo MW Ltd; Matthew Flower, Defence Equipment & Support; Daniel F Huantes, Engility, Inc; Paul Kennedy, US Air Force Research Laboratory

LSS Session 12: Outdoor Lasers & Laser Display I
Thursday, March 23 • 8:50am
Session Chair: Trevor Wheatley, UNSW Australia

Managing Laser Safety in Entertainment Applications (1201)
James Stewart, LVR Optical

Laser Display Systems: Do we See Everything? (1202)

Preview of ANSI Z136.10, ‘Safe Use of Lasers in Entertainment, Displays and Exhibitions’ (1203)
Casey Stack, Laser Compliance; Jay Parkinson, Phoenix Laser Safety, Inc.

LSS Session 13: Outdoor Lasers & Laser Display II
Thursday, March 23 • 10:20am
Session Chairs: Patrick Murphy, International Laser Display Assn.; Michael Higlett, Public Health England

An Analysis of Complex Laser Lighting Effect Exposure in Entertainment (1301)
James Stewart, LVR Optical

Casey Stack, Laser Compliance

A Discussion of the K-factor Used in NOHD Calculations (1303)
Trevor Wheatley, Andrew Lambert, UNSW Australia
The Medical Practical Applications Seminar (MPAS) is a two-day seminar for Medical Laser Safety Officers and those who work in operating rooms, surgical centers, aesthetic clinics and medical spas. The Medical PAS planning committee is composed of a very dynamic team of experts with various medical laser experience and knowledge who have put together an exciting and relevant program. Attendees will benefit from the cutting-edge medical laser safety presentations designed with a focus on new and innovative medical laser information.

Conference Co-chairs:

Kay Ball
Otterbein University, Lewis Center, OH, USA

Vangie Dennis
Emory Healthcare, Jonesboro, GA, USA

Patti Owens
AestheticMed Consulting International, La Quinta, CA, USA

Leslie Pollard
Southwest Innovative Solutions, Inc., Richardson, TX, USA

Medical PAS Session 1
Monday, March 20 • 10:40am
Intro and Welcome: Then and Now (MP101)
Vangie Dennis, Emory Healthcare

Breathe Easy in the Operating Room: The Impact of Surgical Plume on Healthcare Providers and Patients (MP102)
Robert Scroggins, Buffalo Filter

Plume Hazards Associated with Aesthetic Laser Systems (MP103)
Patricia Owens, AestheticMed Consulting International LLC

Medical PAS Session 2
Monday, March 20 • 2:00pm
Where There is Smoke…Laser Surgical Masks and Respiratory Protection (MP201)
Liz Krivonosov, KRMC Inc; Paul Bozek, University of Toronto

Inherently Safe (Class 1C) Medical Hand-piece Design: the Development of a Skin System Which Contains Optical Radiation and Plume (MP202)
John Tyrer, Loughborough University

Medical PAS Session 3
Monday, March 20 • 3:40pm
Better Outcomes for Burn Victims utilizing Medical Lasers (MP301)
David Elliott, Emanuel Hospital

Are You Still “Smoking” in the OR Breathe Easier – Help is on the Way! (MP302)
Kay Ball, Otterbein University; Penny Smalley, Technology Concepts International

Medical PAS Session 4
Tuesday, March 21 • 8:30am
Titles and Tantrums, How is Your Aim? (MP401)
Debra Miller, Northeast Georgia Medical Center

Something New Under the Sun for Holmium Laser Technology (MP402)
John Sakaris, UT MD Anderson Cancer Center; Anh Hoang, Convergent Laser Technologies

Medical PAS Session 5
Tuesday, March 21 • 10:20am
High Intensity Laser Therapy - A Solution to the Epidemic of Opioid Prescription Abuse for Acute and Chronic Pain (MP501)
Edwin Barry, Avalon Laser Therapy, LLC

Photodynamic Therapy: An Evolutionary Tale of Lasers, Drugs and Money (MP502)
Carmen Rodriguez, University of Pennsylvania Perelman School of Medicine

Medical PAS Session 6
Tuesday, March 21 • 1:30pm
An Innovative Approach to Treating Burn Scars (MP601)
June Curley, Tampa General Hospital

Laser Aesthetic Ocular Safety (MP602)
Patt tissues and Lesse owens, AestheticMed Consulting International, LLC

Medical PAS Session 7
Tuesday, March 21 • 3:20pm
The Little Giant of the Laser: Diodes (MP701)
Leslie Pollard, Southwest Innovative Solutions, Inc.

Animals are People, Too! Lasers in Veterinary Medicine Today (MP701)
Joseph Bartges, The University of Georgia
This year’s Technical Practical Applications Seminar (TPAS) is all about “Back to the Basics.” For the Laser Safety Officer (LSO) who is just starting out, serves as a collateral duty, or even a seasoned LSO with years of experience, you will find something for you. From basic optics to cutting edge technologies and everything in between, it’s here. There will even be a panel discussion, with LSOs from all sectors of laser applications, sharing what works and what doesn’t work in a Laser Safety Program.

Why should you attend TPAS at ILSC® 2017? In a nutshell, this seminar will break it all down to what is and what is not “Practical” in the world of Laser Safety. So if you are a new LSO or looking for some refresher information, don’t miss out!
Hotel Accommodations:
Sheraton® Atlanta Airport
1900 Sullivan Road
Atlanta, GA 30337
Phone: +1.770.997.1100

The Sheraton Atlanta Airport Hotel is centrally located to Atlanta’s many great attractions. They are just a half mile from Atlanta’s Hartsfield–Jackson International Airport and only minutes away from downtown Atlanta and the world’s largest aquarium — the new Georgia Aquarium, as well as Atlanta’s new retail and entertainment district — Atlantic Station. Atlanta is a fascinating place to visit while experiencing ILSC with colleagues, friends and family. With these great features and opportunities to offer, we would like to extend a warm invitation to all to come and take part in ILSC 2017.

Rental Car Information:
Avis Rental Car® — Attendees should call Avis Rental Car at 1.800.331.1600 and mention AVIS Worldwide Discount or AWD number J093783, or to reserve online visit [www.avis.com](http://www.avis.com). The AWD will be effective from seven days prior to the event until seven days after the event.

Airport Transportation Information:
Hartsfield–Jackson Atlanta International Airport
Distance from hotel: 1.2 miles
Drive time: 3 minutes
Directions: Depart Airport Blvd toward Airport Circle. Turn left onto GA-139/Riverdale Rd. Turn right onto Sullivan Rd. Arrive at Sullivan Rd on the left.
Shuttle: The Sheraton offers complimentary airport shuttle service which runs every 20 minutes to and from Ground Transportation at Hartsfield–Jackson International Airport (ATL), a half-mile from the hotel.

Average March Temperature:
High 70°F / 21°C
Low 52°F / 11°C

Driving Directions:
From East
Follow Interstate 20 West to Interstate 85 South then proceed until Exit 71 (Riverdale Road).
Turn left off of the ramp and turn right at the second light onto Airport Boulevard.
Proceed to the stop sign and turn right onto Sullivan Road. The hotel is on the left.

From West
Follow Interstate 20 East to Interstate 285 South.
Proceed on I–285 South to Interstate 85 North then take Exit 71 (Riverdale Road).
Turn right onto Riverdale Road and proceed to the first light.
Turn right onto Airport Boulevard. Proceed to the stop sign and turn right on Sullivan Road.
The hotel is on the left.

From South
Follow Interstate 85 North to Exit 71 (Riverdale Road).
Turn right onto Riverdale Road and continue to the first light.
Turn right onto Airport Boulevard and proceed to the stop sign.
Turn right onto Sullivan Road. The hotel is located on the left.

From North
Follow Interstate 85 South to Exit 71 (Riverdale Road).
Keep left off of the ramp and continue to the second light, then turn right onto Airport Boulevard.
Proceed to the stop sign and turn right onto Sullivan Road. The hotel is on the left.
March 20–23, 2017 | Atlanta, GA USA

PLEASE PRINT OR TYPE

Prof.  Dr.  Mr.  Mrs.  Ms.  Miss

First Name / Initial / Last Name (Surname)

Business Affiliation

Dept. / Bldg. / Mail Stop / etc.

Street Address or P.O. Box

City / State / Zip (Postal Code)  Country

Telephone  Email

Emergency Contact Name:  Telephone

All above information must be provided to process registration.

Please check all that apply:

☐ Check here if you have any special needs and the LIA will contact you.

☐ Check here if you do not want your name included in the published ILSC® attendee mailing list.

A. Membership

Take advantage of this ILSC special and receive 50% off LIA membership! Join today and instantly save on ILSC registration! (This offer is good for new members only. Use discount code ILSC17) Please visit www.lia.org/membership to see all the benefits of becoming a part of the worldwide laser information & applications society.

Individual Membership

☐ 1 year – $110 $55  ☐ 2 year – $200 $100

B. Full Registration

Includes admission to Plenary Sessions, Technical Sessions, all PAS Sessions, the Awards Luncheon, Welcome Reception, Sponsor Reception and a copy of the Conference Program & Proceedings.

Check member status: Member of  □ LIA*  □ AILU  □ AST  □ BLS  □ ILDA  □ ICSP

*Membership must be valid through March 2017 to take advantage of member rates.

Membership #

Payment Postmarked or Received by February 9  Payment Postmarked after February 9

☐ Member .......................... $745  ☐ Member .......................... $795

☐ Non-Member ........................ $795  ☐ Non-Member ........................ $845

☐ Cooperating Society ........................ $745

☐ Full Time Student ........................ $525†

†Please note: Student registration will not be processed without a copy of your valid Student ID. Please include with registration form.

Cooperating Society & Students must register and pay in full by February 10. Special pricing is NOT available on-site.

Continued on next page …
C. One Day / Two Day Registration

(Any combination of Laser Safety Scientific Sessions and Practical Applications Seminar)

Includes admission to technical sessions and reception on that day only.

One day/two day registration includes a copy of the ILSC 2017 Proceedings.

Membership pricing is only valid for LIA members. Membership # _______________________

For multiple days, indicate dates of attendance:

- [ ] Mon., Mar. 20
- [ ] Tues., Mar. 21
- [ ] Wed., Mar. 22
- [ ] Thurs., Mar. 23

### Payment Postmarked or Received by February 9

<table>
<thead>
<tr>
<th></th>
<th>One Day</th>
<th>Two Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>$295</td>
<td>$590</td>
</tr>
<tr>
<td>Non-Member</td>
<td>$320</td>
<td>$640</td>
</tr>
</tbody>
</table>

### Payment Received after February 9

<table>
<thead>
<tr>
<th></th>
<th>One Day</th>
<th>Two Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>$320</td>
<td>$640</td>
</tr>
<tr>
<td>Non-Member</td>
<td>$345</td>
<td>$690</td>
</tr>
</tbody>
</table>

Which PAS will you be attending?

- [ ] Medical PAS (March 20, 21)
- [ ] Technical PAS (March 22, 23)

D. Guest Tickets

*Non-Industry guests only*

- [ ] Spouse/Guest Package Ticket(s) $125 \times \underline{\quad} \text{(# of guests)} = $ \underline{\quad}

Includes: Welcome Celebration, Sponsor Reception, Awards Luncheon and Morning/Afternoon Breaks.

Name of guest(s) (Please provide for nametag purposes)

- [ ] Special Dietary Needs for Guests (luncheon)
  - [ ] Vegetarian
  - [ ] Gluten Free
  - [ ] Other ________________

E. Method of Payment

*Registration must be paid in full prior to attending ILSC*

A Purchase Order is **NOT** considered payment.

Payment or P.O. # must accompany registration form to be processed.

Confirmation letter will be sent within two weeks of receipt.

(Please include registrant’s name on check or P.O.)

- [ ] Check or Money Order enclosed, payable to LIA in U.S. Funds, Drawn on a U.S. Bank
- [ ] Purchase Order enclosed
- [ ] Visa
- [ ] MasterCard
- [ ] AMEX
- [ ] Discover

Wire Transfer [additional $30 bank fee must be included in the transfer]

Purchase Order No./Credit Card No. ____________________________ ____________________________

CSC No.* \underline{\quad}

*The card security code (CSC) is a 3- or 4-digit number (not part of the credit card number) that appears on the back of the credit card (Security Code appears on the front of American Express). Payment will not be processed without CSC code.

Name on Credit Card __________________________________________

Expiration Date \underline{\quad}/\underline{\quad} (MM/YYYY)

CC Holder Address ____________________________________________

Authorized Signature ________________________________________

Date ______________________

Refund Policy: No refunds will be made on cancellations received after January 25. All requests for refunds must be made in writing and will not be processed until after the conference. There will be a $75 processing fee for all refunds. See General Information for detailed substitution and cancellation terms. Guest Tickets, Proceedings & LIA Membership dues are all non-refundable.

Registration Disclaimers: Individuals attending ILSC may be audiotaped, videotaped or photographed during the course of the event and by attending grant permission for their likeness and the content of their comments, if any, to be broadcast, webcast, published, or otherwise reported or recorded. Individuals attending ILSC will receive future ILSC mailings and by attending grant permission to opt-in to this mailing list.
Help Make a Difference!

Apply for membership on ASC Z136 or a Z136 subcommittee today at www.z136.org!

- Build your career
- Network with industry leaders
- Have an impact on standards that affect you
- Earn BLS certification maintenance points
- Minimum time required
- Travel not required

Are You Inhaling Surgical Smoke?

Help Make a Difference!

LASER SAFETY GUIDE TWELFTH EDITION

www.lia.org/LSG
1.800.34.LASER