

LIA TODAY

VOLUME: 31 NO: 1 | JAN/FEB 2023

REMEMBERING DAVID
"JACK" LUND

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US FDA RELEASES
GUIDANCE ON SLA
LASER PRODUCTS

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INTRODUCING THE
2023 LIA BOARD

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LIA TODAY

THE OFFICIAL NEWSLETTER OF LIA

LIA TODAY is published bimonthly to educate and inform students and professionals of challenges and innovations in the field of photonic materials processing.

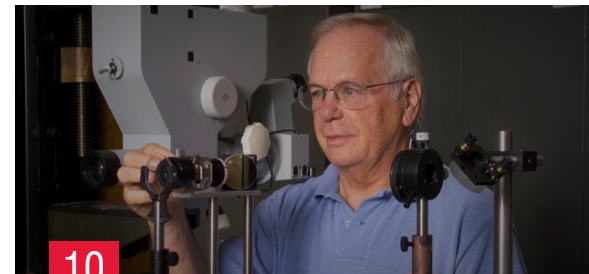
ISSN 2690-5981

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REMEMBERING DAVID "JACK" LUND

David "Jack" Lund was a well known and well loved member of our community who passed away recently. His influence and accomplishments will not be forgotten. To honor his passing, some friends and colleagues of Jack have shared stories about their experiences with him.

Catch up on all of the 2022 issues!

<https://www.lia.org/subscriptions/lia-today>

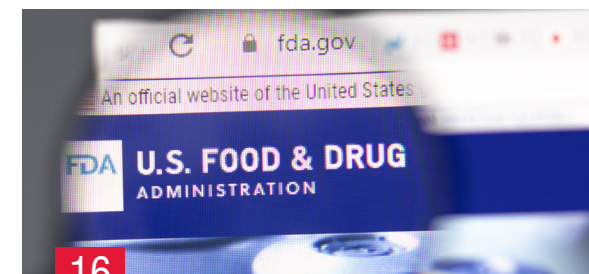


Managing Editor: Jana Langhans - jlangehans@lia.org



INTRODUCTION OF THE LIA 2023 BOARD OF TRUSTEES

Meet this year's Officers and Board of Trustees. IN 2021, LIA updated their by-laws to improve operations and communication. Many updates were made, but the biggest change was consolidating the Board of Directors and Executive Committee into one body called the Board of Trustees.



FDA RELEASES GUIDANCE ON SLA LASER PRODUCTS

FDA is issuing this guidance to outline, for manufacturers, the FDA's approach regarding the applicability of FDA's performance standard regulations to surveying, leveling, and alignment (SLA) laser products to help manufacturers with questions they have raised.

The acceptance and publication of manuscripts and other types of articles in LIA TODAY does not imply that the reviewers, editors, or publisher accept, approve, or endorse the data, opinions, and conclusions of the authors.

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LIA Laser Safety Trainings

LASER SAFETY OFFICER TRAINING

Orlando, FL	Feb. 22 - 24, 2023
New Orleans, LA	Apr. 19 - 21, 2023
Denver, CO	Aug. 15 - 17, 2023
Orlando, FL	Nov. 8 - 10, 2023

LASER SAFETY OFFICER WITH HAZARD ANALYSIS

Orlando, FL	Feb. 27 - Mar 3, 2023
New Orleans, LA	Apr. 24 - 28, 2023
Denver, CO	Aug. 21 - 25, 2023
Niagara Falls, NY	Sep. 25 - 29, 2023
Orlando, FL	Nov. 13 - 17, 2023

MEDICAL LASER SAFETY OFFICER TRAINING

Orlando, FL	Feb. 25- 26, 2023
Minneapolis, MN	May 6 - 7, 2023
Denver, CO	Aug. 18 - 19, 2023
Orlando, FL	Nov. 11 - 12, 2023

INDUSTRIAL LASER SAFETY OFFICER TRAINING

Novi, MI	Feb. 15 - 16, 2023
Novi, MI	May 17 - 18, 2023
Novi, MI	Aug. 9 - 10, 2023
Novi, MI	Nov. 1 - 2, 2023

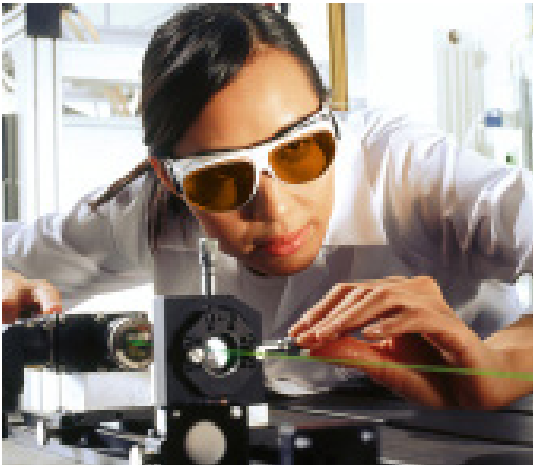
Course Highlight

LASER SAFETY OFFICER TRAINING NEW ORLEANS, LA - APRIL 19-21, 2023

Developing and implementing a successful laser safety program is a top priority for you and your organization. Whether you are new to laser safety, or more experienced, your goal is to uphold the highest standard of laser safety. At LIA, our goal is to help you achieve that by offering the most comprehensive laser safety training program for LSOs.

Designed to keep you on the leading-edge of safety training requirements and program administration, this course teaches a non-mathematical approach to facilitating the duties of Laser Safety Officer. Developed and taught by LIA experts this course was designed for all levels of experience involved in industrial, military, educational, or research applications of lasers.

This course meets all LSO training requirements outlined by the ANSI Z136.1 Safe Use of Lasers standard, OSHA and ACGIH and is worth 24 CECs by AAHP, 3.0 BLS CM Points by the Board of Laser Safety, and is eligible for ABIH CM Points.



Henrikki Patsar
LIA President 2023

the whole organization to continue on the path forward. On behalf of the LIA Board of Officers, Board of Trustees, LIA members, LIA staff, and personally I wish Nat all the best for his retirement. It has been a pleasure to work with you and we remain thankful for the work you have done for the benefit of us all.

The Laser Institute of America will form a search committee to find a successor for Nat. If you know of someone who is interested, please follow our postings and get in touch.

The posting can be found [here: www.lia.org/ed-application](http://www.lia.org/ed-application)

PRESIDENT’S MESSAGE

The Laser Institute of America is doing well. We have done a lot of changes in the past years to restructure the organization to meet future demands and have gone through the pandemic. Yet, the organization remains strong and is increasing its content to its members, increasing the amount of events and working to provide more training opportunities.

The organization has been managed by Executive Director Dr. Nat Quick for the past five years, and it is due to his leadership and the tireless work of the LIA Staff that we are in this position to look for further growth. Therefore, it is with sadness that I announce the retirement of Nat from his position as the Executive Director. But it is also my pleasure to announce Nat’s retirement, as we know that it will allow him to enjoy other aspects of his life, enjoy time with his family and relax after spending a majority of his life in management and executive positions, as an entrepreneur, and most recently guiding our Laser Institute of America.

We are extremely grateful for Nat’s service to the LIA and to his leadership filled with hard work, passion and integrity. He is leaving big shoes to fill, but on the other hand, he has done a lot of the heavy lifting to make it easier for the next leader and

EXECUTIVE DIRECTOR’S MESSAGE



Nat Quick
Executive Director

When I assumed the role of Executive Director, it was only meant to be for a few years. At that time, LIA needed direction. There were several changes made in the first year, and it was obvious that the organization as a whole had newfound energy and commitment to our mission:

“to promote the use of lasers and laser safety through education, publications, conferences, and workshops. Through our various programming, we consistently identify solutions to professional challenges by facilitating a collaborative environment for industry partners and experts. At LIA, we leverage our organization’s leading-edge technologies to deliver highly accessible and impactful solutions to our members around the world.”

Then COVID-19 changed the world almost overnight. We needed to add “survival” to our mission. Which we did... Through our dedicated staff, incredible board, and generous volunteers, we persevered and became stronger, knowing that our

organization is always ready to meet the challenge.

This, however, is not a message about challenges, it is about opportunities. I am officially announcing my retirement as the Executive Director of the LIA. I look forward to the opportunities my retirement will have for me. Opportunities to spend more time with my family, friends, and to work on the projects I am passionate about. LIA will also have its share of opportunities. The next Executive Director will have a staff that is energized, dedicated, and has shown incredible perseverance through even the hardest of challenges. The LIA is positioned to thrive, and the new Executive Director will be positioned to strengthen and grow LIA as LIA supports this fantastic industry of ours.

This is also a bittersweet message, as I will miss being a part of the day-to-day operations of LIA and its staff, but look forward to providing support and advice when and where needed. It has been an honor and privilege to serve. I will forever be grateful for my time at LIA and the memories I have made there.

Thank you to all who have supported me along this journey.

Signing off one last time as Executive Director,

Dr. Nathaniel Quick

A Look Ahead at Upcoming Laser Industry Conferences!

- 1. Photonics West - Jan 28-Feb 2, 2023 (San Francisco, CA, USA)
- 2. MD&M West - Feb 7-9, 2023 (Anaheim, CA, USA)
- 3. ILSC - Feb 27-Mar 2, 2023 (Portland, OR, USA)
- 4. AORN - April 4-5, 2023 (San Antonio, TX, USA)
- 5. Laser World of Photonics - June 27-30, 2023 (Munich, Germany)
- 6. RAPID + TCT - May 2-4, 2023 (Chicago, IL, USA)
- 7. FABTECH Mexico - May 16-18, 2023 (Mexico City, Mexico)
- 8. LAM - June 10-12, 2023 (Dayton, OH, USA)
- 9. FABTECH Canada - June 11-13, 2023 (Toronto, OT, Canada)
- 10. ALAW - June 13-15, 2023 (Plymouth, MI, USA)
- 11. FABTECH - Sept 11-14, 2023 (Chicago, IL, USA)
- 12. ICALEO, Oct. 16-19, 2023 (Orlando, FL, USA)

Cooperating Conferences

FABTECH

LIA is proud to be the on site Laser Safety Officer for the 3 international Fabtech conferences again this year.

ICALEO

October 16-19
2023
Chicago, Illinois

Palmer House Hilton

LAM
LASER ADDITIVE MANUFACTURING WORKSHOP

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2023

with Chair
Mike Lander

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- ANSI Z136.1 - American National Standard For Safe Use Of Lasers.



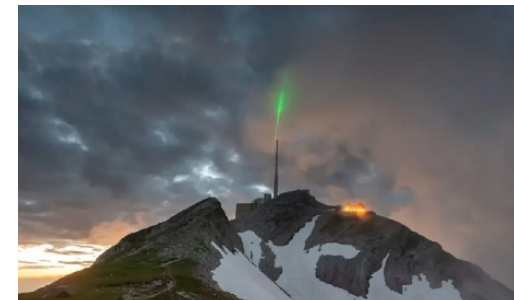
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TRENDING IN THE NEWS: LIA'S TOP 4 ARTICLE PICKS

1

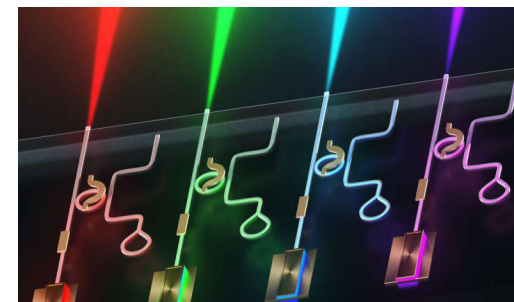


SCIENTISTS SUCCESSFULLY CONTROL LIGHTNING WITH LASERS

A group of scientists used a laser to control lightning and guide it safely to the ground.

[Read more](#)

2

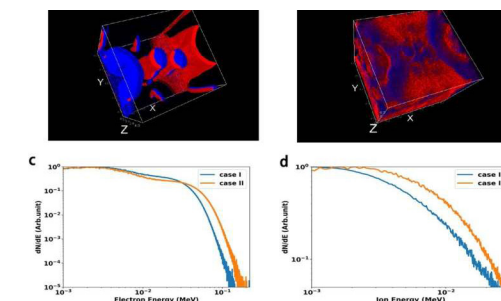


HIGH-PERFORMANCE VISIBLE-LIGHT LASERS THAT FIT ON A FINGERTIP

Researchers at Columbia Engineering's Lipson Nanophotonics Group have created visible lasers of very pure colors from near-ultraviolet to near-infrared that fit on a fingertip.

[Read more](#)

3

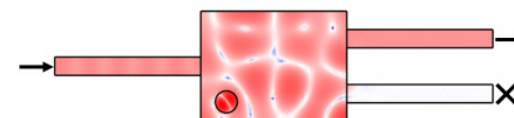


MEASURING ELECTRONS FROM MAGNETICALLY DRIVEN RECONNECTION USING LASERS AND ALUMINUM FOIL

A team of researchers affiliated with multiple institutions in China has conducted measurements of accelerating electrons from a magnetically driven reconnection using lasers and aluminum foil..

[Read more](#)

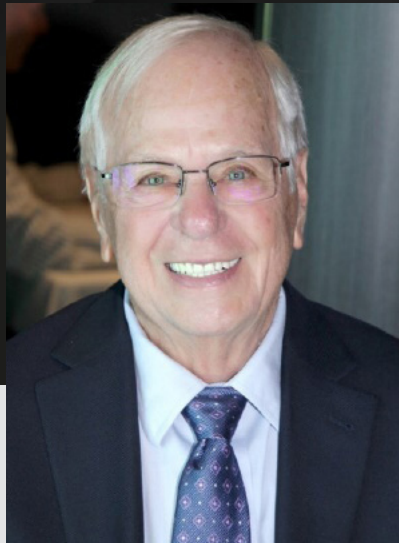
4



BUILT OFF ANTI-LASER, DEVICE DIRECTS ELECTROMAGNETIC WAVES

Building off a breakthrough “anti-laser,” a team of researchers from Yale University has developed a system that can direct light and other electromagnetic waves for signal processing without any unwanted signal reflections

[Read more](#)



Remembering David “Jack” Lund

A collection of memories from colleagues and friends

David “Jack” Lund was a well known and well loved member of our community who passed away recently. He had over 50 years of experience in laser bioeffects research and laser safety while working for the US Army Medical Research and Development command. His research and papers have been instrumental in formulating the safety guidelines in the

ANSI and IEC laser safety standards. He was also a very active member of the ANSI committee and subcommittees. A full obituary can be read [here](#).

Jack’s influence and accomplishments will not be forgotten. To honor his passing, some friends and colleagues of Jack have shared stories about their experiences with him.

From: Bruce E Stuck

Memory: As most know by now, David ‘Jack’ Lund passed away suddenly on December 23. Jack was a consistent contributor of new, laser bioeffects at past ILSC meetings.

I first met Jack in late November of 1969 when we both worked at the US Army Medical Department’s Joint Laser Safety Team at Frankford Arsenal in Philadelphia. Jack was both a highly valued colleague and personal friend (we car-pooled for several years). We shared the LIA-ILSC Wilkening Award presented at the 2013 ILSC. I highly valued his analytical skills and dedication to carefully examining all the data. His clarity of logic in discussions, thousands of Excel data plots and conclusions assisted the development of ‘results based’ laser exposure limits. Jack was a mentor to many and to me.

We moved our laser bioeffects group to San Francisco in 1974 and then to San Antonio in 1992. Although Jack retired from working for the Army Medical Department in 2006, he remained working in an emeritus status even when we moved the group to the US Army Institute of Surgical Research in 2010.

Jack was an exemplary scientist and his contributions to laser safety and hence, to the safe use lasers in all applications (worldwide) were truly exemplary. With sadness, Jack will be missed at this ILSC 2023. Nonetheless we shall remember his legacy and celebrate his contributions!



Top: David Lund receiving the Wilkening Award at the International Laser Safety Conference in 2013

Bottom: Bruce Stuck and David Lund (middle) posing together at the ILSC 2013 Award Ceremony.

From: Richard C Hollins

I met Jack Lund in 1994, and he became one of my most valued mentors in laser bio-optics. He taught me a huge amount about the eye and the science under-pinning laser eye safety. Over several decades, he provided a treasured blend of education, advice, appraisal, encouragement, enthusiasm, and humour. He had high standards, he rarely overlooked anything, and he was always a pleasure to work with.

Jack made innumerable contributions to laser bio-physics. He performed many of the measurements that under-pin the exposure limits defined in international safety standards. His work included both pulsed and continuous lasers, covering a wide variety of wavelengths and durations. Throughout, he sought to understand the relevant injury processes. He designed and performed experiments, and he developed simple but effective physical models to understand the results. His breadth of vision enabled him to consider a huge body of experimental data from many different studies, and to propose an interpretation that made sense of everything. Jack’s work defined many of the scaling laws incorporated in laser safety standards.

Jack was a skilled experimentalist. The more difficult the task, the better he liked it. For example, his experiments using adaptive optics – both to improve the focus of laser light into the eye, and to improve diagnostic assessment – presented many difficult challenges that Jack overcame through insight and through sheer hard work. Decades of practical experience enabled him to produce meaningful results from innumerable difficult experiments.

I can’t do justice to Jack’s many contributions, but I’ll remember and appreciate the many things that I learned from him.



Picture of Jack Lund and many of the giants in the laser community. I believe this was taken in 1994 for an Ultrashort meeting at Brooks City-Base. - Submitted by Leon McLin

From: Benjamin Rockwell

These photos are from a series of workshops hosted by the Air Force research program looking at thresholds and mechanisms of retinal damage from ultrashort laser pulses. This research was sponsored from 1991 - 2001 by the Air Force Office of Scientific Research (AFOSR), and the workshops collected experts from an international set of collaborators to have an annual review and discuss relevant topics.

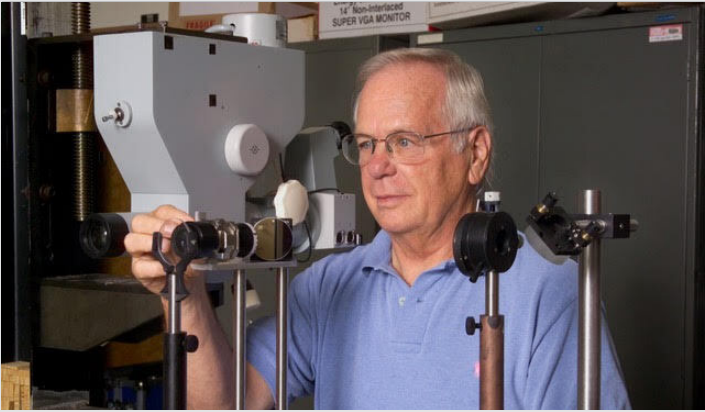


In the above photo from 1991, this was the initial Ultrashort Workshop and was hosted by Dr. Pat Roach (now the Chief Scientist of AFOSR) and included the following people from the laser safety community: Jack Lund (front row, forth from the left), Pat Roach, Bruce Stuck, David Sliney, Joe Zuclich, Randy Glickman, Myron Wolbarsht and John Marshall (all in this photo). There are also collaborators in the photo who are scientific experts from Harvard, Wellman Laboratories, Duke University and the University of Arizona.



In this second photo from the year 1995, this was the 5th Ultrashort Workshop and this photo includes Jack Lund (back row, second from left), Harry Zwick, Steve Schuschereba, Bruce Stuck, David Sliney, Clarence Cain, Joe Zuclich, Bob Thomas, Myron Wolbarsht, Cindy Toth, Paul Kennedy, David Stolarski, Gary Noojin, Dan Hammer and Ben Rockwell from the laser safety community, and others from Harvard, MIT, Wellman Laboratories, UT Medical Branch- Galveston, Florida International University, UT Health Science Center-San Antonio, Vanderbilt, Oregon Medical Laser Center and Luebeck, Germany.

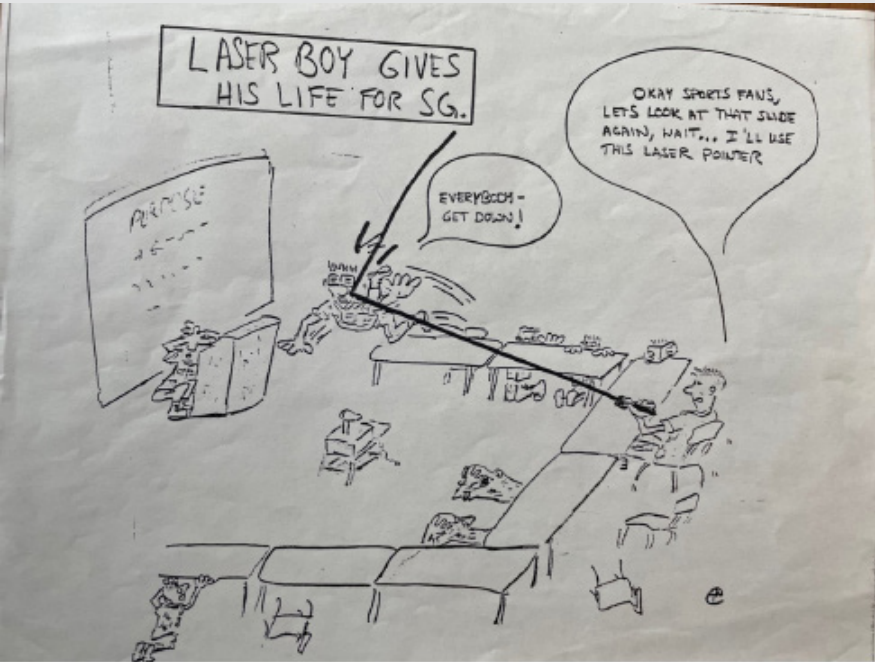
Jack Lund was always a critical contributor to these workshops and was the go-to person for summarizing extensive data sets of relevant data and discussion of injury mechanisms. He was a insightful ambassador of the US Army Laser Bioeffects group and a collegial mentor to me and many other new to the community and his friendship will be sorely missed.



Jack Lund in front of a Zeiss fundus camera in his lab.

From: Jim Ness

When I first met Jack, it was during my interview for potential assignment to the Directed Energy Lab, Brooks AFB. I freely admitted knowing little about eyes other than most people have two of them and lasers, to me, where only known through Star Wars. Nonetheless, Jack and the others saw me as trainable, and I was assigned to the group. I did not know they actually meant that I truly had potential. I was given an assignment to research if the long-term viewing standards for near IR exposures could be relaxed. Jack and the team encouraged as I progressed, despite many epic fails. Once I had the relevant data of retinal image motion, I talk with Jack, thinking I would be given some cumbersome physics-based math but no, Jack said, make a movie! After significant episodes of “code rage” I succeeded and viola! The brilliance of Jack’s elegant suggestion of rendering data was evinced. I have never forgotten his lessons of observe nature first and then apply a formula that best maps to nature. Thank you Jack, I am forever grateful for your mentorship. The standard was changed due to the mentorship and collegial support of Jack and the directed energy team. Thank you in helping me realize my potential. Of course, I went on to Command and General Staff College and was known as “Laser Boy”. Below is the cartoon classmates published of me.



Education and Training in Optics and Photonics (ETOP) 2023

CREOL, The College of Optics and Photonics is hosting an international conference that brings together about 200 scientists and engineers from all around the world, renowned for their leading expertise in optics and photonics and education. It is a unique opportunity for our community to share information about the best practices of teaching optics at all levels.

CREOL is hosting the ETOP Conference **May 15-18, 2023** at the **Hilton Cocoa Beach Oceanfront**.

Find our more information at etop.creol.ucf.edu



Name: Yannanqi Li
Hometown/State: Changchun, China
Year in School: 5th Year PhD
Area of Study/Major: Optics and Photonics

STUDENT SPOTLIGHT

When were you first introduced to photonics/electro-optics?

At the end of my third year of undergraduate, I joined Prof. Qionghua Wang's lab and began research on the electrowetting optical switch project. I witnessed the eye-opening interaction between the optical response and the electric field due to an electrically driven shutter modulating light transmittance.

What or who inspired you to choose your line of study?

I started my dream of becoming an influential researcher in optics during my undergraduate study, where I was blessed to have chances to be involved solving real research problems. I was impressed by many physical phenomena in optics by the time I finalized my first project of electrowetting optical switch. Also, I was fascinated by such a detail-driven, problem-solving lifestyle and enjoyed the moments when all my efforts paid off. Soon, I realized that a PhD degree in optics in a renowned institute will help me to lay the foundation for my goal.

Describe your favorite course you have taken so far.

My favorite course is flat panel displays taught by Prof. Shin-Tson Wu. He vividly taught us the history, principles, applications, and future development of liquid crystal in depth. He also invited academic experts from outside the school and engineers with rich experience to give us lectures, so that we could learn the frontiers of industry and expand our horizons. The content of the teaching laid a solid foundation for my academic research.

Are you researching anything at the moment? Can you tell us about it?

During my PhD, I have been developing novel liquid crystal devices and optical system design for augmented and virtual reality near-eye displays. Currently, I am working on switchable liquid crystal devices which can help to improve the viewing performance for waveguide-type augmented reality eyeglasses.

What would you like to do in the future with your studies?

My career goal is to become a highly capable researcher and work in an industrial R&D department to contribute my efforts for facilitating the optics industry.

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U.S. Department of Health and Human Services Food and Drug Administration

GUIDANCE DOCUMENT

Surveying, Leveling, and Alignment Laser Products

Guidance for Industry and Food and Drug Administration Staff

JANUARY 2023

The United States Food and Drug Administration (FDA) is issuing a guidance to outline, for manufacturers, the FDA's approach regarding the applicability of FDA's performance standard regulations to surveying, leveling, and alignment (SLA) laser products to help manufacturers with questions they have raised. This guidance addresses topics including considerations for what is an SLA laser product, examples of SLA and non-SLA laser products, and information on variances and exemptions from SLA laser product class limits.

Find it here:

<https://www.fda.gov/regulatory-information/search-fda-guidance-documents/surveying-leveling-and-alignment-laser-products>

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Abstracts that describe specifications and opportunities for any of these laser applications are welcome:

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- Laser Materials Microprocessing
- Frontiers in Laser Applications
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PEER REVIEWED PAPERS!

Submitters can select the option to have their technical paper reviewed by a blind peer review process. The peer review panel will look for quality of the research, relevance and significance of the findings. Selected papers will be identified as such in the ICALEO® 2023 Congress Proceedings and published in the Journal of Laser Applications (JLA).

MEET THE 2023 OFFICERS OF LIA

2023 Officers



LIA's 2023 President Henrikki Pantsar is Director of Applications and Services at Trumpf, Inc., Laser Technology Center in Plymouth, MI. In this position, he is responsible for micro, macro, marking, and additive manufacturing applications, as well as after-sales operations, including technical services and spare parts. Previously, he held the positions of Chief Technology Officer and Vice President of Research and Development at Cencorp Corporation/Valoe Corporation. He has also worked in the field of laser applications at Fraunhofer USA, VTT Technical Research Centre of Finland, and Lappeenranta University of Technology. Dr. Pantsar received his Doctor of Science in Technology degree from Lappeenranta University of Technology, and he also received the Henry Granjon Prize of International Institute of Welding for his work in laser-hardening research.



President Elect Aravinda Kar is a professor of Optics and leads the Laser-Assisted Manufacturing and Materials Processing (LAMMP) laboratory in CREOL, The College of Optics and Photonics at the University of Central Florida. He has been working on various aspects of laser materials processing and manufacturing for more than 30 years, and published 119 technical journal papers, 183 conference papers and received 29 patents. He is a Fellow of the Laser Institute of America and a Fellow of the National Academy of Inventors. He has co-authored a book entitled, Theory and Application of Laser Chemical Vapor Deposition, Plenum Press, New York, 1995.



Past President Gilbert Haas has worked with industrial lasers for the past 36 years. His education consists of a BS degree in Electrical Engineering from the University of Wisconsin and an AS degree in Laser Technology from North Central Technical College. He also has advanced his formal education by completing several additional classes in the fields of Mechanical Engineering and Metallurgy. Throughout his career, Mr. Haas has taught classes, given many lectures, published numerous papers and holds several national and international patents in the field of industrial laser applications.

Throughout his career with lasers, Mr. Haas always saw a need for new and innovative laser beam delivery technology. So in 1992, Mr. Haas founded Haas Laser Technologies, Inc. Today, Haas Laser Technologies, Inc. designs and manufactures custom laser beam delivery components, laser beam measurement equipment and laser systems for industrial applications at its facilities in Flanders, New Jersey.

Mr. Haas served on the LIA Board of Directors in 2015 and 2016 and as treasurer of the Executive Committee in 2017 and 2018.

Secretary Bo Gu (Ph.D.) has been in laser material processing field for 35 years since his first attendance of LIA's ICALEO conference in San Francisco in 1985. He has been voluntarily and extensively involved in LIA conferences since as an author, conference chair, international advisor, course instructor, and organizing committee member. Dr. Gu was elected LIA's board of directors three terms from 2006-2011 and 2018-2020, and LIA executive committee 2008-2010, and fellow of LIA. He was one of co-founders of LIA New England chapter. Since Dr. Gu's first invited paper at CLEO conference in 1988, he has given 19 plenary presentations, 65 invited talks, 3 magazine cover articles, and taught 7 short courses at various international conferences and he holds 75 patents on lasers and their applications. After a successful research and development career, Dr. Gu entered the business side of the laser field and had a proven track record of success in managing business including being the managing director of IPG Photonics Asia and General Manager of IPG China and various senior corporate executive positions at GSI Group, Lumonics, Resonetics, respectively. He developed many commercial products of lasers and laser systems for industrial markets and was instrumental in the wide industrial applications of fiber lasers in China and Asia. Dr. Gu is currently the president of Bos Photonics. He is a fellow of LIA, OSA, SPIE, and COS.



Treasurer Islam Salama is a Senior Director in the Technology Manufacturing group at Intel Corporation. In this capacity, Dr Salama manages a global team of scientists, engineers, legal, finance and business professionals responsible for technology development, high volume manufacturing and business operation of the high-density interconnect substrate and microelectronics packaging across all intel products. He has a PhD. in laser materials processing from the College of Optics and Photonics (CREOL) at the University of Central Florida. He worked in the field of semiconductor manufacturing and microelectronic packaging focusing on the development of various lasers and patterning processes for high density interconnect and microelectronic substrates. He has authored over 30 technical papers, was awarded more than 80 international patents and has more than 30 patent-pending inventions in the fields of laser technology, laser materials processing, semiconductor fabrications and microelectronics packaging and devices. He had been an invited speaker and lecturer in various international conferences and academic institutions. Dr Salama has been involved in the filed of laser materials processing and laser applications over the last 20 years and has been an active member of the LIA since 2001.



Introducing the Laser Institute of America's 2023 Board of Directors. Many updates were made to the by-laws in 2021, but the biggest change was consolidating the Board of Directors and Executive Committee into one body called the Board of Trustees. This was done to improve operations and communications within LIA and keep the Board more accountable to members. The Board of Trustees is made up of the above officers and following elected members of LIA.

MEET THE 2023 BOARD OF TRUSTEES

2023 Board of Trustees



Klaus Loeffler graduated from the University of Stuttgart with a master's in mechanical engineering. His expertise in lasers extends from resonator design, excitation methods, beam delivery, sensor systems to laser material processing. From 1990 to 1991 he was working on the LaserCAV process at MAHO in Pfronten/Germany. From 1991 to 1995 he was working at TRUMPF Laser Technik in Ditzingen/Germany as CO2 development engineer. In 1995 he came to TRUMPF Inc. Farmington CT/USA. He was working as technical coordinator between TRUMPF in Germany and TRUMPF Inc. to transfer technology and build up technical staff. From 1996 to 2002 he started the TRUMPF Laser Technology Center in Plymouth MI/USA. In his position as director, he was responsible for the organization, mainly focused in support and sales of all products of TRUMPF laser. During this time more than 500 TRUMPF lasers were implemented in North America. From 2002 to 2006 he took over the position as manager of the joining group at Volkswagen Group. In this position he was responsible for the implementation of more than 500 High Power Lasers into production. This included the application as well as the industrial implementation. In 2004 he founded the Automotive Laser Conference in Wolfsburg/Germany, which together with ALAW and JALAW builds a global conference partnership. From 2006 to the end of 2009 he took over the responsibility for international sales at TRUMPF Lasers and Systems along with the responsibility for sales, additional product management, main application management and marketing. Since 2009 he is responsible for the strategic industry development for the TRUMPF Laser und Systemtechnik. Starting 2007 he became a member of the board of directors of the Laser Institute of America. In 2008 he was elected as Secretary of the Executive Committee of LIA. Besides LIA he serves on the board of the SLT conference, the new exhibition LASYS 2008 and other events with the goal to ensure the global growth of laser technology.



Jamie J. King, is a Certified Laser Safety Officer with over 28 years of experience in laser safety. He has served as the LSO for NASA-Ames Research Center, Sandia National Laboratories (California), and is currently the laser safety subject matter expert for Lawrence Livermore National Laboratory (LLNL), home of the National Ignition Facility. Jamie represents LLNL on the Accredited Standards Committee (ASC) Z136, is a member of the Z136 Administrative Committee and also serves on the SSC-1, SSC-8, and TSC-4 subcommittees. He is the current chair for the Department of Energy's (DOE) Energy Facility Contractor's Group (EFCOG) Laser Safety Task Group and authors the Laser Lessons Newsletter for LLNL with worldwide distribution. Jamie served as co-chair for the Technical Practical Applications Seminar at the 2017 and 2019 ILSC. He is serving as director for the 2020 DOE LSO Workshop at the University of Texas-Austin and has been on the planning committee for the previous five. Jamie is the 2019 recipient of the R. James Rockwell, Jr. Educational Achievement Award.



Milan Brandt is a professor in Advanced Manufacturing in the School of Engineering, Technical Director Advanced Manufacturing Precinct and Director RMIT Centre for Additive Manufacturing, RMIT University, Melbourne Australia. Professor Brandt has been involved with lasers and manufacturing technologies professionally for some 36 years and is recognised nationally and internationally as the leading Australian researcher in the field. He is the recipient of a number of awards and is the author of over 200 publications, 5 book chapters and a book on laser additive manufacturing. He has also commercialised the results of his research through the companies he has helped establish.

Professor Brandt is a Fellow and currently an executive member of LIA. In 2018 he was the president of LIA. He has had a 33 year association with LIA being involved on the organizing committees for ICALEO and LAM for many years, as well as serving on the LIA Board of Directors. He is also the Senior Editor of JLA in additive manufacture. Milan Brandt was the 2020 Arthur L. Schawlow Award winner.

Constantin Haefner recently joined the Fraunhofer Institute for Laser Technology (ILT) in Aachen, Germany, as the organization's executive director. ILT is one of the premier laser R&D institutions in Europe. He oversees more than 500 employees focused on activities such as the development of new laser beam sources and components and industrial laser processes. Prior, Haefner directed the Advanced Photon Technologies Program at Lawrence Livermore National Laboratory, USA, where he led the development of high-energy cutting-edge laser systems relevant to scientific research and commercial applications. Haefner and his team pushed the frontiers in developing next generation high peak-power lasers – technologies that are now starting to revolutionize the field.

Haefner received his Physics Diploma degree from the University of Constance (1999), and his Ph.D. from the University of Heidelberg, Germany (2003). In 2004 he became Research Assistant Professor and Chief Laser Scientist at the University of Nevada Reno's Nevada Terawatt Facility. In 2006 he joined LLNL where he has since led the R&D of advanced laser technologies. Haefner won several awards and was elected 2017 to Fellow of OSA for his pioneering work in development of next-generation, high-average- power petawatt laser systems and sustained advancement of state-of-the art laser technologies.



Robert Thomas, (PhD Physics, University of Missouri—Columbia) is currently serving as a Principal Research Physicist for the Airman Systems Directorate of AFRL. He is also the current Core Technology Competency Lead for the Bioeffects Division at Joint Base San Antonio—Fort Sam Houston, TX. His group has provided a very large percentage of foundational bioeffects data used to establish and refine exposure limits for laser safety. He is an active Fellow of the Laser Institute of America and SPIE, and regularly organizer of AFRL-supported scientific conferences in the fields of laser safety, biomedical optics, and related sciences. He has served LIA as Secretary (2012-2013) and President (2015), and as the Chairman of the Z136 Accredited Standards Committee (2010-2019).



Neil Ball is the president of Directed Light Inc, of San Jose, California. Directed Light Inc is a laser technology company serving the industrial, medical and scientific laser communities worldwide since 1983. Neil has devoted his adult working life to the industrial laser industry. He began his career in 1985 as an application technician in the contract manufacturing sector at LaserFab, Inc. in California. After developing his laser knowledge he moved to Systron Donner Inertial and became involved in the production of inertial guidance packages, accelerometer, gyroscopes and inclinometers. Neil joined Directed Light Inc in 1993 to assist in applications development, system design, and component/service support. In 2005 he became President of Directed Light Inc. He is still active in systems and applications

development. Neil has led the marketing and developing sales plans for both national and international arenas and is the resident methodologist, working on projection of future industry trends.

Neil is a Fellow and sits on the Board of Directors for The Laser Institute of America. In addition he is a member and Educational Council Director for the Industrial Laser Community of the Society of Manufacturing Engineers. In addition he holds memberships with The American Welding Society, Fabricators and Manufacturers Association, and The American Society of Lasers in Medicine and Surgery.



MEET THE 2023 BOARD OF TRUSTEES

2023 Board of Trustees continued



Dr. Hongqiang CHEN, is a Principal Scientist and Program Manager in the Manufacturing Technology division at GE Global Research Center. He is a leader in the laser processing community and has made outstanding contributions to the general laser community and to LIA in particular. Under his technology excellence and team leadership, GE has developed a novel laser machining process for mass production of CMC (ceramics matrix composites) parts used in jet engines and large-scale laser metal 3D printing machine for GE Catalyst – the First Turboprop Engine with extensive 3D printed parts. He is also a pioneer of laser processing in green energy using short pulse laser, which led to a world record 18.3% efficiency CdTe solar cell in 2013 and served as Principal Investigator for National Science Foundation funded program on thin film solar cell laser scribing quality control. With over 20 years of industrial laser processing experience, Dr. Chen has worked closely with LIA, ASME and SPIE to promote laser technology serving broad markets from aerospace, green energy to additive 3D printing. Since 2003, Dr. Chen has contributed numerous papers, invited talks and interviews for ICALEO and other laser events. He also served as Associate Editor for ASME Journal of Manufacturing Science & Engineering focusing on laser additive and conference co-chair for “Laser 3D Manufacturing” at SPIE Photonics West. He has published over 45 peer-reviewed papers with 6 US patents.



Robert Braunschweig, received his MS in 1997 from the School of Advanced Processes in Electronics and Optics (ESPEO) in Orleans, France, with a Major in Lasers and Photonics and has been working in the laser industry since then. Robert has been working with ultrafast lasers and their applications for the past 17 years with positions held at High-Q Lasers (now part of MKS), Amplitude Laser and more recently B-Lasers and LASEA Inc., where he is the General Manager since 2016. Robert has co-authored several papers throughout the years, is a long-time member of the LIA (as well as board member) and has co-chaired the 2017 and 2018 ICALEO Micro-Processing conference. Robert also co-chaired for the 2020 ICALEO Frontiers in Laser Applications conference.



Yongfeng Lu is currently the Lott Distinguished Professor of Engineering at the University of Nebraska-Lincoln (UNL). He received his bachelor degree from Tsinghua University (China) in 1984 and M.Sc. and Ph.D. degrees from Osaka University (Japan) in 1988 and 1991, all in electrical engineering. From 1991 to 2002, he was a faculty in the ECE Dept. at National University of Singapore. He joined the Department of Electrical Engineering at UNL in 2002. He has more than 20 years of experience in processing and characterization of micro/nanostructured materials. His group has research projects funded by NSF, AFOSR, ONR, DTRA, DOE, DOT, NCESR, NRI, private companies, and other foundations in Japan, with research expenditures of \$20 million in the past a few years. His research has led to a number of commercialization and product developments.

Dr. Lu has authored or co-authored over 300 journal papers and 350 conference papers. He has been elected to SPIE Fellow, LIA Fellow, and OSA Fellow. He served as the President of the Laser Institute of America in 2014. He has also served as Chair and General Chair for major international conferences in the field including the General Congress Chair for the International Congress of Applications of Lasers and Electro-Optics (ICALEO) in 2007 and 2008, and general co-chair for LASE in Photonics West 2014 and 2015.

Mike Lander, is Senior Scientist at Skyward Ltd, located in Dayton, Ohio. Mike has been active in the field of optics and photonics for over 37 years. Mike has significant experience in laser physics specializing in high power (above 100KW) laser systems development, optical system design, electro-optical sensing solutions, laser-materials interaction testing and characterization, and laser-based additive manufacturing. Mike has developed and enhanced multiple high power laser systems applied to laser-materials interaction testing, and laser-systems engagement testing. Mike has developed related testing methods, laboratory and range laser safety practices, materials response sensing systems, and commercial additive manufacturing products relating to laser powder bed fusion (LPBF) processing and process monitoring. Mike's most recent work at Skyward Ltd involves fire protection for air and ground vehicles, and interaction with Skyward's multi-disciplined engineering and scientific teams dedicated to scanning and reverse engineering for additive manufacturing design, advanced modeling and simulation, machine learning, and ordinance range testing activities.

Mike received the BS in Physics from Earlham College in 1985 and the MS in Electro-Optics from the University of Dayton in 1987.



Eric Mottay graduated from the Ecole Supérieure d'Optique near Paris, the leading institution in France for Optical Engineering. He is the president of Amplitude Laser Group, a company he founded in 2001 and which is now a leading manufacturer of ultrafast lasers for industry and science. In doing so, he developed during the past ten years many scientific and industrial partnerships with research institutions, technology centers and industrial companies. He is passionate about laser technology and applications development and believes that sound engineering and collaborations are the key to success in photonics.



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Content: We are always looking for great newsworthy content that covers challenges and innovations in the field of photonic materials processing, laser safety, and laser market trends. This is not a paid opportunity, but does carry the benefit of publishing your work on a platform that is read by thousands of your peers. All article topics should be confirmed with an LIA TODAY editor before writing your article. Please email your article ideas to liatoday@lia.org and an editor will be in touch with you.

Potential Categories: Safety, medical applications, research and development, laser applications fundamentals, history, business, and other categories.

Potential Industries: Energy storage, aerospace, DoD non-aerospace, automotive, medical devices and biotechnology, microelectronics and IC fabrication, Internet of Things, research and development, and other industries.

SUBMISSION GUIDELINES:

Style: The tone should be editorial and informative; it should not sound like a sales pitch. It should be comprehensible by a broad audience of readers with low to expert experience with the topic, so it is important to include examples and simple explanations alongside any technical language.

Length: 600 - 1500 words

Text: Please use standard fonts such as Arial, Calibri, or Times New Roman. Fonts, font sizes, and line spacing will be reformatted by LIA for the final piece. Grammar and mechanics will be edited to the LIA style guide by LIA, but please be mindful of spelling and grammar as you are writing so that your message is clear.

Headline: Please include two newsworthy headlines suggestions for your article using action verbs.

Images & Figures: Please include images to be used with the article. Submit as an email attachment (PNG, GIF, JPG, JPEG) (min. 1000px in width or height). Images should also be placed in the body of the text where the author would like them to appear in the final article. All figures or images should include captions.

Deadlines: All material is due no later than two weeks prior to the scheduled publishing date. Check with an editor for your deadline.

Note: LIA reserves the right to abstain from publishing a submitted article for any reason.

SUBMISSION CHECK LIST:

- Full text as a Word Document
 - Abstract: A 50 – 100 word summary in plain language
 - Two (2) headline suggestions using an action verb
 - Article 600 – 1500 Words
 - Images with captions placed in the body of the article
 - Article references when applicable
 - Short author *bio* (full title, company, 50 words)
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