

LIA TODAY

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BLACK HISTORY
MONTH -
CELEBRATING DR.
PATRICIA BATH

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INTRODUCING THE
NEW LIA BOARD

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BLS: CERTIFICATION VS
TRAINING

PG 21



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.

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BLACK HISTORY MONTH - CELEBRATING DR. PATRICIA BATH

By Jana Langhans

In honor of February being Black History Month, we would like to recognize and celebrate Dr. Patricia Bath and her many accomplishments, including the invention of the Laserphaco Probe which is used for cataract surgery.

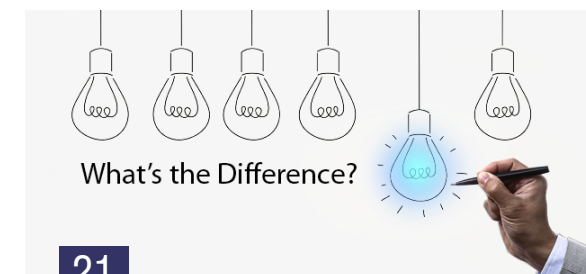
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INTRODUCTION OF NEW LIA 2021 BOARD OF TRUSTEES

LIA has updated their by-laws this year 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.



BLS: CERTIFICATION VS TRAINING

When working with or around a laser, it is important to have proper training. With the Board of Laser Safety you can choose to take it a step further and become certified. But what really is the difference between the two?

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 Jun. 2 - 4, 2021

Orlando, FL Aug. 18 - 20, 2021

LASER SAFETY OFFICER WITH HAZARD ANALYSIS

Orlando, FL Jun. 7 - 11, 2021

Orlando, FL Aug. 23 - 27, 2021

MEDICAL LASER SAFETY OFFICER TRAINING

Orlando, FL Jun. 5 - 6, 2021

Orlando, FL May 30 - 31, 2021

INDUSTRIAL LASER SAFETY OFFICER TRAINING

Novi, MI May 12 - 13, 2021

Novi, MI Aug. 11 - 12, 2021

Novi, MI Nov. 10 - 11, 2021

Visit www.lia.org for all course and event listings

Course Highlight

MEDICAL LASER SAFETY OFFICER TRAINING

ONLINE - ANYTIME, ANYWHERE

At LIA, we care about your laser safety training as much as you care about your patients. We know safety is a top priority in your operating room and medical facility, and we understand the pressure to keep everything running smoothly.

That's why we have designed our Medical Laser Safety Officer (MLSO) online course to meet the special needs of RNs, OR supervisors, training coordinators, and other medical professionals who have been appointed the critical responsibility of LSO.

LIA's MLSO online training course mirrors our popular in-classroom program. You can rest easy knowing you are receiving the same high level of training and expertise. The only difference is the delivery method. It is offered over the Internet in a convenient, easy-to-use online format.

This course is available to purchase in both single- and multi-user options.



Gilbert Haas
LIA President 2020

evolve.

I look forward to seeing each other again very soon.

Be well and stay safe.

PRESIDENT'S MESSAGE

2021 has arrived and we are all hopefully optimistic that it will bring us some sort of normalcy. The New Year brings in a fresh start with new possibilities for the future. It somehow refreshes us to us lead the way forward.

For the New Year, I will be serving as the LIA President along with a fresh new Board of Trustees and Officers. Together we will be looking to evolve and expand the organization.

LIA headquarters also has a fresh start this year in their new offices. The new offices allow the organization to evolve and direct resources toward new programs that will benefit the organization.

And finally, be sure to watch the upcoming LIA events and training courses this year as they



Nat Quick
Executive Director

EXECUTIVE DIRECTOR'S MESSAGE

Welcome to the new year. As stated by President Gil Haas we are optimistic about achieving some degree of normalcy.

We would like to welcome the LIA 2021 Officers and Board of Trustees;

2021 Officers

President – Gilbert Haas

President Elect – Henrikki Pantsar

Past President – Minlan Zhong

Treasurer – Aravinda Kar

Secretary – Islam Salama

2021 Board of Trustees

Klaus Loeffler

Jamie King

Milan Brandt

Robert Thomas

Bo Gu

Constantin Haefner

Koji Sugioka

Chrysanthos Panayiotou

Yongfeng Lu

Robert Mueller

Under the guidelines of the updated By-Laws the officers from 2020 are serving a second term this year. Board of trustees and officers began their terms January 1, 2021. We are scheduling four Board of Trustees meetings throughout the year.

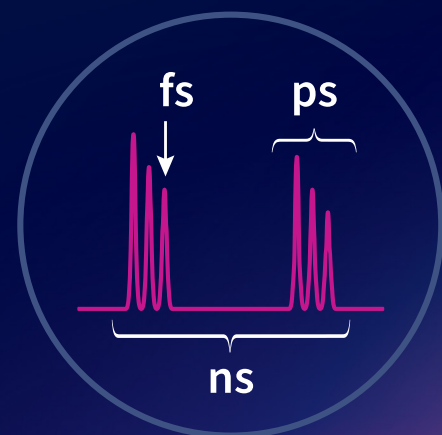
This year a key objective for LIA is to expand its technical content and to evaluate and implement new methods to distribute this content. The virtual ICALEO 2020 conference provided important insight and defined questions to be answered. Development of a virtual Laser Additive Manufacturing (LAM) workshop series is one new initiative.

We are continuing to expand our library of on-line laser safety courses and American National Standards institute (ANSI) .8, .5 and .7 revisions addressing laser safety recently have been published. In addition, we continue to improve operational efficiency through advances in our information technology. Finally, we are settling into our new Head Quarters.

Stay safe and keep others safe.



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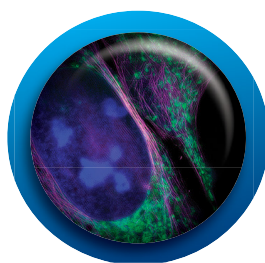
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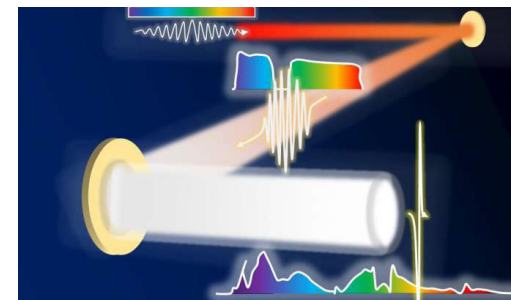
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PHOTONICS
MEDIA

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

1

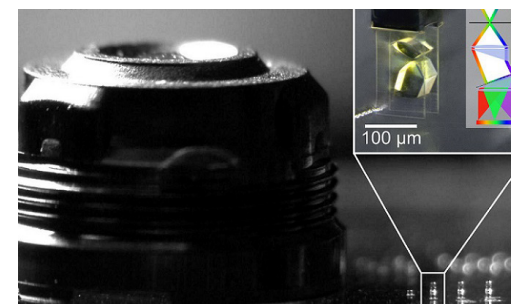


TOWARD EXAWATT-CLASS LASERS

Researchers from Osaka University proposed a concept for next-generation ultra-intense lasers with a simulated peak power up to the exawatt class (1 exawatt equals 1000 petawatts)

[Read more](#)

2

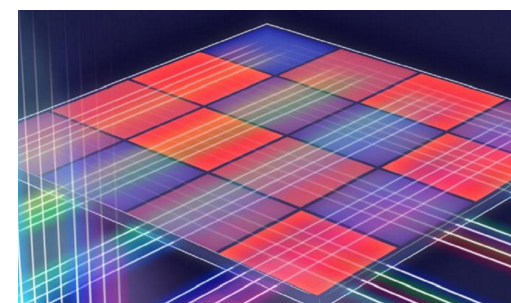


3D-PRINTING METHOD ENABLES MICROSCALE SPECTROMETER

Researchers from the University of Stuttgart have developed a microscale spectrometer that can be fabricated through femtosecond direct laser writing.

[Read more](#)

3

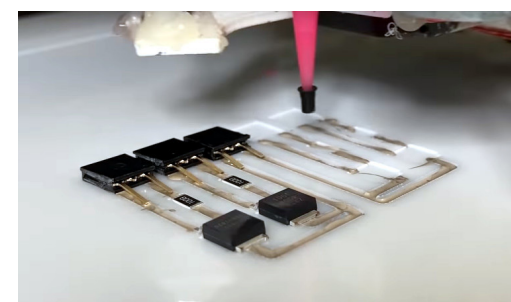


PHOTONIC PROCESSOR REACHES UNPRECEDENTED COMPUTING DENSITY

An international team of researchers has developed a new method and architecture for photonic processors, which speeds up complex mathematical tasks in the field of machine learning.

[Read more](#)

4



MIT PRINTS ROBOTS WITH LASERS

MIT's Computer Science and Artificial Intelligence Lab (CSAIL) wants to convert laser cutters into something more by combining the functions of a cutter, a conductive printer, and a pick and place system.

[Read more](#)

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US Department of Labor's OSHA issues proposed rule to update hazard communication standard

WASHINGTON, DC – The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) today issued a proposed rule to update the agency's Hazard Communication Standard (HCS) to align with the seventh revision of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

OSHA expects the HCS update will increase worker protections, and reduce the incidence of chemical-related occupational illnesses and injuries by further improving the information on the labels and Safety Data Sheets for hazardous chemicals. Proposed modifications will also address issues since implementation of the 2012 standard, and improve alignment with other federal agencies and Canada.

Individuals may submit comments identified by Docket No. OSHA-2019-0001, electronically at <http://www.regulations.gov>,

which is the Federal e-Rulemaking Portal. Read the [Federal Register notice](#) for details. The deadline for submitting comments is April 19, 2021.

OSHA has preliminarily determined that the proposed modifications would enhance the effectiveness of the standard by improving dissemination of hazard information so employees are more appropriately apprised of exposure to chemical hazards in the workplace.

Established in 1983, the Hazard Communication Standard provides a standardized approach to workplace hazard communications associated with exposure to hazardous chemicals. OSHA updated the standard in 2012 to align with the third revision of the United Nations' GHS to provide a common and coherent approach to classifying chemicals and communicating hazard information.

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing safe and healthful workplaces for their employees. OSHA's role is to help ensure these conditions for America's working men and women by setting and enforcing standards, and providing training, education and assistance. For more information, visit www.osha.gov.

The mission of the Department of Labor is to foster, promote, and develop the welfare of the wage earners, job seekers, and retirees of the United States; improve working conditions; advance opportunities for profitable employment; and assure work-related benefits and rights.

Original Release: February 5, 2021

Source: <https://www.osha.gov/news/newsreleases/trade/02052021>

B L A C K HISTORY MONTH

FEBRUARY
2 0 2 1

In honor of February being Black History Month, we would like to recognize and celebrate Dr. Patricia Bath. She is best known for her invention of the Laserphaco Probe which is used for cataract surgery and has cured blindness in thousands of people worldwide, but she has been an influential person in so many other parts of history as well.



Dr. Patricia Bath

Patricia Bath was born in New York in 1942 to a black father and a mother who was descended from Native Americans and African slaves. One of the reasons she really had a passion for learning and excelled is that her family always supported her academics and educational journey. They constantly encouraged both her and her brother to learn as much as they could and always do their best. Her mother even bought Bath her first chemistry set as a child which can be attributed to her early passion for science even at a young age.

She graduated high school after only two years, but even in that short time she already received her first scientific award at the age of 18. She was one of a few students who attended a special summer workshop on cancer research. Through her work during this program “she was able to conclude that cancer, itself, was a catabolic disease and tumor growth was a symptom. She had also discovered a mathematical equation that could be used to predict cancer cell growth.” The head of the program recognized that these contributions were so impressive,

he made sure they were presented at the International Fifth Congress of Nutrition and published in a scientific paper. The attention from this is what led to her to be awarded the “Merit Award” of Mademoiselle magazine in 1960. After high school, Bath attended Hunter College where she earned her bachelor’s degree in 1964. She then went on the Howard University of Medicine in Washington D.C. to earn her medical degree, which she did with honors.

“She graduated high school after only two years, but even in that short time she already received her first scientific award at the age of 18.”

Not only did her ambition show through her schoolwork, but throughout her college career, she was also very influenced by her heritage and the civil rights movement. The summer that she graduated, she encouraged medical students at Howard to volunteer their health services to the Poor People’s Campaign in 1968, which demanded economic justice and human rights for people of all races living in poverty. Always having this cause in the background of her life led her to help a lot of people when mixed with her passion and knowledge of science.

After graduating, she moved back home to Harlem to begin working an internship at Harlem Hospital. There

she noticed inconsistencies in vision problems between white patients at the Columbia University Eye Clinic and people of color who visited the Harlem Hospital. Doing more research on this, Bath came to the conclusion that almost double the amount of black patients were blind as white patients. She brought this to the attention of her professors and persuaded them to operate on blind patients at Harlem Hospital at no cost. “Bath was proud to be on the Columbia team that performed the first eye surgery at Harlem Hospital in November 1969.” Her idea of community ophthalmology to support people with limited access to primary care has worked to save thousands of people’s sight and is still prevalent today.

“The Laserphaco Probe was patented in 1988, making Bath the first African American woman with a patent for medical purposes.”

From there she was the first African American to serve her residency in ophthalmology at New York University from 1970-1973. She then moved on to become an assistant professor of surgery at the University of California, Los Angeles and after a year, in 1975, became the first woman faculty member in the Department of Ophthalmology at the Jules Stein Eye Institute, a part of UCLA. It feels important to note that when offered this position, she was also offered an office that was with the lab animals in the basement, which she politely refused. She never let this incident discourage her or slow her down in her work. By 1977, she had helped found the American Institute for the Prevention of Blindness and by 1983, she had helped start and was the chair of the Ophthalmology Residency Training program.

During her time at UCLA, she was also busy working on an invention that she would become famous for: the Laserphaco Probe. In 1986 Bath resigned from being chair of ophthalmology and took a sabbatical to focus on research and ended up at research laboratories in France, England, and Germany. Bath studied laser technology and began looking specifically into laser cataract surgery. Using laser PHotoAblative Cataract surgery, or “Laser phaco” for short, she created a device that improved on the use of lasers to easily dissolve and remove cataract lenses. The Laserphaco Probe was patented in 1988, making Bath the first African American woman with a patent for medical purposes. This device is still used internationally to treat cataracts and throughout her life, she continued to improve it. She has even been able to restore vision to people who have been blind for up to 30 years, which is something she has said is one of her greatest joys. Bath now holds five patents in relation to the Laserphaco Probe and other methods of removing cataracts.

Although Patricia Bath passed away in 2019, her dedication to helping underprivileged communities and her academic genius are the reasons she will be remembered forever. Even after she retired in 1993, she advocated for telemedicine, which uses electronic communication to provide healthcare to communities where it is typically limited. She has helped change countless lives for the better and will always be a pillar that helped build up the laser community.

Sources: https://en.wikipedia.org/wiki/Patricia_Bath
https://cfmedicine.nlm.nih.gov/physicians/biography_26.html

Cataract Surgery (bladeless laser method)

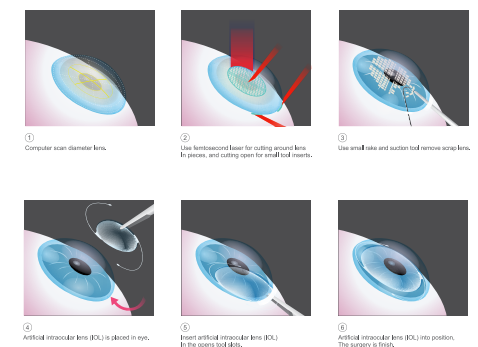


Image shows the steps to a modern bladeless laser method of cataract surgery.

MEET THE 2021 OFFICERS OF LIA

Introducing the Laser Institute of America's Board of Directors looks a little different this year, thanks to updates made to the by-laws. 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. 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 following officers and elected members of LIA.

2021 Officers



LIA's 2021 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.



Henrikki Pantsar, President-Elect 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.

Past-President Minlin Zhong, has been involved with lasers and manufacturing technologies professionally for 34 years and is recognized nationally and internationally as the leading Australian researcher in the field. Prof. Brandt is a professor in Advanced Manufacturing in the School of Engineering, as well as the Technical Director of the Advanced Manufacturing Precinct, and the Director of RMIT Centre for Additive Manufacturing at RMIT University in Melbourne, Australia. He is the recipient of numerous awards and is the author of more than 200 publications, five book chapters, and a book on laser additive manufacturing.

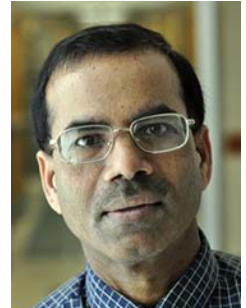
Prof. Brandt has had a 30-year association with LIA, including his involvement on the organizing committees for ICALEO and LAM for many years, as well as serving on the LIA Board of Directors. Prof. Brandt was the organizer and General Chair for PICALO 2004 and PICALO 2006, which promoted industrial lasers and applications in the region. He is also the Senior Editor of JLA in additive manufacturing.



Secretary 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.



Treasurer 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.



MEET THE 2021 BOARD OF TRUSTEES

2021 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.



Yongfeng Lu is currently the Lott University Professor of Electrical Engineering at the University of Nebraska - Lincoln. Before he joined UNL in 2002, he worked at the National University of Singapore. Dr. Lu received his BEng degree from Tsinghua University (China), M.Sc. and Ph.D. degrees from Osaka University (Japan) in 1984, 1988 and 1991, respectively. He has around twenty years of research experience in laser-based micro/nanoscale materials processing and characterization. Besides the fundamental research work which led to a large number of publications and a number of national and international awards, he also has successfully developed a number of laser-based material processing technologies and commercialized them in industries. In the past few years, he received more than ten million dollars of research funding from DoD, NSF, DOE, NRI, private foundations and industry, including a MURI grant from ONR. He has given numerous plenary, keynote and invited talks in international conferences. He has also served as the general chair for the International Congress on Applications of Lasers and Electro-Optics (ICALEO®) in 2007 and 2008, which is the largest annual event organized by the Laser Institute of America (LIA). He is also a board member and executive committee member of LIA. He has been elected to SPIE and LIA fellow since 2008 and 2009, respectively. He is also an editor for the Journal of Laser Applications.



Chrysanthos Panayiotou is the Executive Director and Principal Investigator of LASER-TEC, a National Science Foundation Center of Excellence in Laser and Fiber Optics Education. He is also a professor and chair of the Electronics Engineering Technology Department at Indian River State College, Ft. Pierce, Florida.

He worked as a design engineer in the telecommunications industry (microwave and RF) for 12 years before entering academia. He is the author of two textbooks and five laboratory manuals, and has made hundreds of presentations at educational conferences on topics related to lasers, fiber-optics and photonics in general. He leads the Optics and Photonics College Network (OPCN) which consists of 36 US Colleges with two-year programs, producing technicians for the Laser-Photonics industry. One of his high priority interests is to promote lasers and photonics education and career paths to the upcoming generations. He is a Fulbright Scholar and member of LIA, SPIE, and IEEE. He earned a MS in Electrical Engineering from UCF and an Ed.D in Educational Leadership from FAU.

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.



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.



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).



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.





Robert Mueller, (Ph.D., CLSO) is a Sr. Laser Solutions Specialist at NuTech Engineering Inc. in Milton, Ontario, Canada. NuTech Engineering designs and builds custom automated welding and cutting systems, and Robert's role is to lead the specification, design and process development for all laser systems and applications. Robert is also responsible for laser safety at NuTech, including system design, laser system certification, and laser safety training of NuTech and customer personnel.

Prior to joining NuTech, Robert worked with laser systems at Dofasco (now part of Arcelor-Mittal Steel), Powerlasers, and as a post-doctoral researcher at the University of Waterloo, and the University of Tennessee Space Institute.

Robert has over 25 years experience working with lasers of all types, and 20 years experience with industrial laser applications and systems. His areas of expertise include process development and system design for laser welding and laser cutting systems, and in-process quality monitoring and control. Robert has maintained his Certified Laser Safety Officer designation since 2003.

Rob has a Ph.D. from York University, with a thesis on laser welding dynamics, as well as an M.Sc. in Laser Physics from The University of Toronto.



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.



Koji Sugioka is a Team Leader of Advanced Laser Processing Research Team at RIKEN Center for Advanced Photonics. He received B.E., M.E. and Ph.D. degrees in electronics from Waseda University in 1984, 1986 and 1993, respectively. He was awarded the degree of Doctor Honoris Causa from University of Szeged, Hungary in 2018. Sugioka joined RIKEN in 1986. At RIKEN, He has made important contribution to both fundamental researches on laser-matter interactions and diverse applications including practical use in the said area. He is internationally renowned for his works on laser doping, laser etching, laser surface modification, laser-induced selective metallization, microfabrication of transparent materials, VUV laser processing, laser surface nano-structuring, and 3D micro and nano fabrication. In particular, he is known as a leading scientist in the ultrafast laser processing technology. His current research interests include ultrafast laser processing for microfluidic, optofluidic, microelectronic and optoelectronic applications. Sugioka is currently a member of the board of directors of the Laser Institute of America (LIA), Japanese Laser Processing Society (JLPS) and The Japan Society of Laser Technology (JSTL), a council member of the Intl. Academy of Photonics and Laser Engineering (IAPLE), and a Fellow of SPIE, OSA, LIA, and IAPLE. He is also an editor-in-chief of Journal of the Laser Micro/Nanoengineering (JLMN) and an editor of Opto-Electronic Advances (OEA), Nanomaterials, Advanced Optical Technology (AOT), and Int. J. Extreme Manufacturing (IJEM).

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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.

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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.

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 - Article references when applicable
 - Short author *bio* (full title, company, 50 words)
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NEWSLETTER

Volume 2 • Issue 1

Certification Maintenance Tip!

You can earn BLS Certification Maintenance points by reading laser-related peer-reviewed academic journal articles. Points for journal article reading are claimed in Category 9, Other Activities. Record your reading using the Journal Article Verification Worksheet and have it signed by your supervisor. Attach it to your Certification Maintenance Worksheet as evidence of completion.

You can earn 0.25 CM points per hour of reading for a maximum of 2.0 CM in Category 9. Visit our website for details.

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Website: www.lasersafety.org

International Laser Safety Conference (ILSC) Postponed to 2021

"Unfortunately, due to the continued uncertainty surrounding COVID-19 and travel, we have made the decision to postpone ILSC. We will no longer be having the conference May 3-6, 2021 in New Orleans. Instead, we are looking at options in February and March of 2022 and we will have information on a new location coming soon as well. Although we were excited at the potential of gathering together in person again this year, our main priority is to ensure that everyone can join us for a safe conference. " - ILSC Conference Team

ANSI Z136.8 (2021) Testing and Labeling of Laser Protective Equipment

Z136.7-2020 hardcopy version is a single-user softbound version that provides reasonable and adequate guidance for consumers and manufacturers of laser protective equipment.

This standard is intended for anyone selecting or testing laser protective materials. The ANSI Z136.7-2020 standard provides recommendations for testing and labeling laser protective materials and protective equipment such as eye protection, barriers, and windows designed for use with lasers and laser systems that operate at wavelengths between 180 nm and 106 nm. All appendices are informative.

OSHA Workplace COVID-19 Resources

OSHA has put out a guide for workplace COVID-19 resources saying "This document includes listings of COVID-19 resources on workplace safety and health and related topics. It is intended as a resource and is not comprehensive."

[Download Here](#)

BLS Articles Now Available on LaserChirp

All articles from the BLS Newsletter that were written by CLSOs and CMLSOs this past year can now be found on the LaserChirp! Catch up on the latest laser safety tips and tricks by fellow CLSO and CMLSOs, all in one place.

Find them here: <https://www.laserchirp.com/category/bls-newsletter/>

Write for BLS!

Looking for a way to earn BLS CM points for free? BLS has restarted its newsletter and is inviting CLSOs and CMLSOs to share laser safety knowledge with the laser community! Published article submissions are worth 0.5 BLS Certification Maintenance (CM) points in Category 3. For more information on guidelines and regulations, email us at bls@lasersafety.org. Check out our first submission on the next page!

Certification vs Training

What is Certification?

According to the Merriam-Webster dictionary, the action of certification is "to recognize as having met special qualifications (as of a professional board) within a field."

Training and certification often complement one another, but they are not interchangeable terms. Most training programs educate attendees and offer a certificate of completion (not to be confused with certification). Certification is the next step in proving proficiency. The Board of Laser Safety (BLS) certifies laser safety officers, medical and non-medical, who meet specific criteria and have passed an exam prepared by our subject matter experts (SMEs). BLS partners with organizations that offer training meeting specific criteria to approve those training courses as a pre-requisite for one of our exams. After someone has completed an approved training course from one of the approved organizations, they are one step closer to being eligible to sit for a BLS certification exam. The BLS offers two certifications:



The first type is called Certified Laser Safety Officer (CLSO) and

is intended for professionals who are working with lasers in scientific, manufacturing, or industrial environments. CLSOs are often safety professionals such as industrial hygienists, health physicists, and safety engineers, but may also have other occupations while performing LSO responsibilities part-time. All CLSOs have a minimum of 1-year of experience performing the responsibilities of the LSO as outlined in ANSI Z136.1, have been recommended for certification by at least two professional references, have taken a BLS-approved LSO training course, and have passed the CLSO Exam that is offered by BLS.



The second type is called Certified Medical Laser Safety Officer (CMLSO) and is intended for professionals who are working with lasers in any medical environment where laser energy is applied to living tissue. Many CMLSOs work in hospital settings where lasers are used in surgery, but there are also CMLSOs who work in settings where the laser is used for therapeutic, cosmetic, or veterinary procedures. All CMLSOs have a minimum of one year performing the responsibilities

of an MLSO as outlined in ANSI Z136.3, have been recommended for certification by at least two professional references, have taken a BLS-approved MLSO training course, and have passed the CMLSO Exam that is offered by BLS.

Why Become Certified?

Working in laser safety can be highly competitive, and becoming certified can help you stand out from other job candidates. At the same time, becoming certified adds a higher level of credibility to your "on-the-job" experience. The combination of laser safety experience and certification demonstrates to current and potential employers that you are accomplished and qualified in the field.

Detailed information about each of these programs such as exam requirements and information, fees, areas of practice, and certification maintenance can be found on the [BLS website](#). We are glad you are considering certification. Please contact our office with any questions

About BLS



The mission of the Board of Laser Safety (BLS) is to provide a means for the recognition of laser safety professionals through certification and to promote competency in the field of laser safety. BLS certification will enhance the credibility of a designated Laser Safety Officer, and demonstrate that individuals serving in the field have agreed to adhere to high standards of safety and professional practice. For the employer, having a CLSO or CMLSO on staff demonstrates due-diligence and helps to ensure legitimacy and adequacy of the laser safety program, validating the company's dedication to a safe working environment for all employees.