LIA TODAY

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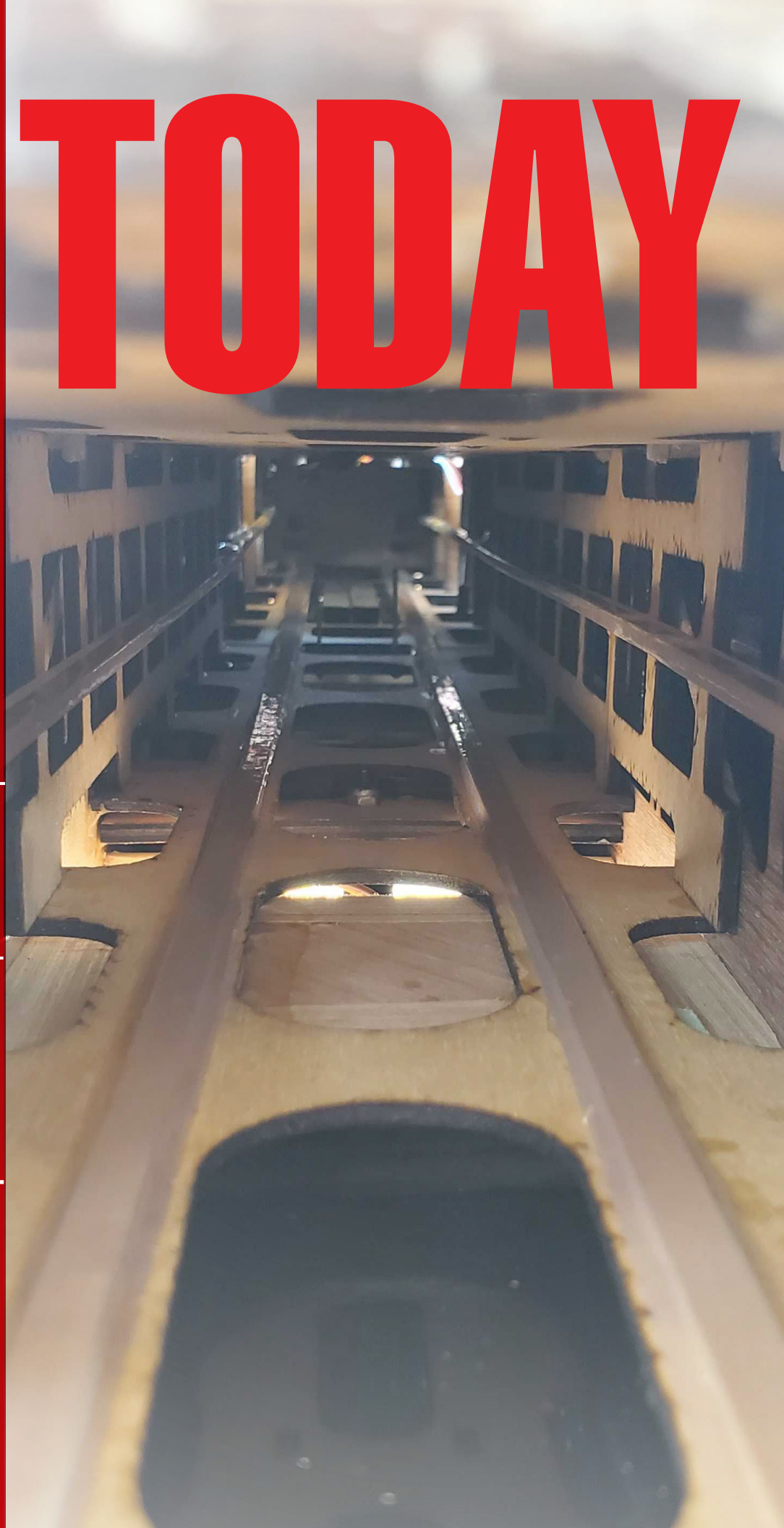

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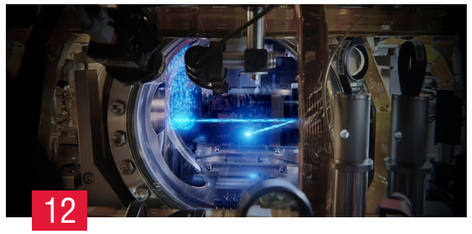
11

NATIONAL ADVISORY COMMITTEE ON OCCUPATIONAL SAFETY AND HEALTH WILL MEET ON SEPT. 13

The U.S. Department of Labor's Occupational Safety and Health Administration will hold an online meeting of the National Advisory Committee on Occupational Safety and Health on Sept. 13, 2022.



12

AMSTERDAM PHYSICISTS CREATE AN ATOM LASER THAT CAN STAY ON INDEFINITELY

By Zack Brown

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14

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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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FEATURES

BLS NEWSLETTER

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LIA Laser Safety Trainings

LASER SAFETY OFFICER TRAINING	
Orlando, FL	Feb. 16 - 18, 2022
Orlando, FL	May 11 - 13, 2022
Orlando, FL	Aug. 17 - 19, 2022
Orlando, FL	Nov. 2 - 4, 2022
LASER SAFETY OFFICER WITH HAZARD ANALYSIS	
Orlando, FL	Feb. 21 - 25, 2022
Orlando, FL	May 16 - 20, 2022
Orlando, FL	Aug. 22 - 26, 2022
Orlando, FL	Nov. 7 - 11, 2022
MEDICAL LASER SAFETY OFFICER TRAINING	
Orlando, FL	Feb. 19 - 20, 2022
Virtual, Instructor Led	April 30, 2022
Orlando, FL	May 14 - 15, 2022
Orlando, FL	Aug. 20 - 21, 2022
New York, NY	Sep. 24 - 25, 2022
Orlando, FL	Nov. 5 - 6, 2022
Virtual, Instructor Led	Dec. 3, 2022
INDUSTRIAL LASER SAFETY OFFICER TRAINING	
Novi, MI	Feb. 9 - 10, 2022
Novi, MI	May 11 - 12, 2022
Novi, MI	Aug. 10 - 11, 2022
Novi, MI	Nov. 9 - 10, 2022

Course Highlight

MEDICAL LASER SAFETY OFFICER TRAINING
NEW YORK, NY - SEPTEMBER 24-25, 2022

Are you an RN, OR supervisor, surgical tech or training coordinator who has been assigned the critical responsibility of LSO in a medical facility? According to the ANSI Z136.3 (2018) Safe Use of Lasers in Health Care, a Medical Laser Safety Officer, or MLSO, is required if your facility uses lasers of Class 3B or 4. Designed to meet the special needs of medical professionals, LIA's Medical Laser Safety Course will provide the training you need to build and maintain a successful laser safety program.

Risk of not having an MLSO:

- Severe injury/death to patients and staff
- Lawsuits/litigation
- Administrative and regulatory penalties
- Damage to credibility and reputation

As an LSO at a medical facility, you have a unique set of responsibilities. Not only is laser safety a top priority to protect your staff, but it is critical to protecting your patients. Our MLSO training program addresses the specific laser safety protocols as they relate to medical and healthcare environments.

This 2-day course will be hosted by Mt. Sinai Hospital at their facility in New York, NY.

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

PRESIDENT'S MESSAGE

Henrikki Pantsar
LIA President 2022

Excitement is in the air! It's not time to officially end the summer yet, but I am looking forward to the next season, which in our industry could be called just "the fall" or "the autumn", depending where you happen to live, or as I see it "the event season". There are plenty of events in the next three months and one of them is of course our very own ICALEO.

The last in-person ICALEO in Orlando was almost three years ago and I know many people like me are looking forward to coming together and seeing each other after a long period of time. Planning is in full swing with a great program and inspiring keynote presentations. The focus, pun intended, will be on materials processing and this year one of the leading topics will be space. To highlight this interesting frontier in laser processing we have also organized a tour to the Kennedy Space Center. The tour will be guided by NASA Astronauts. Reserve your spot on the bus early as we are capacity-limited.

LIA is doing well and we are also planning new events for the future. One of which will be the LAM Lasers in Additive Manufacturing Workshop, especially highlighting lasers, optics and sensing equipment in the field of AM. More information on this event to follow.

As the LIA continues to develop and grow I want to remind everyone that if you are interested in getting involved with the LIA and it's event, please feel free to get in touch with me or the LIA office. There is always need for motivated volunteers to support our cause.

I am looking forward to seeing hopefully many of you in sunny Orlando soon! Be well and stay safe!

EXECUTIVE DIRECTOR'S MESSAGE

Nat Quick
Executive Director

Hello everyone,

The year continues to fly by, bringing us closer to fall and some exciting events for LIA. As the secretariat of the Accredited Standards Committee (ASC) Z136, we are proud to announce that the ANSI Z136.1 for Safe Use of Lasers is being revised this year and will be released shortly! This standard has extensive updates to provide the latest requirements and guidelines for laser safety in your facility. The 2022 revision will be coming out within the next few months and can be found on our website.

Also coming up is the ICALEO conference, our first in-person event since the pandemic. Join us October 17-20 in Orlando, FL to gather with leading industry experts. Don't forget to register to stay at the event hotel, the Rosen Centre, by September 23 rd to receive a great discounted group rate. We can't wait to see you there!

Additionally, we still have options for safety training before the year ends. Our upcoming Medical Laser Safety Officer course will be held next month, September 24-25 at Mount Sinai Hospital in New York, NY. Coming up in November, we have our Laser Safety Officer, Laser Safety Officer with Hazard Analysis, and Medical Laser Safety Officer courses taking place in Orlando, as well as an Industrial Laser Safety Officer course in Novi, Michigan. Finally, we have another virtual MLSO training over Zoom, taking place on December 3rd. Whether you are someone who needs training, a refresher course, or BLS CM points, we hope to see you at these courses.

In this issue, read about how a recent graduate of UCF's Aerospace Engineering program used laser cutting to build a remote-controlled, wooden aircraft for his senior design project. You can find information on an Atom Laser that can stay on continuously, a shoutout to our new corporate members, and more.

Stay safe and keep others safe.

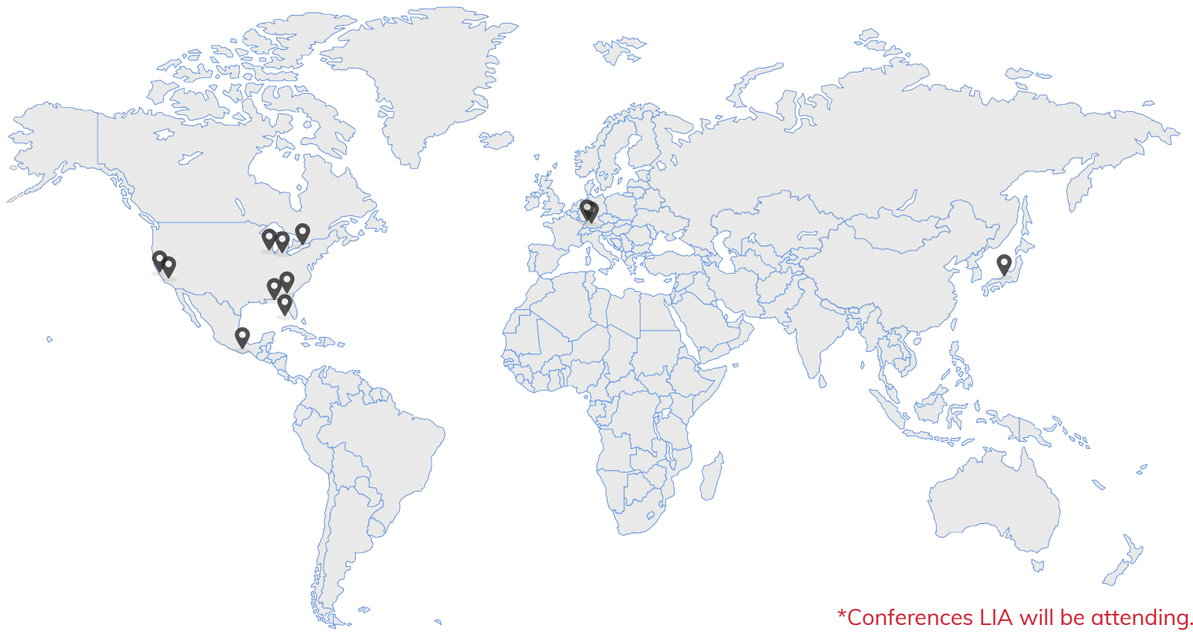
A Look Ahead at Upcoming Laser Industry Conferences!

AORN - Mar 19-23, 2022 (New Orleans, LA, USA)*
AMUG - April 3-7, 2022 (Chicago, IL, USA)
MD&M West - April 12-14, 2022 (Anaheim, CA, USA)
COLA - April 24-29, 2022 (Matsue, Japan)
Laser World of Photonics - April 26-29, 2022 (Munich, Germany)
Fabtech Mexico - May 3-5, 2022 (Mexico)*
AKL - May 4–6, 2022 (Aachen, Germany)
RAPID + TCT - May 17-19, 2022 (Detroit, MI, USA)*
ALAW - June 7-9, 2022 (Plymouth, MI, USA)*
Fabtech Canada - June 14-16, 2022 (Toronto, OT, Canada)*
LASYS - Jun 21-23, 2022 (Stuttgart, Germany)*
IMTS - Sept 12-17, 2022 (Chicago, IL, USA)*
Industrial Laser Conference at IMTS - Sept 14
ICALEO, Oct. 17-20, 2022 (Orlando, FL, USA)
Fabtech - November 8-10, 2022 (Atlanta, GA, USA)*

Cooperating Conferences

FABTECH

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



*Conferences LIA will be attending.

A Look Ahead at LIA's Upcoming Events!

International Congress on Applications of Lasers & Electro-Optics 2022

Registration is Open! You won't want to miss out on this year's ICALEO Conference in Orlando, FL. Network with laser professionals and experts from all around the world while enjoying this premier platform for breakthrough laser solutions!

This year's conference is themed around laser technology in space with related presentations, plenary speaker astronaut Dr. Don Thomas, and the exciting opportunity to join us on an excursion to the Kennedy Space Center, sponsored by TRUMPF, Inc. and BOS Photonics!

Advance Program Available! Check out the 2022 Digital Advance Program to get an in depth look at the content and features of this year's virtual ICALEO conference. Hear a welcome message from our General Chair Verena Wippo, get an overview of the agenda, learn about this year's event highlights, and more!

Award Winners Announced! Help us celebrate this year's award winners at ICALEO's annual Award's Luncheon on Wednesday, October 19, 2022.

Schawlow Award - Dr. Bo Gu
LIA's Fellows - Prof. M. J. Soileau and Dr. Hongqian Chen

To stay updated on this event, please visit icaleo.org.

Industrial Laser Conference at IMTS 2022

The Industrial Laser Conference is a one-day conference taking place on Wednesday, September 14, 2022 as a part of IMTS in Chicago, IL. Presented by LIA, this conference will teach you how to incorporate lasers into your manufacturing processes to stay competitive in the current high-tech market.

Standard Registration - $395

To stay updated on this event, please visit imts.com.

International Laser Safety Conference 2023

We are excited to welcome you back to the world's leading conference in laser safety, taking place in Portland, Oregon on Feb 27-Mar 2, 2023. Laser safety experts from all over the world will meet and discuss their research, programs, and standards.

Call for Papers is Open! We encourage you to submit your abstract and participate! The abstract submission deadline is ***Monday, October 17th, 2022.***

To stay updated on this event, please visit ilsc.ngo.

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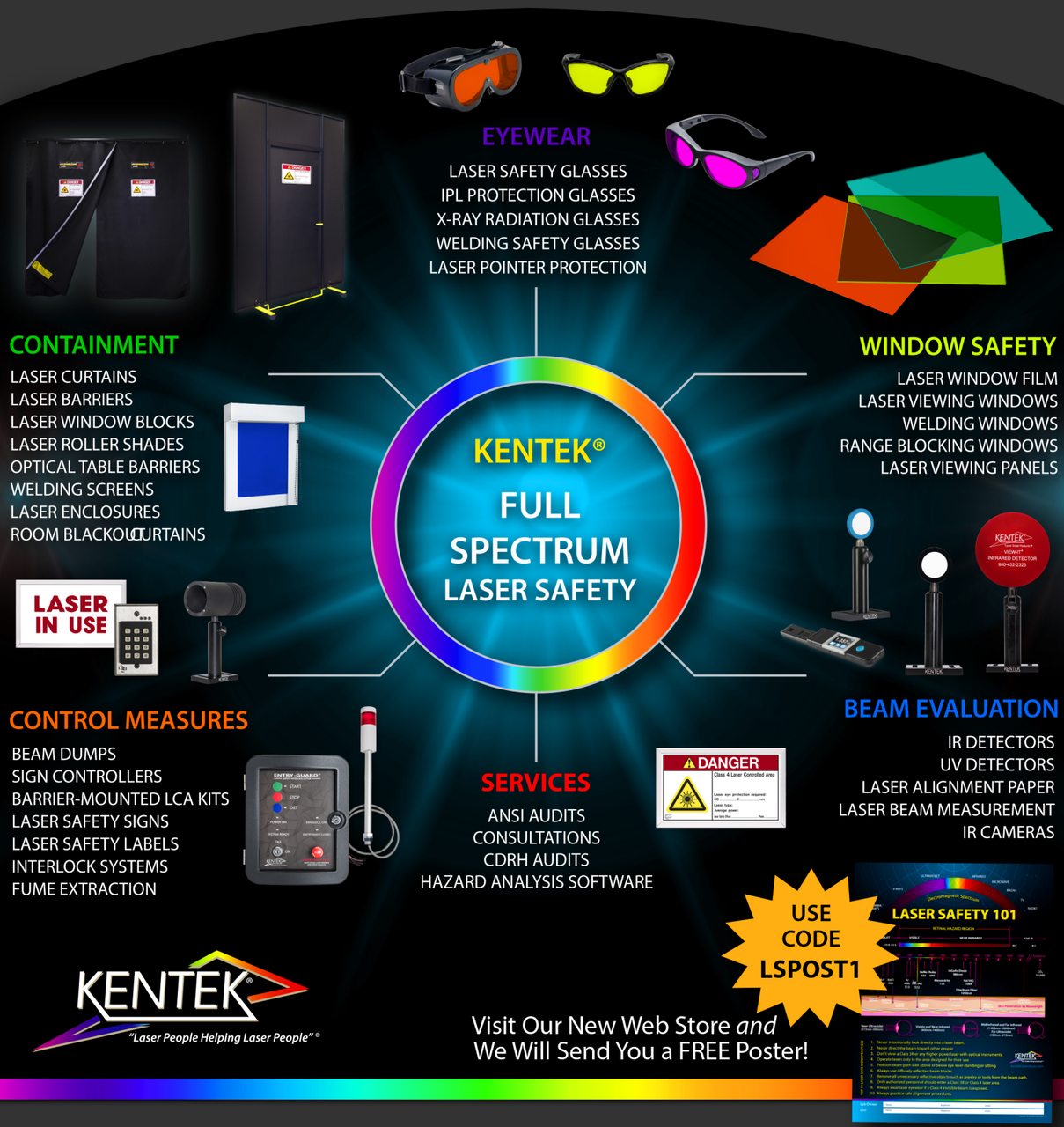

TRENDING IN THE NEWS:
LIA'S TOP 4 ARTICLE PICKS

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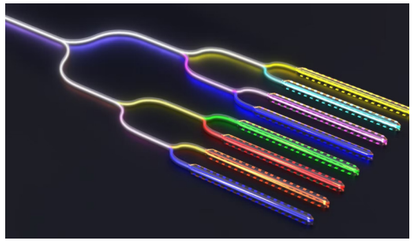

INTEL LABS INTEGRATES EIGHT-WAVELENGTH DFB LASER ARRAY ONTO A SILICON WAFER

In an advance for multiwavelength integrated optics, Intel Labs achieves well-matched output power with uniform and densely spaced wavelengths via its eight-wavelength distributed-feedback (DFB) laser array.

Read more

2

LASER-CHARGED GOLD NANOPARTICLES DESTROY PROSTATE TUMORS IN FIRST-IN-HUMAN STUDY

By saturating cancerous tissues with nanoparticles that covert light into heat—tiny shells, made of gold and silicon—clinicians were able to destroy prostate tumors with laser precision in a first-in-human trial.

Read more

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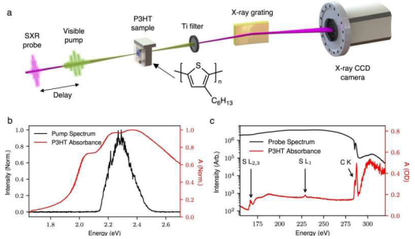
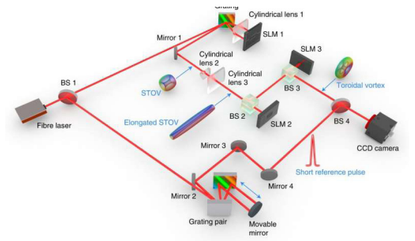


ULTRAFAST LASERS USED TO PROBE NEXT-GENERATION SOLAR CELLS

Researchers have tracked the first fractions of a second after light strikes solar cells, providing insights into how they produce electricity.

Read more

4



USING MIRRORS, LASERS AND LENSES TO BEND LIGHT INTO A VORTEX RING

A team of researchers from the University of Shanghai and the University of Dayton has developed a way to bend light into a vortex ring using mirrors, lasers and lenses.

Read more

FIG: Experimental setup for laser forming of open cell aluminum foam.

INVESTIGATION ON LASER FORMING OF OPEN CELL ALUMINUM FOAM

By: Anirban Changdar, Ankit Shrivastava, Shitanshu Shekhar Chakraborty, and Samik Dutta

Abstract: Open cell aluminum foam having high porosity has the potential to increase the efficiency of a heat exchanger and also to be used for diverse other functions. However, being prone to fail easily under tensile mechanical load, their thermal forming using a laser has been proposed in the literature. This work investigates the effect of laser parameters, orientation-position-curvature of scan path, the number of scans, and foam thickness on the bending angle achieved while forming 95% porous pure aluminum (99.7% aluminum) open cell foam plates using a diode laser. Furthermore, the capability of laser forming to produce developable and nondevelopable surfaces out of this foam has been demonstrated. Higher line energy gave a higher bending angle. Under the same line energy, the combination of higher power-higher scan speed produced a higher bending angle. In contradiction to laser forming of the sheet metal, no saturation or reduction in bending angle per scan pass was observed with an increase in scan pass number. This observation could be explained with the help of cell densification by previous scan passes leading to an increase in the coupling of more thermal energy for subsequent scan passes. Scan paths with increased curvature (or less radius) also produced higher bending due to a higher amount of cell collapse in the irradiated region.

Journal of Laser Applications 34, 032009 (2022);
https://doi.org/10.2351/7.0000676

Free to LIA Members!
Visit JLA Online: https://lia.scitation.org/journal/jla

JLA Journal of Laser Applications

National Advisory Committee on Occupational Safety and Health will meet on Sept. 13

WASHINGTON – The U.S. Department of Labor's Occupational Safety and Health Administration will hold an online meeting of the National Advisory Committee on Occupational Safety and Health on Sept. 13, 2022, from 10:00 a.m. to 4:30 p.m. EDT.

The committee meeting is open to the public and will include updates from OSHA's Directorate of Standards and Guidance and the National Institute on Occupational Safety and Health; discussion of Safety and Health Management Systems and establishing safety as a core value; special emphasis groups; OSHA's Whistleblower Protection Program; and a report from the NACOSH Heat Injury and Illness Prevention Work Group. Visit the NACOSH webpage to join the meeting online.

Submit comments and requests to speak to the Federal eRulemaking Portal, Docket Number OSHA-2022-0002-0026, by Sept. 6. Be sure to include the docket number on all submissions. Read the Federal Register notice for submission details.

The Heat Work Group will meet on Sept. 12, from 1 p.m. to 2 p.m. EDT. Members of the public may attend the work group meeting, but participation will be in a listen-only mode. OSHA is not accepting comments or requests to speak at this meeting. Visit the NACOSH webpage to join the meeting online.

NACOSH advises, consults, and makes recommendations to the Secretary of Labor and the Secretary of Health and Human Services on matters relating to the administration of the Occupational Safety and Health Act of 1970. NACOSH is a continuing advisory committee of indefinite duration.

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: August 19, 2022
Source: https://www.osha.gov/news/newsreleases/trade/08192022

Amsterdam Physicists create an Atom Laser that can stay on indefinitely

By Zack Brown

Dr. Florian Schreck and his team have achieved their goal for the first time this year of creating an atom laser that can remain on indefinitely. The creation of the atom laser used continuous Bose-Einstein condensation (BEC), a process of cooling the atoms using lasers. Since the creation of the first atom laser in 1995, physicists have struggled to create a continuous BEC, attempting to cool the atoms in one area, and were met with no success. Schreck and his team have taken a different approach, however, spreading the cooling along a path and continuously cooling the atoms. Doing so allows the team to fuel atoms into the laser and create a continuous BEC. The team is working closely with the University of Amsterdam to further advance their project.

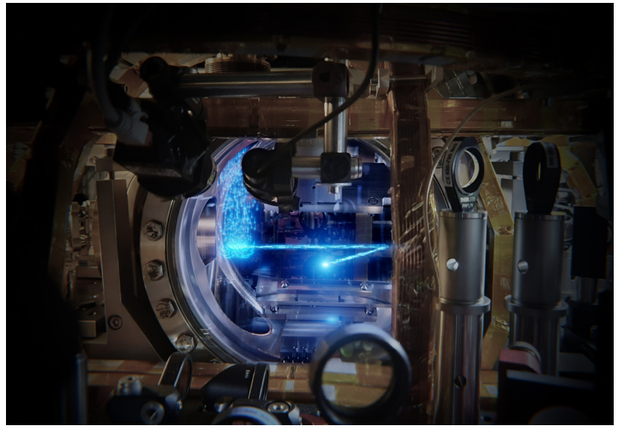
Where traditional lasers use waves of light, the atom laser also operates in a wave. The atom laser, like traditional lasers, has practical applications such as being able to efficiently explore and map underground areas. Additionally, the atom lasers would be able to efficiently synchronize networks and aid in navigation, according to Schreck. In fundamental science, the atom laser could be instrumental in the search for dark matter and for tests of relativity. The laser could also have applications in NASA through infrasound gravitational wave detectors.

The team has been working on the project for over six years, and the creation of the atom laser involved the creation of a dedicated machine to meet their cooling requirements. They have been making use of not one, but two lasers in the process of cooling the atoms over a distance of the machine. Schreck also attributed their success to the use of a more efficient element, Strontium, than what was used in previous physicists' attempts to create a continuous atom laser. The continuous BEC also made use of both red laser cooling and blue laser cooling in the process.

Now that they have a working continuous BEC the work doesn't stop here. Next, the team begins the long process of advancing the project to maintain a steady source of fuel. It is currently unknown what type of timeline the future steps of the project may take, but the team working on the next steps is excited for the eventual applications of the laser, from theoretical to practical ones.

Interested in reading more about the Atom Laser? Read the University of Amsterdam's press release here. Want to hear Dr. Schreck go into more detail about the project? View the recording of the Quantum Science Seminar with Schreck here.

Want to get published in LIA Today? Inquire about article submission requirements by emailing LIATODAY@LIA.org and get your story read by industry professionals worldwide.



Atoms are continuously flowing through a sequence of laser cooling stages till they are accumulated in a crossed dipole trap and form a Bose-Einstein condensate that lives indefinitely. - www.strontiumbec.com

WANT TO SHARE YOUR IDEAS WITH THE LASER COMMUNITY THROUGH *LIA TODAY*?

LIA TODAY

Check out the guest article guidelines below and get in touch with an editor today!

BEFORE YOU SUBMIT:

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:

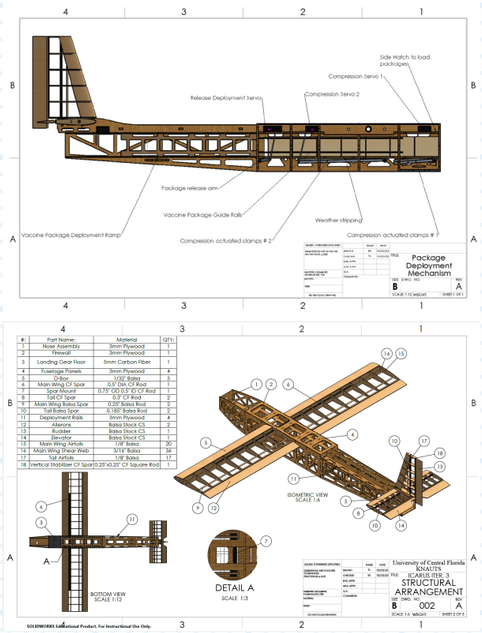
- Full text as a Word Document
  - Abstract: A 50 – 100 word summary in plain language
  - Two (2) headline suggestions using an action verb
  - Article 600 – 1500 Words
  - Images with captions placed in the body of the article
  - Article references when applicable
  - Short author *bio* (full title, company, 50 words)
  - (optional) Professional headshot of author
- Images attached in one of the accepted file types (.png, .tiff, .jpeg, .jpg) (min. 1000px width or height).

VIEW SUBMISSION FORM

LASER CUTTING FOR COLLEGE SENIOR DESIGN

Tobias Langhans (pictured left), a recent Aerospace Engineering graduate from the University of Central Florida reflects on his senior design project in which his team used laser cutting to build a wooden aircraft.

Each year, the American Institute of Aeronautics and Astronautics (AIAA) hosts a Design-Build-Fly (DBF) competition for teams of students from all over the world to design an unmanned, remote-controlled aircraft that can successfully pass specific themed missions. This past year was COVID-themed, meaning the planes had not only to successfully take off, fly, and land, but also carry and unload "vaccine vials" without damage to the packages or the plane. These packages even had drop sensors to simulate fragile cargo that would easily trip if dropped from even half an inch off the ground. Tobias Langhans, a recent Aerospace Engineering graduate from the University of Central Florida, gives us insight into his senior design team's process of building an aircraft and flying it in the competition.



Examples of the CAD design files that were used to design the build of the plane and included in the team's report.

"Most of senior design is rapid prototyping. The teams must think out their design, create it, see what works and what doesn't, and adjust accordingly," Tobias says. And they have a very finite time to do it. Seniors use the fall semester to come up with a design concept and write out a report that gets sent to the AIAA. If it is accepted, they then have the spring semester to build and test out the plane before the competition in April, a mere few months later.

One of the main challenges this poses for the participating students is the design for manufacturing (DFM) aspect of the project; essentially, learning how to design end products based on the realistic constraints of what equipment, parts, and materials are available to you. The idea is pretty much cost vs design – what is going to make the most financial sense while still functioning correctly? An engineer could design a product that conceptually is very cool and customized, but that isn't very practical to make, whether it's because the material is expensive, or it takes too long to machine properly. A student must think about this even more because they personally supply the materials and have limited machines at their disposal.

Laser cutting has the advantageous combination of accuracy and speed that makes it perfect for rapid iterative prototyping, something that this project consisted largely of. After considering their options, this ultimately is what led Tobias and his teammates to choose laser cutting as their main method of crafting their place. "It hits a really nice middle ground since it is a lot quicker than an option like milling, but is still precise enough for the prototyping phase, so it is a good way to make proof of concept," he explains.

The UCF Knights team assembling the plane with small wooden pieces cut with the laser cutter.

The senior design lab at the University of Central Florida (UCF) has a Universal Laser Cutter with a 48x96 bed that is accessible to any senior design team at the school. "This machine was great for rapid prototyping because you could design something in the span of a few hours and then cut it within minutes on one large piece of wood since the bed was so big," Tobias says. The team would just design all of the pieces of their plane to be cut out of one sheet of wood so they could be cut out all at once and then linked together. This machine had open-source software for designing, meaning students design what they want to cut in a CAD program using coding. This can be very time-consuming but also very precise.

Something that is interesting about this is that you have to think about both the two-dimensional and three-dimensional aspects of the design process. The designing itself happens in two-dimension since that is the way that the pieces are cut out of the wood, but they also must be made to fit together in a specific way to create a three-dimensional object, the plane. From the very beginning, it takes having that final product in mind to consider how it will be assembled with the joints, pieces, and gluing the components together.

Other than designing the pieces to fit together three-dimensionally, another aspect that drove the team's design was weight. These planes were about 5ft long, so decently big, and they had to stay under 10lbs to fly and function properly. They also had to be sturdy enough to carry the weight of the packages. To address this, the UCF team decided to primarily use balsa wood, which is one of the lightest and strongest woods for its weight. "At the end of the day, our plan was basically balsa wood and glue," Tobias says.

As mentioned previously, since this machine is in the senior design lab, it was openly accessible to all seniors at UCF, which includes students from different majors that also needed the machine for their senior design projects. Halfway through the year the laser-cutting machine got super busy and had long queues, so the senior design professor got a new Glowforge laser-cutting machine specifically for his team to use. This machine was very different from the first one in a few ways. First, it worked off of cloud-based design software, which made it a lot more user-friendly, but a bit less customizable. "You didn't need to generate your own code for it, you can drag and drop images and files like a pdf, and it would automatically put it into the software. It was kind of like a Cricut in the way that it is more hands-off and you don't need prior experience or even a CAD file to use it, which makes it a nice machine for people who aren't necessarily engineering based, but more creative," Tobias explains. The other difference was that it was a smaller bed size, meaning that the team was no longer able to cut everything out at once and out of one piece. To make up for this though, was a fully automatic focusing lens that the machine used to recognize where the previous cut left off and continue from there, making it relatively simple to cut and then slide the material down and continue.

An inside view of the assembled plane where the "vaccine vials" were stored during flight.

The UCF team used the first machine for their first prototypes and their payload mechanism, and then they used the second machine for the final versions of the plane, cutting balsa and plywood. Both machines had pros and cons but were efficient in cutting and fulfilling the group's design needs. They also both had built-in safety by being enclosed and having built-in ventilation. Even so, all students must go through some safety training by the person who runs the machine shop at UCF before being allowed to work with any of the machines.

Tobias and his teammates went through a bunch of different designs and a few different cut prototypes. One of the biggest issues that they ran into was that the sensors on the packages would constantly trip. They had designed a gravity-fed ramp in their plane to deposit the packages once it landed at the drop-off location, but they figured out that with the angle that the ramp was at it would cause the sensors to go off. “We had to come up with a better way of deploying them,” Tobias says. What they came up with was to make the entire inside of the plane a ramp and then incorporate little rubber stops to queue up the packages at different parts of the ramp, ensuring that they were sent off with only minimal velocity.

When the time came for the UCF Knights team to travel up to the AIAA competition in Wichita, Kansas the team was excited and confident in their design. The competition took place over three days in April with multiple missions. Overall, it went really well for them, and they ended up in 21st place out of about 120 university teams that participated, despite an unfortunate incident towards the end that caused damage to the aircraft. Tobias says he is proud of the team and the work they put in over that last school year. Through a lot of time, effort, and data collected from previous tests, these seniors at UCF were able to use the efficiency and customizability of laser cutting to assemble an excellent aircraft from scratch for their final design project.

Fully assembled plane “ICARUS”, ready to fly in the AIAA competition.

Interested in sharing your experience with laser materials processing or laser research? Email liatoday@lia.org for more information on submitting an article to be featured in the LIA Today!

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NEWSLETTER

Volume 3 • Issue 2

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Masahiro Kamei - CLSO

Tristan White - CLSO

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Omar Bobes - CMLSO

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14th DOE LSO Workshop - Sept. 13-15, 2022

The Department of Energy Laser Safety Officer Workshop is for individuals with laser safety responsibility and interest in a research or academic setting who want to update and expand their knowledge.

The 2.5 day meeting will take place at **Lawrence Berkeley National Laboratory** in Berkeley, CA

The Board of Laser Safety will offer its Certified Laser Safety Officer (CLSO) and Certified Medical Laser Safety Officer (CMLSO) examinations prior to the workshop on Monday, September 12th, 2022. Contact Liliana Caldero for more information.

For more information, visit https://sites.google.com/lbl.gov/14doelsoworshop/home, or contact us at bls@lasersafety.org.

ANSI Z136.3 Public Review Period 1 Open

Public review for the Z136.3 *for Safe Use of Lasers in Health Care* is now open! If you are wanting to participate in the review, make sure you submit your comments by 5pm EDT on October 17, 2022.

For more information, visit: https://www.lia.org/store/product/bsrz1363202x-safe-use-lasers-health-care-draft-1-public-review

Find this standard, as well as the rest, on our website at lia.org/store/laser-safety-standards

International Laser Safety Conference (ILSC) 2023 Dates and Location

Save the Date! The International Laser Safety Conference will be taking place in Portland, Oregon from February 27 - March 2, 2023.

Find out more about the conference at ilsc.ngo.

Write for BLS!

Looking for a way to earn BLS CM points for free? BLS has restarted it's 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 one of our submissions on the next page!

New ANSI Z136.1 for Safe Use of Lasers Coming Soon!

Updated for the first time in the last seven years, the new American National Standard for Safe Use of Lasers will be available when it is released next month through the Laser Institute of America, secretariat of the Accredited Standards Committee (ASC) Z136, which develops the laser safety standards. The ANSI Z136.1 standard guides the safe use of lasers and laser systems by defining control measures for the seven laser hazard classifications.

"There have been extensive changes to the ANSI Z136.1 standard with a focus on increasing usability," explained Ben Rockwell, chairman of ASC Z136 Standards Subcommittee 1 (SSC-1). "Significant increases in the MPE in the near-infrared will enable a plethora of new laser applications. Several sections were rewritten to reorganize, update and improve technical content to allow for easier access to information necessary for everyday laser safety implementation."

Added Wesley Marshall, chair of ASC Z136 Technical Subcommittee 7, Analysis and Applications (TSC-7), the newly revamped ANSI Z136.1 "is probably the most comprehensive revision to date, even more so than the 2000 revision. This newest revision, like past standards, covers intrabeam viewing and viewing of diffuse reflections and extended sources, considering photochemical, thermal and skin hazards."

According to Rockwell, who has chaired LIA's International Laser Safety Conference (ILSC®) several times, highlights of the standard include:

- 19 new definitions of key terms, including administrative control measure, beam divergence, beam waist, saturable absorption and visible luminous transmission.
- A significant increase in allowed exposure levels for wavelengths between 1.2 µm and 1.4 µm, and a slight decrease in exposure limits for pulses shorter than approximately 10 µs.
- An updated section on "special qualifications" for medical-related exposures to include MPEs expressed in terms of illuminance.
- Rearranged Section 4 (Control Measures) and rewritten Section 7 (Non-beam Hazards) to increase comprehension.
- Examples involving new exposure limits added to Appendix B.
- Vertical standards — Z136.2 through Z136.9 — now take precedence over this document within the scope of those standards. "This makes the Z136.1 officially a horizontal standard."
- The degradation of optics transmission in the UV and NIR is now included in the analysis of hazard classification of lasers.

The ANSI Z136.1 standard is indispensable in creating a safe working environment where lasers are used. While it is a voluntary standard, it is a Laser Safety Officer's (LSO's) best friend — and a vital insurance policy for companies.

To obtain the newly revised ANSI Z136.1 standard when it is released, visit LIA's online store at www.lia.org/store.

About LIA

The Laser Institute of America (LIA) is the professional society for laser applications and safety serving the industrial, educational, medical, research and government communities throughout the world since 1968. www.lia.org, 13501 Ingenuity Drive, Ste 128, Orlando, FL 32826, +1.407.380.1553.

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.