LIA TODAY

THE OFFICIAL NEWSLETTER OF THE LASER INSTITUTE OF AMERICA

The international society dedicated to fostering lasers, laser applications, and laser safety worldwide.

FOCUS: CONFERENCE PREVIEW | VOLUME 17 NUMBER 1 | JAN / FEB 2009

MEET LIA'S 2009 OFFICERS AND BOARD OF DIRECTORS

Rajesh (Raj) S. Patel is the Laser Institute of America's (LIA) 2009 president. He is senior manager of Global Industrial Applications, Spectra Physics, a division of Newport Corporation, located in Mountain View, Calif. He is responsible for managing laser processing applications development in various industrial and medical segments globally.

EXPERIENCE

Prior to working at Spectra Physics he had his own consulting company for two years and has also worked in various engineering and senior management positions at IBM, Aradigm, and IMRA America. He received his Ph.D. degree in mechanical engineering from the University of Illinois at Urbana-Champaign in 1989. His professional interests are in the areas of laser development, laser material processing and equipment design, mask technology, optics, and application of lasers in various fields. He is an author of 23 U.S. patents related to laser processing, optics, and the mask technology field and has published and presented more than 50 technical papers.

Patel has long been involved with LIA. "My first interaction with LIA was 20 years ago when I presented a paper at the seventh ICALEO® meeting in 1988 in Santa Clara, Calif. I co-chaired the 1997, 1998, 1999 and (*Con't. pg. 6, see* **BOARD**)

INDUSTRIAL LASER MARKET WILL BE CHALLENGING

By David A. Belforte

The first significant sales of industrial lasers (products used in industrial manufacturing operations) occurred in 1970 when the nascent industry logged in $11 million (in constant dollars) of sales. Since then this sector has grown at a CAGR of 14.35% (in constant dollars). During 38 years sales grew every year but one, 1992, when the effects of a severe economic recession hit this growing market sector. In 2009 the industry is expected to experience its second no-growth period as the world's manufacturing economies grapple with a recession of historic proportions.

As this is being written the industrial laser systems business finished 15 straight years of 11.45% CAGR (in constant dollars). However, the die for serious change was cast in the last month of 2008 when international suppliers began reporting order cancellations and delays in projected first quarter 2009 order placements at an unprecedented level as investment money sources dried up.

NOT JUST LASERS

Let's be perfectly clear; what is happening to the global industrial laser business is symptomatic of what is happening throughout the entire capital equipment market. Laser technology remains a vital and growing part of the manufacturing scene. Applications for laser welding, cutting, marking, and (*Con't. pg. 10, see* **Market**)

LIA ANNOUNCES

EXAMS AT ILSC

A BLS (Board of Laser Safety) Certified Laser Safety Officer (CLSO) exam will be offered on Sunday, March 22, 2009 in Reno, Nev. in conjunction with LIA's International Laser Safety Conference (ILSC®). The CLSO exam is intended for professionals who are working with lasers in a scientific, manufacturing, or industrial environment. There are two steps in becoming certified. First, an individual must provide information demonstrating he or she meets certain educational prerequisites and work experience. Second, the individual must pass an examination demonstrating his/her knowledge in the area of laser safety.

Two Certified Medical Laser Safety Officer (CMLSO) exams will also be held during ILSC, one on Sunday, Mar. 22 and the other on Thursday, Mar. 26. The CMLSO exam is intended for professionals who are working with lasers in any medical environment.

Certification and certification maintenance will identify and distinguish laser safety officers among those involved in laser safety practices. (*Con't. pg. 23)*

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The editors of *LIA TODAY* welcome input from their readers. Please submit news-related releases, articles of general interest and letters to the editor. Mail us at *LIA TODAY*, 13501 Ingenuity Drive, Suite 128, Orlando, FL 32826, fax 407.380.5588, or send material by e-mail to lia@laserinstitute.org.

2009 LIA OFFICERS

EDITORIAL STAFF

BUSINESS STAFF

CALENDAR OF EVENTS

Laser Safety Officer Training
May 13-15, 2009 | Las Vegas, NV
Aug. 4-6, 2009 | St. Louis, MO
Dec. 7-9, 2009 | Orlando, FL

Laser Safety Officer with Hazard Analysis*
Mar. 9-13, 2009 | San Diego, CA
June 15-19, 2009 | Washington DC
Sept. 28-Oct. 2, 2009 | San Francisco, CA
Nov. 2-6, 2009 | Orlando, FL
*Certified Laser Safety Officer exam offered after the course.

Medical Laser Safety Officer Training*
May 1-2, 2009 | San Diego, CA
Sept. 19-20, 2009 | San Francisco, CA
Nov. 14-15, 2009 | New Orleans, LA
*Certified Medical Laser Safety Officer exam offered after the course.

Advanced Laser Safety Officer
Mar. 11-13, 2009 | Orlando, FL

Laser Additive Manufacturing Workshop
Mar. 3-4, 2009 | San Antonio, TX

LASER World of Photonics China
March 17-19, 2009 | Shanghai, China

ILSC® 2009
Mar. 23-26, 2009 | Reno, NV

ALAW 2009
May 12-14, 2009 | Plymouth, MI

LASER World of Photonics Munich
June 15-18, 2009 | Munich, Germany

ICALEO® 2009
Nov. 2-5, 2009 | Orlando, FL

ABOUT LIA

Laser Institute of America (LIA), founded in 1968, is the international society for Laser Applications and Safety. It is comprised of laser researchers, manufacturers, integrators, and end users working together to increase the use and safe application of laser technologies. LIA individual and corporate members receive significant discounts on all LIA materials, training courses, and conferences.

Laser Institute of America started with the sole intention of turning the potential of a powerful new technology into a viable industry. The LIA was forged from the heart of the profession – a network of developers and engineers – people who were actually using lasers. These were the first "members" of the LIA, the people who decided that sharing new ideas about lasers is just as important as developing them. The belief, as it remains today, is to promote laser applications and their safe use through education, training, and symposia.

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PRESIDENT'S MESSAGE

OK, I must admit that I was little upset for a fraction of a second when I found out that LIA does not host an inaugural ball for its newly elected president like we as a country hosted one for our newly elected president. But after that fraction of a second passed, I felt humble and honored at having been elected as a president of LIA for the year 2009 and I look forward to working with you all.

I enjoy this time of the year to visit the Photonics West show in San Jose, California because it brings the message of hope and promise of new and exciting things that the optics and laser community can look forward to. Of course, not to mention the chance it provides to meet with friends and colleagues and to wish them a happy and prosperous new year! It infuses fresh ideas in our minds and energizes and challenges all of us who work in this field to work harder and to do more.

In today's environment, where the bluest of the blue chip companies are experiencing financial difficulties, the optics and laser community is not immune to the global economic woes we are facing. However, we should not be discouraged by it. We should use this "down time" to innovate and develop new ideas and products, so that we as an industry can be ready to seize those opportunities that surely lie on the other side of this dark cloud.

We at Newport are certainly pursuing that course of action. This is the time to sharpen our focus, discover new possibilities, and look forward to a bright future. After all, we in optics and laser community should know a thing or two about "focusing"! Happy 2009 to you all.

Patel RS.

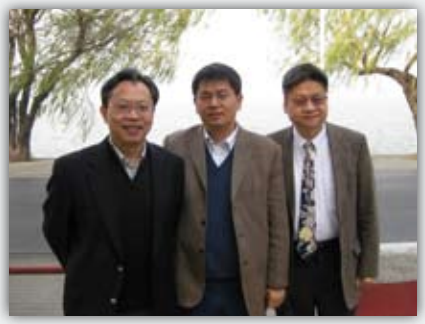
Rajesh Patel
President
Laser Institute of America

EXECUTIVE DIRECTOR'S MESSAGE

PEACE AND GOODWILL

A lot of what we do to help make LIA successful involves planning ahead, building relationships, making new friends and positioning ourselves for future growth. With this in mind I set off in December to visit Wuhan and Beijing. Wuhan is a city of 9 million people, located at the junction of the Yangtze and Han Rivers about 200 miles downstream from the Three Gorges Dam. It is the home of China's "Optics Valley," which includes The Huazhong Institute of Science & Technology (HUST), The Wuhan National Laboratory of Optoelectronics (WNLO), and many laser and optics related corporations.

LIA executive committee members Yongfeng Lu and Bo Gu very kindly accompanied me. We met with Xiaoyan Zeng who took us on a tour of HUST and WNLO to see the interesting and wide-ranging research being conducted there. Next we visited Chutian Laser Group, Zhongtai Laser Group, and The Wuhan Huagong Laser Engineering Company. We then visited a number of new, very attractive hotels there and evaluated them as possible sites for PICALO 2010.



From left, Bo Gu, Xiaoyan Zeng, and Yongfeng Lu.

One thing that took me by surprise was the enthusiastic embrace of Christmas. Every hotel and restaurant had beautiful Christmas displays with Christmas music, decorated trees, Santas, and young ladies in fur-trimmed red outfits with little red elf hats. Very nice.

As you can see from the picture (right), this positive atmosphere was typified by the new friend I met in Tiananmen Square who was clearly focused on peace and goodwill. She shone a nice light at the end of a rather difficult year for us all.

Considering the all pervading gloom and bad news concerning the economy, LIA's year was pretty good, thanks in no small measure to the leadership of 2008 President Andreas Ostendorf. Thanks Andreas. Now we start a new year under the able guidance of 2009 President Raj Patel. Welcome Raj. Best wishes to you and everyone in LIA for a healthy and prosperous 2009.

Peter Baker

Peter Baker, Executive Director
Laser Institute of America
pbaker@laserinstitute.org

2002 ICALEO conferences and was general chair of ICALEO in 2004. The last four years I have been serving as a member of LIA's executive committee," said Patel.

LIA GROWTH

These are exciting times for the LIA as in the last couple of years the society has gone from just two conferences to four plus one workshop. "LIA is taking an active role in finding new ways to help the laser community. The expansion of LIA to host four conferences and a workshop is a testimonial to its active role. LIA is also taking an active role in reaching out to our international colleagues working in the area of laser processing and making sure that they can also get as much benefit from LIA as its North American members," he said.

"This kind of diversity provides an opportunity globally to people in the laser processing community to come together and share their ideas, knowledge, and shape the future of this field. It also provides more opportunities for laser suppliers to meet and understand the needs of their customers."

Having been heavily involved with ICALEO for several years, Patel "would like to see ICALEO continue to be a premier conference for industrial laser applications and attract participation from a worldwide audience. We should continue to add sub-conferences and workshops that can provide forum to discuss new and upcoming applications."

Financially speaking, LIA has become very strong. To continue the society on this path, Patel plans to continue to find ways to help the members to grow their knowledge and business by providing various forums to learn about safe and efficient use of lasers for what they are trying to accomplish.

"I believe if we make sure that LIA provides value to them at a personal and professional level, our members will continue to support LIA and attend LIA's conferences and workshops and we will be financially strong."

Besides his commitment to LIA and his work, Patel has a great family and fun hobbies. "My wife, Manisha, and my two sons Rohun and Rahul have provided me with wonderful support over the years in what I do and have made life enjoyable for me. I enjoy hiking and traveling to various places with my family. I am also a big fan of tennis and I play the game regularly. I think Peter (Baker, LIA's executive director) and I were the winners of the tennis tournament hosted by LIA a few years ago in Scottsdale."

Here's wishing Raj Patel a winning year as LIA president.

2009 OFFICERS

President-Elect Nathaniel Quick is a past secretary, a current executive committee member and fellow of LIA. He is the president and chief technical officer of AppliCote Associates, LLC, Orlando, Fla., a technology development company and CTO of Inflect, LLC, a technology licensing firm. AppliCote Associates collaborates with academic institutes, including the University of Central Florida/CREOL. Quick has a Ph.D. from Cornell University in materials science and engineering and is a UCF Florida Photonics Center of Excellence advisory board member, UCF Industrial Advisory Committee member, a fellow of the African Scientific Institute, a past guest researcher at NIST and past member of the Army Science Board. He is currently a member of the MRS and ASM International. He currently holds 39 U.S. patents and has over 60 publications.

Treasurer Stephen Capp is CEO of Laserage Technology Corporation, an international supplier of laser-processed materials growing to one of the largest laser job shops in the U.S. He graduated from Milwaukee School of Engineering in 1978 with degrees in electrical power engineering technology and industrial management and has worked in the laser industry over 25 years. He has been a member of the LIA since 1992 and served three previous terms as the national treasurer and is also a member of the executive council of the International Microelectronics and Packaging Society.

Secretary Klaus Löffler 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. In 2006 he took over the responsibility for international sales at TRUMPF Lasers and Systems. Besides being responsible for sales, additional product management, main application management and marketing are part of the responsibilities. In 2004 he founded the Automotive Laser Conference in Wolfsburg/Germany, which together with ALAW and JALAW builds a global conference partnership. In 2007 Löffler became a member of the board of directors of LIA. Besides LIA he serves on the board of the SLT conference, the new exhibition LASYS 2009 and other events with the goal to ensure the global growth of laser technology.

Immediate Past President Andreas Ostendorf studied electrical engineering at the University of Hannover, Germany. In 1995 he joined Laser Zentrum Hannover (LZH) as a scientist dealing with micro-machining using UV and ultrafast lasers and in 2000 he finished his Ph.D. thesis on comparing the interaction models of those two laser principles. In 2001 he became LZH's CEO and a member of the board of directors. In 2008 he left LZH for Ruhr-University Bochum, Germany, where he is the chair of applied laser technology. Ostendorf was chair of ICALEO 2002, 2003, and 2004 responsible for the micro-fabrication conference. In 2005 and 2006 he was the general chair of ICALEO, and LIA's president in 2008.

2009-2011 BOARD OF DIRECTORS

Milan Brandt is a professor in laser engineering at the Industrial Research Institute Swinburne, Swinburne University of Technology, in Melbourne, Australia. The institute is a leading provider of manufacturing research solutions to local industry in the areas of surface and interface engineering, rapid tooling and prototyping,

noncontact inspection, micro and macro machining with lasers. Brandt is a leading Australian researcher in the area of macro machining with lasers and his group has conducted work in laser cladding, cutting, drilling and welding. He is a fellow of LIA and has been involved in the organizing committees for ICALEO and been organizer and general chair for PICALOs 2004 and 2006, which promote industrial lasers and applications in the region.

Ben Edwards is a health physicist at the Duke University Medical Center in Durham, N.C. A BLS Certified Laser Safety Officer, Ben holds a BS in physics and an MS in occupational safety. He has over 15 years of laser safety experience spanning the biomedical research, medical, and academic environments, and has published several papers on operational laser safety. He serves on the ANSI Z136 Committee, the Board of Laser Safety, and as a conference chair for ILSC® 2009. In 2001, Ben founded the Triangle Area Laser Safety Officers group, an organization of safety professionals with laser safety responsibilities in the central North Carolina area.

Bo Gu has been working in the laser industry for over two decades and has held various positions in research and development, product development and management, applications, and sales and marketing. Currently he is with IPG Photonics in Oxford, Mass. He has published more than 80 papers and articles on laser applications, and has chaired and organized at various international conferences and holds more than 20 patents or pending patent applications. He has reviewed articles as a referee for the *Journal of Laser Applications®*. He organized, chaired, presented, and taught short courses at ICALEO and PICALO conferences. He has served as a member of the LIA board of directors for the last three years and as an LIA executive committee member for the last two.

Shaparak Kamaeri is a board certified physician. She received her medical doctorate degree from the USC School of Medicine in Los Angeles, and completed her residency training at the University of California, San Diego. From 2003-2007 she was the medical director of Monarch HealthCare and since 2007 has been the chief medical officer of Monarch HealthPlan. She currently serves as the CEO of Solaris Laser Institute Clinics in Orange County, Los Angeles, and Dallas, which specializes exclusively in laser hair removal and has developed cutting-edge treatment protocols and advanced training systems.

Lin Li, professor, started laser processing research in 1985 at Imperial College, London University, with Professor Bill Steen, on laser cladding and its feedback control. After obtaining a Ph.D. in laser processing, he worked in the Laser Group, Liverpool University on laser welding, concrete processing and in-process monitoring. Li now heads the manufacturing research group at the University of Manchester. He is the author and co-author of over 400 articles on laser processing including 40 patents and over 200 articles in peer-reviewed journals. He is a fellow of the Institute

of Engineering and Technology and LIA, and co-chaired the Laser Materials Processing Conference at LIA's PICALO '08. He is a visiting fellow of Singapore Institute of Manufacturing Technology, a visiting professor at Harbin Institute of Technology, China, and of National Key Laboratory for High Energy Beam Processing Technology, Beijing, China. He is the co-director of Northwest Laser Engineering Consortium, U.K. and co-director of Rolls Royce Laser Technology Partnership.

Bill O'Neill has spent the last 20 years researching and developing laser-based manufacturing technologies. He has a background in laser physics having obtained a B.Sc. and M.Sc. in applied physics and laser physics at the University of Essex. Bill completed a Ph.D. in laser matter interactions from Imperial College, London in 1990 and has since been involved in a wide range of laser-based research programs. He is currently the director of the Centre for Industrial Photonics at the University of Cambridge and holds a number of industrial and government advisory body memberships.

Chuck Ratermann is the president and founder of RPMC Lasers, Inc., a laser distributing firm near St. Louis, Missouri. His firm offers industrial, military, medical and scientific lasers in North America, primarily selling products designed and manufactured in the U.S., as well as some from Europe and one from China. RPMC offers a wide range of laser diode products and various picosecond and nanosecond diode-pumped lasers, and nanosecond and millisecond lamp-pumped solid-state lasers. Pulsed and cw fiber lasers and custom designed diode pumped lasers are also offered. In many cases, applications laboratory tests are conducted to demonstrate the viability of the lasers offered. Previously, Ratermann was director of sales and marketing at Cutting Edge Optronics, and prior to that at Gateway Photonics Corporation and McDonnell Douglas' Laser Systems Division. He has a B.A. in journalism and an MBA with specialization in international business, and later in his career, he completed an electronics engineering curriculum. He has presented papers at numerous venues and has also authored papers.

Koji Sugioka is a senior research scientist at RIKEN – The Institute of Physical and Chemical Research and a guest professor at Tokyo University of Science and Tokyo Denki University. He received B.E., M.E. and Ph.D degrees in electronics from Waseda University in 1984, 1986 and 1993, respectively. Sugioka joined RIKEN in 1986. His current interests center on the development of advanced laser microprocessing techniques for performing surface and 3-D microstructuring of transparent materials, with applications to lab-on-a-chip and photonic devices. Sugioka has received several research awards and inventions in the area of laser microprocessing, has published more than 100 articles, gave more than 60 invited talks at international conferences and more than 80 invited talks at domestic conferences, and has more than 20 patents or pending patents. He has served as a conference chair, co-chair, and committee member for numerous international conferences. He is also editor-in-chief of Laser Micro/Nanoengineering.

Sri Venkat is director of strategic marketing for Coherent Inc., a global leader in lasers and photonics. His current responsibilities include development and implementation of Coherent's strategic direction for the materials processing segment that includes CO_2, solid state, excimer, semiconductor lasers and related components. He joined Coherent in 1998 as a staff laser applications engineer and has held progressively increasing responsibilities since. He received a bachelor's degree in metallurgical engineering from National Institute of Technology, Trichy, India and a master's in welding engineering from Ohio State University, Columbus, Ohio and an MBA from Pepperdine University, Los Angeles, Calif.

Sheldon Zimmerman has M.S. and B.S. degrees in electrical engineering from the University of Wyoming and is an internationally recognized expert in laser safety, currently managing the Laser System Safety Technical Direction Agent Program at Dahlgren. He is convenor of the IEC TC 76 Working Group 3 on Laser Radiation Measurements and chairman of ANSI Z136.4 subcommittee for the American National Standard Recommended Practice for Laser Safety Measurements, Hazard Evaluation, and Instrumentation (SSC-4). Zimmerman is vice-chairman of the ANSI Z136 Accredited Standards and Administrative Committees. He is a member of the Z136.1 standard subcommittees SSC-1 and SSC-6, and technical subcommittees TSC-1, TSC-2, TSC-4, TSC-7, and TSC-8. He also participated in development of the International Civil Aviation Organization standard on the safe use of lasers near airports around the world. Zimmerman is a fellow of LIA and has these certifications: Certified Laser Safety Officer, Navy Laser Safety Specialist, and Navy Range Laser Safety Specialist. ■

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other materials processing operations continue to gain share over other technologies as evidenced by the 2008 market numbers, which show, compared to 2007 (a very good sales year), units produced up 2%, laser sales up 6%, and system sales up 4%. And these results happened in a year when traditionally strong laser markets such as microelectronics, semiconductors, and automotive were down sharply. In fact, the fabricated sheet metal market, which represents about half of laser systems revenues, poised for a repeat of a great 2007, hit a stone wall in the late fourth quarter yet still managed to show single-digit growth after spectacular results at three international trade shows.

DON'T DESPAIR

So let's not start humming a swan song for industrial laser technology. Once recovery is underway you can expect business led by laser marking/engraving, metal cutting, medical device manufacturing, and microprocessing to come roaring back quickly.

Why this optimism? Markets such as BIC (Brazil, India, and China) along with the Eastern Europe countries, currently tepid at best, will use this period to catch their breath after strong double-digit growth, and once global manufacturing ramps up these will return to the growth patterns.

Markets for sheet metal cutting in these countries are far from saturation and coupled with a strong post-recession replacement market for out-of-date equipment will return laser cutting to $3 billion+ level as delayed orders are reinstated.

TABLE 1. THREE YEAR SUMMARY

Year/Growth	2007*	%	2008**	%	2009***	%
Units	40955	6	41700	2	40095	-4
Laser sales $M	1716	8	1814	6	1738	-4
Systems sales $M	6132	6	6360	4	5983	-6

(As final company reports for 2008 are published it is estimated that chart numbers for 2009 will more than double in terms of loss.)

*Revised **Estimated ***Projected

The laser marking/engraving market, which absorbed 42% of all lasers sold last year, will likely take the smallest hit in 2009 because so much of demand in this market is dictated by regulatory, security, and traceability demands.

Companies supplying laser welding, drilling, and machining applications to the medical device sector should weather the economic downturn in better shape than others as this is one of the generally acknowledged recession-proof industries. Add to that another year (perhaps the last) of strength in the solar power industry, where photovoltaic manufacturing still has some legs thanks to strong growth prospects in the United States and Italy that will offset decreases in Spain and Germany.

So, global industry sales are on a hiatus — not a comforting thought for many of us. As this is being written, a means to jump-start the global economy is not evident. But it will happen, and when it does the industrial laser business will assume and perhaps even surpass 2008 performance. Current expectations are that some movement toward recovery among the world's manufacturing companies could begin before the end of this year.

THE YEAR AHEAD

For 2009 the projection is for a 4% decline in lasers produced and sold and a 6% decline in system revenues. All industry sectors will experience the downturn with solid-state laser revenues taking a drop from a 2008 2% increase to a 6% decline and even the strong performer fiber lasers, up 14% in 2008, dropping to a 3% decline in 2009.

Excimer and direct diode lasers had been experiencing very strong 2008 sales increases (24%) so their drop to a 2% decline in 2009 is precipitous. CO2 laser sales show a shift from 2008's 5% growth to a 4% decline in 2009.

One thing to remember when looking forward is the rate at which the laser markets will return to a nominal growth pattern. In the early 1990s it took about four years for revenues to return to pre-recession levels. But this was at a time when total laser revenues were less than 20% of today's. At current dollar values it should take about three years to get back to 2008 levels, a task made more difficult as buyers will likely dictate severe pricing pressures. However, a constant flow of advanced laser technology for a new generation of applications will ease this situation somewhat.

In a period when global economic news is generally negative it is difficult to be optimistic about the near-term markets. However, with no technology challenges to affect current laser applications it is expected that industrial lasers could be a business recovery leader. ■

David A. Belforte is publisher and editor-in-chief of Industrial Laser Solutions *magazine.*

A new Laser Additive Manufacturing Workshop from LIA offers laser solutions for today's manufacturing challenges.

LAM
LASER ADDITIVE MANUFACTURING
WORKSHOP

LIA's first ever Laser Additive Manufacturing (LAM) Workshop will be held March 3-4, 2009 at the Holiday Inn Riverwalk in San Antonio, Texas. LAM will bring together academic researchers,universities, government researchers, national labs, and several industry specialists from around the world with the goal of advancing this state-of-the-art process to effectively and affordably meet the needs of today's manufacturing challenges. The workshop's results are expected to have a significant impact on the widespread industrial implementation of the laser additive manufacturing processes (cladding, sintering and rapid manufacturing).

WORKSHOP TOPICS

Topics will include rapid prototyping of functional parts, production of low volume high value components, tailored surfaces (anti-wear; anti-corrosion) for new and used parts, and repair/refurbishment (cladding) for re-manufactured parts. Some of the presentations are as follows: "Additive Manufacturing Applications in Germany" by Dr. Ingomar Kelbassa of Fraunhofer; "Repair Technologies for Aerospace Applications" by Dave Hudson of Joining Technologies; "Laser Cladding with Direct Diode Lasers" by Keith Parker of Coherent; "Cladding for Oil and Gas Applications" by Thierry Marchione of Technogenia, Inc.; "Laser Deposition in DoD and Aerospace Applications" by Dr. Richard Grylls of Optomec; "New Laser Cladding Technique" by Wayne Penn and Steve Peters of Alabama Laser and Lincoln Electric, and "Small Scale Additive Manufacturing for Medical Applications" by Dr. James Sears of South Dakota School of Mines & Technology.

WHO SHOULD ATTEND

Engineers, supervisors, technical and sales staff, lab personnel, system integrators, OEMs, and anyone else interested in laser additive manufacturing should attend to find solutions to their technology challenges, gain understanding of the laser cladding, sintering and rapid manufacturing processes, source new products, meet suppliers and network with colleagues and industry specialists.

Industries represented include aerospace, agriculture, automotive, military, oil and gas, power generation, bio-medical and more. The conference co-chairs are Paul Denney of the Connecticut Center for Advanced Technology and Dr. James W. Sears of South Dakota School of Mines & Technology.

ADDITIONAL EVENTS

The exhibitor reception will be held Tuesday evening, Mar. 3, and gives exhibitors and workshop attendees the opportunity to discuss equipment and applications in a relaxed setting. After completion of the technical sessions, come share product ideas with your colleagues and suppliers.

A networking luncheon is being held both days during the workshop, which is yet another opportunity to network with your peers and share ideas and is included with registration.

Lastly, join in Wednesday evening for a post-conference happy hour reception where you can wrap up the conference in a casual and friendly environment. Reception is included with each registration.

Laser companies are being invited to exhibit during the conference, and sponsorships are currently being sought. Both are a great way to market your company's products and services to this division of the laser industry. For more information about exhibiting or sponsoring, contact Jim Naugle at 407-380-1553 or e-mail jnaugle@laserinstitute.org. For more information on LAM, to download the advance program, or to register, visit **www.laserinstitute.org/conferences/lam**. ■

GENERAL INFORMATION

From its important role in Texas independence to its fusion of cultures, San Antonio is a truly unique and authentic destination. Come explore the routes of the conquistadors, the settlements of the first missions, and the Shrine of Texas Liberty – the Alamo. San Antonio's heart is in its past – but its future is in its celebration of cultures.

All accommodations will be at the Holiday Inn Riverwalk, San Antonio. Registrations received after Feb. 12 are $475 and include admission to the technical sessions, networking luncheons, exhibitor receptions and networking happy hour.

The world's leading conference on laser safety will be held March 23-26, 2009 in Reno, Nevada.

ILSC®

INTERNATIONAL LASER SAFETY CONFERENCE

Presented by LIA, the International Laser Safety Conference (ILSC®) is a comprehensive four-day conference covering all aspects of laser safety practice and hazard control. Laser safety experts from around the world will descend on Reno to discuss and define the latest changes to regulations and also common practices in the field.

"ILSC 2009 is a knowledge-packed week of networking and learning about what's new in laser safety. This conference combines the best of hands-on learning of everyday habits of Laser Safety Officers to presentations of cutting-edge scientific research supporting changes to the common community of practice," said Conference General Chair Benjamin Rockwell of the Air Force Research Laboratory.

TECHNICAL TOPICS

ILSC kicks off with a plenary session titled "Intentional Laser Exposures to the Eye – Medical to Mischief" that will be presented by Dr. Cynthia Toth from Duke Eye Center and Dr. Van Nakagawara from the FAA-Civil Aerospace Medical Institute.

At ILSC 2009 you will find experts in every field of laser use, including medical, industrial, research, display, communications, and military applications. Technical sessions and workshops will address developments in regulatory, mandatory and voluntary safety standards for laser products and laser use.

Here's a small sampling of the presentations: "A Description of the New FAA Online Outdoor Laser Reporting Tool;" "On the Time Dependence of the Laser-induced Retinal Injury Thresholds in the Nanosecond to Millisecond Time Domain;" "Progress toward Safety Standards for Intense Light Sources used in Medical and Aesthetic Practice;" "Damage Threshold from Large Retinal Spot Size Repetitive-pulse Laser Exposures;" "Laser Safety on a Large Scale – The National Ignition Facility," and "Picosecond and Femtosecond Laser Machining May Cause Health Risks Related to Nanoparticle Emission."

APPLICATIONS SEMINAR

Attendees of ILSC will have the opportunity to participate in the second ever Laser Safety Practical Applications Seminar. This seminar is held in conjunction with the first two days of ILSC and is designed with both the new and experienced laser safety professionals in mind. Topics covered include a review of basic laser safety concepts, laser technology reviews, practical measurement techniques, designing enclosures to meet requirements, and how to create a laser controlled area. The seminar chair is Jay Parkinson of Phoenix Laser Safety LLC.

ILSC WORKSHOPS

ILSC features a series of workshops designed to provide attendees with professional training from leading experts in laser safety and hazard control. Each program focuses on a particular aspect of laser safety. Workshops are interactive in nature and offered at no additional charge to attendees. Topics include laser product classification, hospital and research laser safety housewide start-up tips, lamps and other non-laser sources, and laser training enhancements.

MLSO AT ILSC

A Medical Laser Safety Officer (MLSO) course will be offered in conjunction with ILSC and is being held Mar. 25-26. This course is designed to give operating room personnel a basic foundation in laser biophysics, tissue interaction and laser safety. Laser safety protocols will be addressed according to the ANSI Z136.3 *Safe Use of Lasers in Health Care Facilities* standard, AORN recommended practices, and ASLMS practices.

This course is worth 9.95 contact hours, and 1.5 BLS CM points. A separate registration is required for this course, and cost is $895 for LIA members and $945 for nonmembers. All MLSO course attendees are welcome to attend the ILSC Sponsor Reception on Tuesday evening and the medical session and workshop on Wednesday morning at no additional charge.

GENERAL INFORMATION

ILSC 2009 will be held at John Ascuaga's Nugget Resort Hotel in Reno. The ILSC Advance Program is now available and can be downloaded at **www.laserinstitute.org/conferences/ilsc**. Also visit this site for more information on the confernce.

ILSC sponsorship opportunities are also available, please contact the LIA marketing department at 407-380-1553, e-mail Kim Truelove at ktruelove@laserinstitute.org or David Evans at devans@laserinstitute.org. ILSC is the premier gathering of laser safety professionals – there's nothing else like it. Don't miss it! ■

LIA BREAKS DOWN GEOGRAPHICAL BARRIERS AT

LASER World of PHOTONICS China 2009

Over 200 exhibitors on a 11,500 square meters of floor space presenting the latest technology and applications of laser and photonics are expected to make the fourth edition of LASER World of PHOTONICS China another successful event when it takes place March 17-19, 2009 at Shanghai New International Expo Centre. Last year's attendance topped 18,000 of the industry's top personnel.

Since its premiere in 2006, LASER World of PHOTONICS China has done an impressive job of showcasing developments on the Chinese market. It's the leading trade fair and a must-attend platform in China for the laser and photonics community. It presents the latest innovations in lasers and optronics, optics, sensors, test and measurement, manufacturing technology for optics, laser systems for production engineering, optical measurement systems, biomedical optics and imaging.

Approximately 50% of the exhibitors come from abroad. These international players showed great interest and confidence in the show and the China laser and photonics market and include LIA corporate members Laser Mechanisms, Rofin, Coherent, Trumpf, IPG, Newport, GSI, Laservall and Telesis. Meanwhile, renowned local market leaders such as Han's Laser, Chutian Industrial Laser and Huagong Laser use this opportunity to showcase their products and services to the international laser community. With the high participation rate of key players, LASER World of PHOTONICS China has become one of the top trade fairs for the laser and photonics industry in China.

LIA CO-ORGANIZES LPC

In addition, LASER World of PHOTONICS China also features a first-rate conference program that Messe Munchen International organizes in conjunction with foremost research institutes, industry associations and media partners from China and other countries. The International Conference on Laser Processes and Components (LPC) is co-organized with Laser Center Hannover, Laser Institute of America and the Chinese Optical Society – Laser Processing Committee. This two-day event, which takes place from March 17-18, will focus on laser processing technologies, laser components as well as on current developments and trends in optical technologies. The purpose of the conference is to promote the cooperation and the technology transfer between science and industry in the field of laser technology. A perfect fit with LIA's mission.

The LPC focuses on laser processing technologies and current developments and trends.

Besides helping to organize and promote the LPC before and during the conference, LIA staff will also be visiting local LIA corporate members and marketing the society to potential corporate members in an effort to promote laser applications and laser safety worldwide.

LASER World of PHOTONICS China is organized by Messe München International, which has held LASER World of Photonics in Munich every other year since 1973 and introduced the fair to Shanghai in 2006. For more information visit **http://world-of-photonics.net/en/laser-china/start**. ■

All conference attendees are invited to stop by LIA's booth (#1721) during the show.

LIA AT LIM 2009

Lasers in Manufacturing (LiM 2009) will be held in Munich, Germany from June 15-18 in conjunction with the 19th International Congress on Photonics in Europe. LIA will be a cooperating society for this technical conference as LiM 2009 is an ideal platform for gathering information on the latest developments and for exchanging ideas between both industry and research. Topics to be covered include cutting and drilling, welding, surface modification, microjoining, microablation of metals and ceramics, and more. Abstracts are now being accepted at **www.laser-zentrum-hannover.de/en/lim2009-wlt/**.

CORPORATE MEMBER PROFILE | CELIBRE LASER SKIN CARE

An LIA corporate member since 2005, Celibré Laser Skin Care differs from other medical facilities and medispas that use a "one size fits all" approach to laser skincare. Instead of using the same piece of equipment to treat every skin condition, the facility uses a multitude of state-of-the-art lasers – each one specifically designed to treat one particular condition. Celibré specializes in using cosmetic medical lasers to treat problem skin conditions such as acne, acne scars, unwanted hair, wrinkles, spider veins, port wine stains, melasma, tattoos and more. The company currently has over 20 lasers and has performed over 75,000 laser and injection procedures in the past five years.

COMPANY ORGANIZATION

Celibré Laser Skin Care was founded in 2003 by Dr. Harold J. Kaplan, a board certified plastic surgeon with over 30 years of experience with facial plastic surgery and cosmetic lasers. Kaplan is double board certified by the Facial American Board of Otolaryngology and the American Board of Facial Plastic & Reconstructive Surgery.

Celibré Medical was founded when Dr. Kaplan moved his lasers to an independent practice out of his plastic surgery center. He had been performing laser procedures for 15 years at the surgical office, but the practice grew to the point where it was moved outside the surgery center. Celibré currently has 10 employees at two offices, one in Torrance and one in Orange, Calif.

"Celibré Laser Skin Care's mission is to give our patients a superior and satisfying experience as we help them improve their appearance," said Kevin Dicerbo, Celibré's director of operations.

COMPANY SERVICES

In search of the perfect treatment for patients, Celibré Medical has pioneered many medical protocols that are used internally within the company. "We have developed our protocols based on a combination of manufacturer recommendations, recommendations from other practitioners and good old-fashioned trial-and-error," said Dicerbo.

Today's product/services line-up includes acne treatment and scar removal, laser hair removal, laser resurfacing for wrinkles and sun damage, botox, restylane, juvederm and perlane, melasma treatment (facial blotching), tattoo and birthmark removal, stretch mark removal and reduction, spider veins, rosacea, surgical scars and more.

The before and after results of eight treatments with an Aramis laser.

And here's a sampling of the lasers used for these procedures: Quantel Medical Aramis, Palomar Q Yag 5, Sciton Profile, Cynosure V-Star, Laserscope Lyra-i, Lumenis Lightsheer, EU Photonix NLite, Hoya Conbio Medlite C6, and Dusa Blu-U.

In addition to treating patients, Celibré Medical is one of the premier cosmetic laser schools in California for nurses, physicians, physician's assistants and nurse practitioners.

"We became a training facility because we are patient advocates that want to see lasers used in a proper manner," Dicerbo said.

FAST GROWTH

Overall the aesthetic laser industry has experienced a boom. "There has been a proliferation of medical spas in our industry over the past five years such that laser treatments seem to be available on every street corner in Los Angeles," he said.

And of the most popular treatments Dicerbo says that would be fat reduction treatments which are treatments that Celibré does not provide. "Of the services we provide, laser hair removal has probably grown the most," he explained.

Therefore, Dicerbo sees much value in his company's membership with LIA. "It is important for us to be an LIA member because we want to remain a leader in the field of laser dermatology and keeping current with industry organizations like LIA helps us do so."

For more information visit **www.celibre.com**. ■

JLA UPDATE

The *Journal of Laser Applications*® offers the latest refereed papers by leading researchers in the laser community. The February 2009 issue includes papers from materials processing, sensing, biomedical and safety. Look for the online version at **www.laserinstitute.org/publications/jla/**. To view the journal online, please make sure your membership is current. Online figures have been in color since the August 2007 issue. In addition, articles will now be posted online as the production cycle is completed ensuring timely publication. These articles will be fully citable.

The JLA is published four times a year by the Laser Institute of America in February, May, August and November. It is sent to all LIA members as a member benefit. For nonmembers of LIA, call the American Institute of Physics at 1-800-344-6902 for subscription information.

Sign up at **http://scitation.aip.org/jla/alert.jsp** to receive your JLA table of content e-mail alerts.

ASC Z136 UPDATE

As reported previously, the ASC Z136 annual meeting will be held on Sunday, March 22, 2009 in conjunction with the 2009 International Laser Safety Conference (ILSC®) at the John Ascuaga's Nugget Resort Hotel in Reno, Nevada. The meeting is scheduled to begin at 9 a.m.; however, members who will be attending ILSC are encouraged to check in early (8 a.m.) to receive their conference materials.

In addition to the annual meeting, a number of ancillary meetings relating to the development of national and international laser safety standards will take place during the week (see chart). The meetings include working groups of IEC TC76 and ANSI Z136 standards and technical subcommittees.

Meeting rooms will be posted onsite. For specific meeting details, please contact the working group/subcommittee chairperson. Meeting space is still available! To schedule a meeting during ILSC, please contact Barbara Sams at bsams@laserinstitute.org or call 407-380-1553. ■

Anncillary Meetings Schedule

Day – Date	Time	Committee	Contact
Saturday, 21Mar09	8am – 5pm	SSC-6	Robert Aldrich
	2pm – 5pm	SSC-3	Joel White
Sunday, 22Mar09	9am – 4pm	IEC TC76 WG8	John O'Donnell
Monday, 23Mar09	10:30am – noon	SSC-8	Ken Barat
	2pm – 5pm	IEC TC76 WG5	Bryan Tozer
Tuesday, 24Mar09	8am – noon	TSC-1	Bruce Stuck
	2pm – 5pm	TSC-4	Bill Ertle
Wednesday, 25Mar09	8am – noon	SSC-9	Tom Lieb
	8am – noon	IEC TC76 WG3	Sheldon Zimmerman
	1pm – 5pm	TSC-10	Jay Parkinson
	6pm – 9pm	TSC-4	Bill Ertle
Friday, 27Mar09	8am – 5pm	SSC-6	Robert Aldrich
	8am- midday	IEC TC76 WG1	David Sliney
	Midday-	IEC TC76 WG9	Werner Horak

BLS UPDATE

Like the White Rabbit from Alice in Wonderland, are you late? All Certified Laser Safety Officers (CLSOs) and Certified Medical Laser Safety Officers (CMLSOs) whose certification maintenance cycle ended Dec. 31, 2008 – renew today to avoid losing your active status!

Maintaining your certification is a vital part of becoming a CLSO or CMLSO. Recertification fees are due no later than February 1st and must be accompanied by the certification maintenance (CM) worksheet, supporting documentation and recertification fee. Those responding after the February 1st deadline will be assessed a $50 late fee.

Failure to recertify will result in "inactive status." To restore status, CM worksheets accompanied with appropriate recertification and late fees will be accepted up to and including May 31st. After that time, it will be necessary to retake the exam to become active again.

Maintenance cycle ending December 2009? 2010? Don't put off collecting your CM points until year three! Some categories to consider – membership in laser safety related organizations and active participation in laser safety standards or regulations committees accrue one point per year. These easily obtainable points are irrelevant after the fact. Remember, attendance at laser safety or applications professional conferences or meetings are worth one point per full day; presentations earn 1/2 point each. Conference verification and CM point request forms are available from the BLS website, **www.lasersafety.org** on the Certification Maintenance page. ■

WELCOME NEW MEMBERS

CORPORATE MEMBERS

- **American Laser Enterprises, LLC, Novi, MI**
- **Amplitude Systemes, Pessac, France**
- **Huazhong University of Science & Technology, Wuhan, Hubei, Peoples Republic of China**
- **Lexington International, Boca Raton, FL**
- **Northrop Grumman SYNOPTICS, Charlotte, NC**
- **OFS-Specialty Photonics Division, Avon, CT**

For a complete list of corporate members, visit our corporate directory at **www.laserinstitute.org**.

INDIVIDUAL

Dena Yearwood, Chelsea, AL
Kevin Ham, Santa Clara, CA
John Pasinosky, Santa Cruz, CA
Amber Black, East Hartford, CT
Richard Wilson, Columbus, GA
Andrew Hua, Manhattan, KS
Nick Kielbania, Boston, MA
Judi Reilly, Cambridge, MA
Todd Luman, Pittsfield, MA
Richard Felten, Rockville, MD
William Nader, Saint Clair Shores, MI
Joe Ratta, St. Clair Shores, MI
Michael Lanier, Alboquerque, NM
Marcus Chavez, Las Cruces, NM
Frederick Weber, Bethpage, NY
Logan McReynolds, Fairpot, NY
Alan Avrich, Fulton, NY
Nancy Zupa, Upper Nyack, NY
Caleb Ziebold, Edgerton, OH
Roberta Stone, Duncan, OK
Rebecca Bowser, Harrisonburg, VA
Christine Cannon, Green Bay, WI
Laurie Schultz, Lancaster, WI
Arnold Jansen, Monona, WI
Trung Nguyen, Punchbowl, Australia
Andreas Thoss, Berlin, Germany
Alfonso Lastras-Martinez, San Louis Potosi, Mexico
Janez Mozina, Ljubljana, Slovinia

MEMBERS IN MOTION

U-M AND FRAUNHOFER UNITE FOR ENERGY INNOVATIONS

International research collaborations seeking new ways to fuel transportation will get kick-started by a $2.2 million program sponsored by the University of Michigan (U-M), Ann Arbor, Mich. and Fraunhofer, Plymouth, Mich. The program will award seed money grants of up to $200,000 annually for two years to projects that explore alternative energy innovations for transportation. Each project must have researchers from both U-M and Fraunhofer, have strong potential to eventually attract external funding and ultimately be good candidates for commercialization.

"Partnerships between U-M and a world-class research and development organization like Fraunhofer will create an environment that can quickly move innovations out into the marketplace," said Stephen Forrest, U-M vice president for research. "We have great confidence that this will be an exciting research opportunity to get technology quickly into the hands of business and industry, especially in Michigan."

The Michigan Memorial Phoenix Energy Institute will work with U-M's Office of the Vice President for Research and Fraunhofer to select and evaluate projects. The energy institute is dedicated to expanding energy research activities on campus and translating them into business opportunities for Michigan. Projects will be awarded in 2009 and must be finished within two years. For more information, visit **www.energy.umich.edu**, **www.fraunhofer.de**, or **www.fraunhofer.org**.

SYNOVA RECEIVES MULTI-SYSTEM ORDER

Synova, Lausanne, Switzerland, recently announced a milestone follow-on order for its Laser MicroJet® (LMJ) systems from a European-based solar wafer venture. Representing one of Synova's largest equipment orders to date, the 25 LMJ systems will be integrated into its customer's edge-defined film-fed growth (EFG) process – a leading-edge, proprietary silicon-efficient technology – at its European-based solar fab. These LMJ modules, the core of Synova's laser microjet technology, will be used to cut the venture's 125- and 156-mm polysilicon EFG-octagonal tubes into wafers for solar cell manufacturing. Several LMJ systems have already been shipped and installed, with the remaining modules to be integrated throughout 2009.

This order builds on Synova's recent momentum in the solar market. In February 2008, Synova announced a collaborative R&D alliance with Europe's largest solar research organization, the Fraunhofer Institute for Solar Energy Systems (ISE). This joint-development project is chartered with investigating the use of LMJ for laser chemical processing (LCP) to further explore LMJ's wafering and microstructuring applications that will both speed processing and improve the performance of solar cells. ■

MEMBER INNOVATIONS

3-D QUANTA LASER CAMERA

Servo-Robot has introduced the 3-D Quanta laser camera for both joint tracking and weld bead inspection. The Quanta is a high-resolution laser camera for high precision butt welding applications including same material thickness. It is specially designed for welding processes such as laser, TIG or plasma welding. It is an essential module in the Servo-Robot Modular DIGI-LAS Laser Welding System (DIGI-LAS/MDL), which includes automatic joint tracking, joint inspection and inline quality control functions. The Quanta laser-camera also features a 2-D video viewing system with its own welding area lighting for remote monitoring of the process by the operator and for calibration purposes. For more information visit **www.servorobot.com**.

LASER CENTER WITH AUTOMATIC MATERIAL HANDLING

Finn-Power International, Inc. has introduced the new, compact LC6 co-ordinate table laser center with integrated loading, sorting and stacking. In the area of material handling of laser cut components, Finn-Power provides a versatile solution, which completely automates this section of the material flow even for complex nests. The basis of the new laser center LC6 is Finn-Power's two-decade experience in modular technology in combination with the latest generation of CO_2 lasers.

LC6 integrates laser operation and part handling for fabricating high-quality components. Fast, accurate sheet positioning and the integrated Rofin Sinar 2,500 Watt diffusion cooled CO_2 SLAB allow faster, economical processing of a wide range of materials. The laser unit is equipped with an autofocus cutting head, and laser process control function is available as an option. Clamp setting is programmable for almost complete elimination of dead zones. The 3,000 mm X axis is actuated by a rack and pinion solution and the 1,500 mm Y axis by a double ball screw. The axis concept together with smooth sheet movement over a brush table provides high part accuracy. Sheets up to 8 mm/200 kg can be processed. For more information visit **www.finnpower.com**.

LASER POWER/ENERGY METER

Ophir-Spiricon has announced the PE50-DIF Pyroelectric Detector, the first laser power/energy detector to combine high damage threshold and high repetition rates with the widest range of wavelengths in the industry, from UV to near IR. The PE50-DIF accurately measures high repetition rate lasers over the broadest spectral range – 193 nm to 2.94 μm. The detector measures pulse widths to 10 ms and pulse rates to 3000 Hz. The PE50-DIF uses a single diffuser to cover UV, visible, and near IR wavelengths.

The PE50-DIF Pyroelectric Detector features a 35 mm aperture. For short pulses, the detector measures repetition rates to 3000 Hz with pulse widths of up to 30 μs. For long pulses, the detector measures repetition rates to 250 Hz with pulse widths of up to 1 ms. The PE50-DIF can do virtually everything a standard thermal head can do, such as power measurement with repetitive pulses, single shot energy, and laser power tuning. Users are provided with a wide range of information about the laser being tested, including pulse energy, average power, frequency, minimum and maximum values, and missing pulses. Up to 50,000 points of data can be stored on-board in nonvolatile memory and can be sent to a computer for analysis and storage. The PE50-DIF works with all Ophir smart displays or PC interfaces. For more information, visit **www.ophir-spiricon.com**.

SPI'S 30 W PULSED LASER

SPI Lasers has announced its latest pulsed product, a 30 W fiber laser aimed at faster and higher quality marking, engraving and ablation applications. The 30 W pulsed laser extends the output power of the existing product range. The laser has a typical M2 of 3.2 giving a more uniform flatter power distribution over the beam. This makes the laser more suitable for applications where a more "top hat" distribution is preferable rather than the lower order Gaussian mode ideal where wider mark tacks and large area fills are required. Applications that can benefit from this laser source include anneal marking, anodised aluminium marking, thin film patterning, plastic marking, engraving and paint removal.

The additional energy of the laser means that it is well suited to use in dual head marking stations giving >10 W per head. Utilizing SPI's successful G3 platform, the 30 W laser benefits from the flexibility in frequency range from CW to 500 kHz and the characteristic waveforms that allow user selectable pulses. For more information visit **www.spilasers.com**. ■

For more information and to register, visit **www.lasersafety.org** or e-mail Barbara Sams at bsams@lasersafety.org.

ALAW IN MAY

ALAW 2009 Laser Applications Workshop will be held May 12-14, 2009 in Plymouth, Mich. The ALAW conference is designed to improve productivity and reduce manufacturing costs with laser processing for manufacturers and job shops as well as automotive manufacturers and their suppliers. The conference focuses on laser solutions for new product design and real-world manufacturing challenges. Automotive manufacturers, laser integrators, and tier 1 and 2 suppliers from the global automotive industry deliver presentations and offer solutions on laser processing for automotive components, diode, fiber, and disk laser applications for welding and cutting, and how lasers are being used worldwide in the automotive industry. Topics include body-in-white, advanced propulsion, powertrain, frame and more. An early bird discount will be given for registrations completed five weeks out from the conference. For more information, visit **www.alawlaser.org**.

NEW LASER SAFETY BOOK

Laser Safety Tools and Training is a new resource now available from LIA. This hardcover, 277-page book, written by Ken Barat, is designed for use as either a stand-alone volume or supplement to *Laser Safety Management*. This text includes the fundamental laser and laser safety information from its companion text, yet its depth and breadth make it appropriate for both the seasoned professional as well as the novice. The first laser guide written by a working laser safety officer (LSO), it presents case studies of real accidents, and templates for documenting potential laser risks and attendant safety measures. This guide presents simple effective ways for users in a variety of facilities to evaluate the hazards of any laser procedure and ensure they are following documented laser safety standards. Laser Safety Tools and Training is $140 for LIA members and $160 for nonmembers. To order your copy, call 1-800-345-2737 or visit **www.laserinstitute.org/store**.

MLSO COURSE AT AORN

The Association of PeriOperative Registered Nurses (AORN) will hold its annual congress Mar. 14-19, 2009 in Chicago, Ill. The LIA will be holding a Medical Laser Safety Office (MLSO) course in conjunction with the event. This course is intended for professionals who are working with lasers in any medical environment. For more information, contact Gus Anibarro at gus@laserinstitute.org.

ENGINEERS WEEK 2009

Engineers Week is the public culmination of a year-round portfolio of programs and will take place Feb. 15-21, 2009. These programs include Design Squad, National Engineers Week Future City Competition™, Introduce a Girl to Engineering Day, Engineer Your Life, and more. The National Engineers Week Foundation, a formal coalition of more than 100 professional societies, corporations and government agencies, is dedicated to ensuring a diverse and well-educated future engineering workforce by increasing understanding of and interest in engineering and technology careers among young students. For more information or to find out how you can volunteer to mentor students, visit **www.eweek.org**.

STANDARDS HELP SCIENTISTS DISCOVER METHODS TO DETECT DISEASES

A new technique of detecting viruses, developed with the help of standards, can identify diseases in less than 60 seconds. This technique, created by scientists at the University of Georgia, employs surface-enhanced Raman spectroscopy to measure the frequency of near-infrared laser light as it scatters off viral DNA and RNA. Using a sample swab from a person's nostrils, the technique can detect individual virus particles quickly and even identify many types of viruses by their unique spectral "fingerprints." The entire process takes a mere 30 to 60 seconds.

Because of the safety concerns associated with the use of lasers, the American National Standards Institute (ANSI) recommends that users follow the guidelines set forth in ANSI Z136.1-2007, *American National Standard for Safe Use of Lasers*. Developed by the Laser Institute of America, this standard is the foundation of laser safety programs for industrial, military, medical, and educational applications nationwide. Visit **www.laserinstitute.org/store/ANSI** to order your copy today.

SAVE THE DATE!

Mark your calendars now for the International Laser Safety Conference (ILSC®), which will be held Mar. 23-26, 2009 in Reno, Nev. ILSC 2009 is a comprehensive four-day conference covering all aspects of laser safety practice and hazard control. Technical sessions and workshops will address developments in regulatory, mandatory and voluntary safety standards for laser products and laser use. The advance program is now available at **www.laserinstitute.org/conferences/ilsc**. ILSC sponsorship opportunities are still available, please contact the LIA marketing department at 407-380-1553, e-mail Kim Truelove at ktruelove@laserinstitute.org or David Evans at devans@laserinstitute.org.

LIA CAREER CENTER

The LIA Career Center is the premier electronic recruitment resource for the industry. Here, employers and recruiters can access the most qualified talent pool with relevant work experience to fulfill staffing needs. Both members and nonmembers can use the LIA Career Center to reach qualified candidates. Employers can post jobs online, search for qualified candidates based on specific job criteria, and create an online resume agent to e-mail qualified candidates. For job seekers, LIA Career Center is a free service that provides access to employers and jobs in the laser technology industry. In addition to posting their resumes, job seekers can browse and view available jobs based on their criteria and save those jobs for later review if they choose. Visit the LIA Career Center at **http://careers.laserinstitute.org/**. ■

The World's Leading Conference on Laser Safety

The 2009 International Laser Safety Conference (ILSC®) is a comprehensive 4-day conference covering all aspects of laser safety practice and hazard control. Technical sessions and workshops will address developments in regulatory, mandatory and voluntary safety standards for laser products and laser use.

Featuring:

- Practical Applications Seminar
- Medical Laser Safety
- Plenary Sessions
  - – Changing World of Lasers for Imaging and Treatment in Ophthalmology
  - – Laser Dazzling of Personnel and Aircraft
- Laser Safety Training Techniques
- And more!

ILSC®

INTERNATIONAL LASER SAFETY CONFERENCE

March 23 - 26, 2009

John Ascuaga's Nugget Hotel
Reno, Nevada, USA

Presented by:

Laser Institute of America

Laser Applications and Safety

For more information please contact the LIA:

407.380.1553 | *www.laserinstitute.org/conferences/ilsc* | *conferences@laserinstitute.org*

Laser Institute of America

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