

5th International Conference and Exhibition on Lasers, Optics and Photonics

Dates and Venue: December 01-03, 2016, Atlanta, USA

(Theme: An Insight into Advanced Research Technologies in Lasers, Optics and Photonics)

Summary

Optics-2016 welcomes attendees, presenters, and exhibitors from all over the world to Atlanta, USA. We are delighted to invite you all to attend and register for the “**5th International Conference and Exhibition on Lasers, Optics and Photonics (Optics-2016)**” which is going to be held during December 01-03, 2016 in Atlanta, USA.

The organizing committee is gearing up for an exciting and informative conference program including plenary lectures, symposia, workshops on a variety of topics, poster presentations and various programs for participants from all over the world. We invite you to join us at Optics-2016, where you will be sure to have a meaningful experience with scholars from around the world. All members of the Optics-2016 organizing committee look forward to meeting you in Atlanta, USA.

For more details: <http://optics.conferenceseries.com/>

Importance & Scope

A laser is a device that emits light through a process of optical amplification based on the stimulated emission of electromagnetic radiation. The term "laser" originated as an acronym for "light amplification by stimulated emission of radiation". The first laser was built in 1960 by Theodore H. Maiman at Hughes Laboratories, based on theoretical work by Charles Hard Townes and Arthur Leonard Schawlow. A laser differs from other sources of light in that it emits light *coherently*. Spatial coherence allows a laser to be focused to a tight spot, enabling applications such as laser cutting and lithography. Spatial coherence also allows a laser beam to stay narrow over great distances (collimation), enabling applications such as laser pointers. Lasers can also have high temporal coherence, which allows them to emit light with a very narrow spectrum, i.e., they can emit a single color of light. Temporal coherence can be used to produce pulses of light as short as a femtosecond.

Among their many applications, lasers are used in optical disk drives, laser printers, and barcode scanners; fiber-optic and free-space optical communication; laser surgery and skin treatments; cutting and welding materials; military and law enforcement devices for marking targets and measuring range and speed; and laser lighting displays in entertainment.

Optics is the branch of physics which involves the behaviour and properties of light, including its interactions with matter and the construction of instruments that use or detect it. Optics usually describes the behaviour of visible, ultraviolet, and infrared light. Because light is an electromagnetic wave, other forms of electromagnetic radiation such as X-rays, microwaves, and radio waves exhibit similar properties.

Most optical phenomena can be accounted for using the classical electromagnetic description of light. Complete electromagnetic descriptions of light are, however, often difficult to apply in practice. Practical optics is usually done using simplified models. The most common of

these, geometric optics, treats light as a collection of rays that travel in straight lines and bend when they pass through or reflect from surfaces. Physical optics is a more comprehensive model of light, which includes wave effects such as diffraction and interference that cannot be accounted for in geometric optics. Historically, the ray-based model of light was developed first, followed by the wave model of light. Progress in electromagnetic theory in the 19th century led to the discovery that light waves were in fact electromagnetic radiation.

Optical science is relevant to and studied in many related disciplines including astronomy, various engineering fields, photography, and medicine (particularly ophthalmology and optometry). Practical applications of optics are found in a variety of technologies and everyday objects, including mirrors, lenses, telescopes, microscopes, lasers, and fibre optics.

Photonics is the science of light (photon) generation, detection, and manipulation through emission, transmission, modulation, signal processing, switching, amplification, and detection/sensing. Though covering all light's technical applications over the whole spectrum, most photonic applications are in the range of visible and near-infrared light. The term photonics developed as an outgrowth of the first practical semiconductor light emitters invented in the early 1960s and optical fibers developed in the 1970s.

Photonics is everywhere; in consumer electronics (barcode scanners, DVD players, remote TV control), telecommunications (internet), health (eye surgery, medical instruments), manufacturing industry (laser cutting and machining), defense and security (infrared camera, remote sensing), entertainment (holography, laser shows), etc.

Why Atlanta?

Atlanta is the capital of and the most populous city in the US state of Georgia, with an estimated 2013 population of 447,841. Atlanta is the cultural and economic centre of the Atlanta metropolitan area, home to 5,522,942 people and the ninth largest metropolitan area in the United States. Atlanta is the county seat of Fulton County, and a small portion of the city extends eastward into DeKalb County.

Atlanta was established in 1837 at the intersection of two railroad lines, and the city rose from the ashes of the Civil War to become a national centre of commerce. In the decades following the Civil Rights Movement, during which the city earned a reputation as “too busy to hate” for the progressive views of its citizens and leaders, Atlanta attained international prominence. Atlanta is the primary transportation hub of the South-eastern United States, via highway, railroad, and air, with Harts field–Jackson Atlanta International Airport being the world’s busiest airport since 1998.

Atlanta is considered an “alpha-” or “world city”, ranking 45th among world cities and 8th in the nation with a gross domestic product of \$270 billion. Atlanta’s economy is considered diverse, with dominant sectors including logistics, professional and business services, media operations, and information technology. Topographically, Atlanta is marked by rolling hills and dense tree coverage. Revitalization of Atlanta’s neighbourhoods, initially spurred by the 1996 Olympics, has intensified in the 21st century, altering the city’s demographics, politics, and culture.

Why to attend???

5th International Conference on Lasers, Optics and Photonics is an international conference encompassing clinical, translational, and fundamental research and its involvement for the development in the field of Lasers, Optics and Photonics. It provides a premier technical forum for reporting and learning about the latest research and development, along with launching new applications and technologies. Events include hot topics presentations from all over the world and professional networking with industries, leading working groups and panels.

A Unique Opportunity for Advertisers and Sponsors at this International event:

<http://optics.conferenceseries.com/sponsors.php>

Major Optics Associations in USA

American Institute of Physics (AIP)
American Physical Society (APS)
Optical Society of America (OSA)

Target Audience

Researchers, Engineers, academicians who work with optics and photonics to solve problems in medicine and biomedicine, Astronomy, ophthalmology and optometry, Application and product developers, Design engineers, Nanoscience Engineers, Organic Photonical researchers, Electronic and Optical Engineers and student communities from leading Universities.

Top Universities in USA

University of Michigan
University of Illinois
University of Strathclyde
Northwestern University
Rush University
Loyola University Atlanta

Top Optics Companies in USA

Optometrics Corporation
Guild Optical Associates Inc
Infinity
Edmund Optics

Glance at Market of Photonics

Laser applications range from commodity optics for LED lighting and smart phones to exotic and custom optics for microlithography and astronomy, and infrared to ultraviolet applications. Several of the leading photonics companies in the world views on different technologies, and opinions about future challenges and opportunities for manufacturers and integrators of lasers and photonics products.

Market Statistics of Lasers, Optics and Photonics

