



## Commentary Optics, Lasers and Photonics, Japan

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### Introduction

We take immense pleasure in inviting you to attend the 17th International Conference on Optics, Lasers & Photonics during June 26-27, 2021 in Osaka, Japan. The Optics Laser 2021 Conference focuses on cutting-edge research and innovation and techniques that seek to increase the knowledge about the optics, laser and photonics.

The Optics Laser meeting 2021 will bring together researchers to discuss and share knowledge on novel and emerging techniques as well as future directions on Optics, Lasers, and Photonics. The key presentations in the field of optics and photonics will help together to learn novel innovations from one another at Optics Conference 2021. The Scientific sessions of Optics Laser Events 2021 are designed in such a way that each attendee will be able to learn the advances in optics, laser, photonics, optical fiber communications, biomedical optics, optical design, quantum, optics, biosensors, bio photonics, optics in the medical sciences and imaging optics etc. Along with discussing novel research findings, the Optics Laser Congress 2021 also affords space for networking, to interact with like-minded people, and will also help in making new international collaborations. The Optics Laser Summit 2021 will also provide an opportunity for delegates and participants from the industry to add new contacts where they can establish their products marketing.

### Laser Systems

**Laser** stands for light amplification by stimulated discharge of radiation. We all know that light is an electromagnetic wave. Each wave has its own brightness and colour, and shudders at a certain angle, called polarization. This concept also applies to laser light but it is more parallel than any other light source. Every part of the beam has almost exact similar route and so the beam will diverge very little. With a good laser an object at a distance of 1 km can be illuminated through a dot about 60 mm in radius.

### Optics and Lasers in Medicine

There are some surgical operations that are perplexing to perform with the conventional scalpel. Initial trials with laser beam displayed that a finely focused beam from a carbon dioxide gas laser could cut through human tissue smoothly and neatly. The surgeon could direct the beam from any angle by using a mirror attached on a portable metal arm. Therefore, now a day's laser beam is the most desired tool which is used as a standby for the conventional blade to perform problematic surgeries.

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## **Optoelectronics**

Optoelectronics is the field of technology that associates the physics of light with power. It incorporates the design, study and manufacture of hardware devices that convert electrical signals into photon signals and photons signals to electrical signals. Any device that operates as an electrical-to-optical or optical-to-electrical is considered an optoelectronic device. Optoelectronics is built up on the quantum mechanical special effects of light on electronic materials, sometimes in the presence of electric fields, especially semiconductors.

## **Nanophotonics and Biophotonics**

Nano photonics is the study of the behaviour of light on the Nano scale, and of the interaction of Nano meter-scale objects with light. It is a branch of optics, electrical engineering, and nanotechnology. It often involves metallic components, which can transport and focus light by means of surface plasmon polaritons. Bio photonics can also be described as the advance and application of optical techniques particularly imaging, to study of biological molecules, tissue and cells.