



The 4th Laser Ignition Conference 2016

Co-located with Optics & Photonics International Congress 2016

<http://lic.opicon.jp/>

May 17 (Tue.) – 20 (Fri.), 2016, Pacifico Yokohama, Yokohama, Japan

Paper Deadline: Jan. 25 (Mon.) 2016

LIC - An international forum to discuss all aspects of laser induced ignition: advances in novel giant pulse micro-lasers, new insights into the phenomena of laser induced breakdown, and advanced combustion systems enabled by laser ignition.

The purpose of this meeting is to share information on laser ignition and related sciences and technologies. The conference will be held at Pacifico Yokohama, Yokohama, Japan, on May 17-19 (20), 2016 with the sponsorship from *Micro Solid-State Photonics Group* of the Laser Society of Japan (LSJ) in cooperation with OSA and several academic societies and associations.

SCOPE

In order to achieve higher fuel efficiencies, and lower fuel emissions while maintaining engine specific power densities, many practical combustion systems have resorted to advanced combustion regimes wherein ignition is severely impeded. Laser ignition has proved instrumental in unlocking the true potential of such combustion modes. This is the 4th Conference that attempts to collate the latest developments in laser and laser technologies for the feasibility of laser ignition in practical combustion systems. In parallel, the latest developments in non-laser ignition systems will also be presented. Also, studies that enhance our understanding of the ignition process will also be presented. Included in this conference are guest lectures from leading authorities on ignition technologies.

A. High brightness lasers for ignitions

- Micro solid-state photonics: advanced laser crystals, laser ceramics, and micro-domain controlled materials
- Giant micro-photonics: mega-watt class giant pulse generation from micro photonics
- High power and reliable diode lasers: high power VCSELs, DFB and VBG based diodes, etc.
- High power and reliable fiber or fiber lasers, including pump delivery or giant pulse generation

B. Advanced ignition systems for stationary natural gas engines, vehicular and aerospace applications

- Fundamental ignition studies.
- Advanced ignition systems for stationary power generation: Lean-burn, High EGR, and dilute combustion regimes.
- Advanced ignition systems for vehicular applications: Lean-burn, High EGR, dilute combustion.
- Laser ignition in Aerospace applications: Low-density combustion, Hypersonics, etc.
- Laser ignition of energetic materials: Ignition of solid propellants using lasers, Space / ballistic applications, etc.

C. Advanced applications of giant-pulse microchip laser systems

- Nonlinear optics: higher harmonic wave generation, optical parametric generation, sum and differential wave generation for VUV to THz wave generation, etc.
- Diagnostics: LIBS, mass spectroscopy, gas sensing, ranging, etc.
- Materials process: laser drilling, laser peening, and the other advanced laser process, etc. (Joint session)
- Laser damage: fundamental physics, practical systems (Joint session)

Call for Papers **LIC'16**

COMMITTEE MEMBER

Takunori Taira, *Institute for Molecular Science, Japan*, **General Chair**

Program Committee

Sreenath Gupta, *Argonne National Laboratory, USA*, **Chair**

Ernst Wintner, *Vienna University of Technology, Austria*, **Vice Chair**

Masaki Tsunekane, *Canare Electric Co., Ltd., Japan*

Rakesh Bhandari, *Shimadzu Corporation, Japan*

Nobuyuki Kawahara, *Okayama University, Japan*

Takeshi Saito, *Meisei University, Japan*

Eiichi Takahashi, *The National Institute of Advanced Industrial Science and Technology, Japan*

Takuma Endo, *Hiroshima University, Japan*

Yuji Oki, *Kyushu University, Japan*

Epaminondas Mastorakos, *University of Cambridge, UK*

Nicolaie Pavel, *National Institute for Lasers, Plasma and Radiation Physics, Romania*

Zhang Zhgang, *University of Beijing, China*

Irina T. Sorokina, *Norwegian University of Science and Technology, Norway*

Peter Moulton, *MIT Lincoln Lab., USA*

Dietmar Kracht, *Laser Zentrum Hannover, Germany*

Leonid Glebov, *University of Central Florida, USA*

Azer Yalin, *Colorado State University, USA*

Gregory Burke, *US Army, Picatinny Arsenal, USA*

Geoff Dearden, *University of Liverpool, UK*

Duncan Hand, *Heriot-Watt University, UK*

Sebastian Lorenz, *University of Bayreuth, Germany*

Steering Committee

Fumiteru Akamatsu, *Osaka University, Japan*, **Chair**

Kunihiko Washio, *Paradigm Laser Research Ltd., Japan*, **Vice Chair**

Hideki Ishizuki, *Institute for Molecular Science, Japan*

Yoichi Sato, *Institute for Molecular Science, Japan*

Takagimi Yanagitani, *Konoshima Chemical Co., Ltd., Japan*

Akimitsu Sugiura, *DENSO CORPORATION, Japan*

Kenji Kanehara, *DENSO CORPORATION, Japan*

Jun Hayashi, *Osaka University, Japan*

Yuji Ikeda, *Imagineering, Inc., Japan*

Takashi Ito, *Baikowskijapan Co., Ltd., Japan*

Tsuyoshi Suzudo, *Ricoh Company, Ltd., Japan*

Akihiro Sone, *Hamamatsu Photonics K.K., Japan*

Kimio Iino, *Taiyo Nippon Sanso Corporation, Japan*

Tatsuo Inoue, *Genesis Research Institute Inc., Japan*

Noriaki Nakatsuka, *Osaka University, Japan*

Advisory Committee

Hirohide Furutani, *National Inst. of Advanced Industrial Science and Technology, Japan*

Call for Papers **LIC'16**

Sponsored by *Micro Solid-Sate Photonics Group of the Laser Society of Japan*
Co-operated by:

LIC '15 Organizer



LIC '15 Sponsor



LIC '15 Endorsement



Previous Meeting Archive

http://www.osa.org/en-us/meetings/topical_meetings/3rd_laser_ignition_conference/#dates

OPTICS & PHOTONICS International Congress 2016 (OPIC 2016)

Web site LIC '16 <<http://lic.opicon.jp/>>, OPIC '16 <<http://opicon.jp/>>

EXHIBITION will be held simultaneously on May 17 (Tue.) – 20 (Fri.) at Pacifico Yokohama.

