

# LIC2019 program

Wed. Apr 24, 2019

## [LIC3] Compact laser sources

Wed. Apr 24, 2019 9:00 AM - 10:30 AM JST

Pacifico Yokohama Conference Center(302)

Session Chair: Hideki Ishizuki (RIKEN)

9:00 AM - 9:30 AM JST

LIC3-1

### **(Tentative) Compact high power Yb laser (Invited)**

\*Mitsuhiro Yoshida

1.High Energy Accelerator Research Organization

9:30 AM - 9:45 AM JST

LIC3-2

### **Gain Aperture study in high-gain conditions for high-energy micro-MOPA**

\*Vincent Yahia<sup>1</sup>, Takunori Taira<sup>1,2</sup>

1.Institute for Molecular Science, 2.RIKEN Spring-8 Center

9:45 AM - 10:00 AM JST

LIC3-3

### **100 Hz repetition rate, 190 mJ and 10 PW/sr/cm<sup>2</sup> class Micro-MOPA**

\*Taisuke Kawasaki<sup>1,2</sup>, Vincent Yahia<sup>1</sup>, Takunori Taira<sup>1,3</sup>

1.Institute for Molecular Science, 2.Toshiba, 3.RIKEN Spring-8 Center

10:00 AM - 10:30 AM JST

LIC3-4

### **High rep-rate laser aided diagnostics for fusion plasma (Invited)**

\*Ryo Yasuhara<sup>1</sup>

1.National Institute for Fusion Science

<Break> 10:30 AM - 11:00 AM JST

## [LIC4] Laser ignition strategy

Wed. Apr 24, 2019 11:00 AM - 12:00 PM JST

Pacifico Yokohama Conference Center(302)

Session Chair: Takeshi Saito (Meisei Univ.)

11:00 AM - 11:30 AM JST

LIC4-1

### **Ignition strategy for post MIE transition regime toward super lean burn application (Invited)**

\*Kaoru Maruta<sup>1</sup>, Kodai Uesugi<sup>1</sup>, Youhi Morii<sup>1</sup>, Taichi Mukoyama<sup>1</sup>, Takuya Tezuka<sup>1</sup>, Hisashi Nakamura<sup>1</sup>

1.Institute of Fluid Science, Tohoku University

11:30 AM - 11:45 AM JST

LIC4-2

### **Dual-Pulse Laser-Induced Spark Ignition in a Flowing Environment**

\*Lydia Wermer<sup>1</sup>, Joseph K Lefkowitz<sup>2</sup>, Timothy Ombrello<sup>3</sup>, Seong-kyun Im<sup>1</sup>

1.University of Notre Dame, 2.Technion – Israel Institute of Technology, 3.United States Air Force Research Laboratory

11:45 AM - 12:00 PM JST

LIC4-3

### **Deflagration-to-Detonation Transition in Explosive Gas Ignited by Laser in a Smooth-Wall Cylindrical Tube**

Takuma Endo<sup>1</sup>, \*Shimon Kuwajima<sup>1</sup>, Kazuki Okada<sup>1</sup>, Wookyoung Kim<sup>1</sup>, Tomoyuki Johzaki<sup>1</sup>, Daisuke Shimokuri<sup>1</sup>, Akira Miyoshi<sup>1</sup>, Shin-ichi Namba<sup>1</sup>

1.Hiroshima University

<Lunch> 12:00 PM - 1:15 PM JST

## [LIC5] Laser induced breakdown and spectroscopy

Wed. Apr 24, 2019 1:15 PM - 3:15 PM JST

Pacifico Yokohama Conference Center(302)

Session Chair: Yoichi Sato (RIKEN)

1:15 PM - 1:45 PM JST

LIC5-1

### **Sensitivity Analysis of n-LIBS for Fuel Air Ratio Measurements (Invited)**

\*Brendan McGann<sup>1</sup>, Tonghun Lee<sup>1</sup>, Timothy Ombrello<sup>2</sup>, Campbell D. Carter<sup>2</sup>, Stephen D. Hammack<sup>2</sup>, Lydia Wermer<sup>3</sup>, Hyungrok Do<sup>4</sup>

1.University of Illinois at Urbana-Champaign, 2.U.S. Air Force Research Laboratory, 3.University of Notre Dame, 4.Seoul National University

1:45 PM - 2:00 PM JST

LIC5-2

### **Dual-Pulse Laser-Induced Breakdown Formation in Air at Elevated Pressure**

\*Lydia Wermer<sup>1</sup>, Seong-kyun Im<sup>1</sup>

1.University of Notre Dame

2:00 PM - 2:30 PM JST

LIC5-3

**Mechanism of pulse-width scaling law of laser induced breakdown threshold in air (Invited)**

\*Hwan Hong Lim<sup>1</sup>, Takunori Taira<sup>1,2</sup>

1.Institute for Molecular Science, 2.RIKEN SPring-8 Center

2:30 PM - 2:45 PM JST

LIC5-4

**Laser ignition window cleaning using surface dielectric barrier discharge**

\*Eiichi Takahashi<sup>1</sup>, Takehiko Segawa<sup>1</sup>

1.National Institute of Advanced Industrial Science and Technology (AIST)

2:45 PM - 3:15 PM JST

LIC5-5

**Non-separation, Direct and In situ Remote Analysis for Surveillance and Characterization of Nuclear Debris in Decommissioning of Fukushima Daiichi Nuclear Power Station by Fiber-Optic Laser Induced breakdown Spectroscopy (Invited)**

\*Ikuo Wakaida<sup>1</sup>, Hironori Ohba<sup>2,1</sup>, Koji Tamura<sup>2,1</sup>, Katsuaki Akaoka<sup>1</sup>, Masaki Oba<sup>1</sup>, Masabumi Miyabe<sup>1</sup>, Hwan Hong Lim<sup>3</sup>, Takunori Taira<sup>3</sup>

1.Japan Atomic Energy Agency, 2.National Institutes for Quantum and Radiological Science and Technology, 3.National Institute of Natural Science

<Break> 3:15 PM - 3:30 PM JST

## [LIC6] Advanced laser processing

Wed. Apr 24, 2019 3:30 PM - 5:30 PM JST

Pacifico Yokohama Conference Center(302)

Session Chair: Yuji Sano (ImPACT)

3:30 PM - 4:00 PM JST

LIC6-1

**Smart laser additive manufacturing with IR and blue diode lasers (Invited)**

\*Masahiro Tsukamoto<sup>1</sup>

1.Joining and Welding Research Institute, Osaka University

4:00 PM - 4:15 PM JST

LIC6-2

**Tiny integrated laser for robot arm mounting**

\*Arvydas Kausas<sup>1</sup>, Lihe Zheng<sup>1</sup>, Takunori Taira<sup>1,2</sup>

1.Center for Mesoscopic sciences, Institute for Molecular Science, Japan, 2.RIKEN, Harima branch, Japan

4:15 PM - 4:45 PM JST

LIC6-3

**Dry Laser Peening for Improving Fatigue Properties of Laser Welded 2024-T3 Aluminum Alloy using Femtosecond Laser Pulses (Invited)**

\*Tomokazu Sano<sup>1</sup>, Takayuki Eimura<sup>1</sup>, Akio Hirose<sup>1</sup>, Yosuke Kawahito<sup>2</sup>, Seiji Katayama<sup>2</sup>, Kazuto Arakawa<sup>3</sup>, Ayumi Shiro<sup>4</sup>, Takahisa Shobu<sup>5</sup>, Kiyotaka Masaki<sup>6</sup>, Yuji Sano<sup>7</sup>

1.Osaka University, Graduate School of Engineering, 2.Osaka University, Joining and Welding Research Institute, 3.Shimane University, 4.National Institute for Quantum and Radiological Science and Technology, 5.Japan Atomic Energy Agency, 6.National Institute of Technology, Okinawa College, 7.ImPACT

4:45 PM - 5:00 PM JST

LIC6-4

**Dependence of pulse-width and pulse-number on LIPSS formation by ultra-short pulse laser irradiation**

\*Reina Miyagawa<sup>1</sup>, Shusuke Yoshikawa<sup>1</sup>, Hwan Hong Lim<sup>2</sup>, Takunori Taira<sup>2,3</sup>, Osamu Eryu<sup>1</sup>

1.Nagoya Institute of Technology, 2.Institute of Molecular Science, 3.RIKEN SPring-8 Center

5:00 PM - 5:30 PM JST

LIC6-5

**Laser ultrasonic system using microchip laser for in-situ detection of weld defect (Invited)**

\*Satoru Asai<sup>1</sup>, Kazufumi Nomura<sup>1</sup>, Taketo Matsuida<sup>1</sup>, Satoshi Otaki<sup>1</sup>

1.Graduate school of engineering, Osaka University

<Break> 5:30 PM - 6:00 PM JST

<OPIC Reception Ballroom, 3rd floor InterContinental Yokohama Grand> 6:00 PM - 8:00 PM JST