# **Structured Light and Materials Workshop 2024**

## 24-25 October 2024, Osaka Metropolitan University, Japan

# 24<sup>th</sup> October

#### Session chair: Takashige Omatsu

- 10:20-10:30 Opening Remark (Takashige Omatsu)
- 10:30-11:00Yung-Fu Chen (National Yang Ming Chiao Tung University)Unifying the eigenmodes and geometric modes from quantum wave-packet states
- 11:00-11:30 JiEun BAE (Centre national de la recherche scientifique)

Waveguide-structured compact solid-state lasers & integration with lowdimensional nanomaterials

11:30-12:00 Kanagaraj Nithyanandan (Indian Institute of Technology, Hyderabad)Coherent beam combination based dynamic beam engineering for additive manufacturing

Group Photo & Lunch Break

#### Session chair: Allam Srinivasa Rao

- 13:00-13:30Weidong Chen (Chinese Academy of Sciences)Few-cycle mode-locked solid-state lasers at 1 and 2 microns
- 13:30-14:00 Kyoko Namura (Kyoto University)

Microfluidic control using photothermally induced microbubbles

14:00-14:30Takuya Nakashima (Osaka Metropolitan University)Manipulation of molecular geometry with light

Coffee Break

### Session chair: Takuya Nakashima

- 15:00-15:30 Xin-Liang Zheng (National Yang Ming Chiao Tung University) Introduction to the generation of structured laser beams within a laser cavity
- 15:30-16:00 Allam Srinivasa Rao (Chiba University)

Two dimensional bio-printing with optical vortex induced forward transfer

16:00-16:30 Niklaus Ursus Wetter (University of São Paulo)

Very high-efficiency DPSSLs and high-efficiency random lasers

- 16:45-17:45 Poster Session
- 18:00-20:00 Reception

# 25<sup>th</sup> October

Session chair: Yung-Fu Chen

- 9:30-10:00 Chie Hosokawa (Osaka Metropolitan University) Optical manipulation of cellular functions in biological neural networks
  10:00-10:30 Takashige Omatsu (Chiba University) Materials manipulation with optical quasi-particles
  10:30-11:00 William R. Kerridge-Johns (University of Southampton) Neural network coherent beam combination of fiber amplifiers for adaptive beam shaping
  11:00-11:30 Kuan-Wei Su (National Yang Ming Chiao Tung University) LED-pumped lasers, eye-safe flash lidar, and spiral intensity patterns
- 11:30-11:40 Closing Remark (Yung-Fu Chen)

## **Poster Session**

A very-high-order 2D Hermite-Gaussian mode laser Jingni Geng (Tianjin University)

Dynamic Evolution of Harmonic Mode-Locking in a SESAM-Based Mode-Locked Semiconductor Laser <u>Yu-Hsin Hsu</u> (National Yang Ming Chiao Tung University)

Effect of water/ethanol mixture concentration on flow speed around microbubbles <u>Mizuki Kato</u> (Kyoto University)

Structure and Photoluminescence Property of Gold Clusters with Bis(benzo[b]phosphindole)ethane Ligand <u>Teppei Yahagi</u> (Osaka Metropolitan University)

Synthesis and Optical Properties of Gold Nanocluster with Organic Radical Ligand Kosei Hayashi (Osaka Metropolitan University)

Numerical investigation of launch characteristics in optical vortex laser induced forward transfer <u>Mamoru Tamura</u> (Osaka University)

Helical excitations in superfluid helium <u>Yosuke Minowa</u> (Kyoto University)

Fabrication of Hydrogel Fibers with Helical Structure via Vortex Laser Photopolymerization Toward Chiral Tissue Engineering <u>Zhuying Zhang</u> (Osaka University)

Development of optical manipulation of nanoscale objects for controlling cellular activity <u>Tatsunori Kishimoto</u> (Toyohashi University of Technology)

Two-photon fabrication of microstructures by a femtosecond optical vortex beam <u>Yoshihisa Matsumoto</u> (Osaka Metropolitan University)

Molecular diffusion in an optical trap on substrate-supported lipid bilayer Syunya Moriyama (Osaka Metropolitan University)

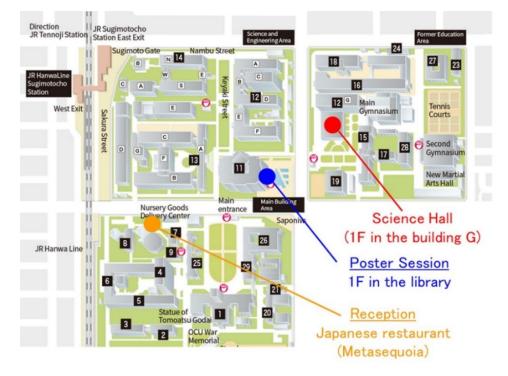
Molecular dynamics of AMPA-type glutamate receptors on neurons with resonant optical tweezers <u>Tatsumu Miyazaki</u> (Osaka Metropolitan University)

Microanalysis of single droplet formed by optical tweezers in a temperature responsive ionic liquid solution <u>Kosuke Nakatsu</u> (Osaka Metropolitan University)

Microphase separation of bovine serum albumin solutions with a focused near-infrared laser beam <u>Ayana Takayanagi</u> (Osaka Metropolitan University)

Formation of a semi-spheroidal droplet by optical tweezers in a thermo-responsive ionic liquid solution

Rai Kobayashi (Osaka Metropolitan University)



# Venue