Structured Light and Materials Workshop 2024

24-25 October 2024, Osaka Metropolitan University, Japan

24th October

Session chair: Takashige Omatsu

10:20-10:30 Opening Remark (Takashige Omatsu)

10:30-11:00 Yung-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 low-dimensional 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

13:00-13:30 Weidong 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

14:00-14:30 Takuya 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

25th 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
Yu-Hsin Hsu (National Yang Ming Chiao Tung University)

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

Structure and Photoluminescence Property of Gold Clusters with Bis(benzo[b]phosphindole)ethane Ligand
Teppei Yahagi (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
Mamoru Tamura (Osaka University)

Helical excitations in superfluid helium
Yosuke Minowa (Kyoto University)

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

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

Two-photon fabrication of microstructures by a femtosecond optical vortex beam
Yoshihisa Matsumoto (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
Tatsumu Miyazaki (Osaka Metropolitan University)

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

Microphase separation of bovine serum albumin solutions with a focused near-infrared laser beam
Ayana Takayanagi (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