

pLED International Symposium 2023:
Exploring Invisible Light Technology

March 4 - 5, 2023
Tokushima, Japan

Timetable

March 4. Saturday

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|-------------|----------------------------------|
| 9:30-9:37 | Opening Remarks |
| 9:37-9:53 | Greeting from our honored guests |
| 9:53-10:15 | Introduction to pLED |
| 10:15-10:20 | Break |
| 10:20-11:50 | Lecture S1~S2 |
| 11:50-13:10 | Lunch Break (80min) |
| 13:10-14:40 | Lecture S3~S4 |
| 14:40-14:50 | Break |
| 14:50-15:35 | Lecture S5 |
| 15:35-15:50 | Break |
| 15:50-17:35 | Poster session |
| 19:00- | Reception Party |

March 5. Sunday

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|-------------|------------------------|
| 10:00-11:55 | Lecture S6~S8 |
| 11:55-13:15 | Lunch Break (80min) |
| 13:15-14:25 | Lecture S9~S10 |
| 14:25-14:35 | Break |
| 14:35-15:45 | Lecture S11~S12 |
| 15:45-16:00 | Closing Remarks |

Program

Day1

9:30-9:37 Opening Remarks

Yasuhiko Kawamura (President, Tokushima University)

Takuya Sasaki (CEO, Institute of Post-LED Photonics, Tokushima University /
Vice President for Research Affairs, Tokushima University)

9:37-9:53 Greeting from our honored guests

Governor of Tokushima Prefecture

Director, LOMA, University of Bordeaux

Director, Research Center for Development of Far-Infrared Region,
University of Fukui

Director, Molecular Photoscience Research Center, Kobe University

9:53-10:15 Introduction to pLED

Takeshi Yasui (Chief Research Officer (CRO) at pLED, Tokushima
University)

10:15-10:20 Break

10:20-11:05

S-1 Spatio-temporal topological shaping of terahertz light Applications to
opto- mechanical manipulation

Prof. Emmanuel Abraham (University of Bordeaux)

11:05-11:50

S-2 Terahertz Communications Enabled by Photonics

Prof. Tadao Nagatsuma (Osaka University)

11:50-13:10 Lunch Break

13:10-13:55

S-3 Microresonator frequency combs for ultra-low latency optical communication for Beyond 5G and 6G applications

Prof. Takasumi Tanabe (Keio University)

13:55-14:40

S-4 Application of versatile control and manipulation of light enabled by optical frequency combs

Prof. Kaoru Minoshima (The University of Electro-Communications)

14:40-14:50 Break

14:50-15:35

S-5 SRS microscopy and its biomedical applications

Prof. Lingyan Shi (University of California, San Diego)

15:35-15:50 Break

15:50-17:35 Poster session

19:00- Reception Party

Day2

10:00-10:45

- S-6 Conductive Nitrides for Plasmonics in the Visible Region:
Properties and Applications
Prof. Yu-Jung Lu (Academia Sinica)

10:45-11:30

- S-7 Metamaterials and metasurfaces from lens to biosensor
Prof. Takuo Tanaka (RIKEN)

11:30-11:55

- S-8 Plasmon-enhanced optical nanoscopies for biomedical analysis
Prof. Taka-aki Yano (Tokushima University)

11:55-13:15 Lunch Break

13:15-14:00

- S-9 Intelligent Image-Activated Cell Sorting
Prof. Keisuke Goda (The University of Tokyo)

14:00-14:25

- S-10 Development of New fluorescent chromophore 1,3a,6a
triazapentalene and its application to Photomedical research
Prof. Kosuke Namba (Tokushima University)

14:25-14:35 Break

14:35-15:20

S-11 Ultrafast and micro-spectroscopy of excitonic materials

Prof. Trevor Smith (The University of Melbourne)

15:20-15:45

S-12 Femtosecond Dynamics of Photoenergy Conversion by Plasmonic Metal Modified Semiconductor Nanostructures

Prof. Akihiro Furube (Tokushima University)

15:45-16:00 Closing session

Poster session

- P-1 Development of Phase-Correcting Mirrors for Optical Vortex Beam Shaping at 265 GHz
Masafumi Fukunari (University of Fukui)
- P-2 Optical vortex interferometer using multiple wavelengths
Ayato Takashima (Tokushima University)
- P-3 mW-Level Mid-Infrared Frequency Comb Using Waveguide-Type PPLN Crystal in Single-Pass Configuration
Ryo Mitsumoto (Tokushima University)
- P-4 Terahertz Wave Generation Performances of Spintronic Sources with Rectangular and Diabolo Antenna Structures
Miezel Talara (University of Fukui)
- P-5 Second-Harmonic Generation Polarization Microscopy to Analyze Ultra-Early-Stage Liver Fibrosis in Human Non-Alcoholic Fatty Liver Disease
Tomohiro Tamaki (Tokushima University)
- P-6 As-interstitial Defect for Sub-band Gap Excitation in Low-temperature GaAs Revealed by First-principles Calculations
Dhonny Bacuyag (University of Fukui)
- P-7 Comparative study of methylene blue (MB) degradation using WS₂, WS₂/GO, and WS₂/GO/Au composites prepared by laser ablation and hydrothermal methods
Vinayak Shinde (Tokushima University)
- P-8 Terahertz OAM Generator with Transmissive Photonic Crystal Structure
Remma Hata (Tokushima University)
- P-9 Demonstration of All-Optical Ultrafast Switching, Using High-Quality Graphene
Tomoki Kusaka (Tokushima University)
- P-10 Aggregation of BPSK Signals Using Coherent Interference for Modulation Format Conversion to 8QAM Signal
Taiga Ishida (Tokushima University)
- P-11 Raman and SHG spectroscopic analyses of lipid droplets accumulated in the liver of a mouse model of nonalcoholic fatty liver disease
Kazuki Yasumaru (Tokushima University)

- P-12 Efficient Atmospheric Turbulence Compensation Method for Multiplexed Orbital Angular Momentum Beams in Free Space
Yuki Hirasawa (Tokushima University)
- P-13 Hydration dynamics and its influence in biological systems
Rajib Kumar Mitra (S N Bose National Centre for Basic Sciences)
- P-14 Extraction of alveolar walls in 3D lung micro images from large-field synchrotron radiation micro-CT using U-Net
Haruki Kurita (Tokushima University)
- P-15 Estimation procedure of UV sterilization effects for various UV light sources
Hiroki Kitahama (Tokushima University)
- P-16 Locking of two optical tones to a fiber ring resonator
Jonathan Cuevas (Tokushima University)
- P-17 Observation of Franz-Keldysh Modulation in a Lead Halide Perovskite Crystal by Femtosecond Transient Absorption Microscopy
Tetsuro Katayama (Tokushima University)
- P-18 Observation of angular spectrum of surface plasmon resonance dip using wavelength-to-angle-conversion optical frequency comb
Yuya Kodama (Tokushima University)
- P-19 Charge carrier dynamics in bulk heterojunction organic thin films studied by time-resolved terahertz spectroscopy
Kaoru Ohta (Kobe University)
- P-20 Fundamental study on optical heterodyned terahertz detection using optical-comb-injection-locked dual-wavelength laser light and electro-optic polymer modulator
Yudai Matsumura (Tokushima University)
- P-21 Simulation Methods Analysis of Electron Diffusion in TiO₂ Nanostructure after Ultrafast Electron Injection from Attaching Gold Nanoparticles Measured by Transient Absorption
Junli Wang (Tokushima University)
- P-22 Micro-nodule analysis by severity of pneumoconiosis using 3D CT images
Yuga Hashimoto (Tokushima University)

- P-23 Renal tumor analysis using multi-phase abdominal CT images
Kento Nishihira(Tokushima University)
- P-24 A principled computed tomography of optical back scattering in turbid media and the resolution improvement based on the subtraction between space-resolved interlayer images
Kouki Munezane (Tokushima University)
- P-25 Simultaneous generation of left and right circularity-polarized light using combined polarization gratings and its spectroscopic application
Akira Emoto (Tokushima University)
- P-26 In-situ observation of photo-induced phenomena of AuNP-deposited HeLa cells with femto second laser
Miku Matsumoto (Tokushima University)
- P-27 Unraveling the Energy Transfer Mechanism in a Phycocyanin Protein Crystal by Femtosecond Transient Absorption Microscopy
Shuto Ueda (Tokushima University)
- P-28 Fundamental characterization of remote plasmonic-enhanced Raman spectroscopy
Sota Inoue (Tokushima University)
- P-29 Transmission stage scanning optical frequency comb microscopy for multi-optical-parameter evaluation
Tomoya Okabe (Tokushima University)
- P-30 Development of temperature-dependent sub-Terahertz time-domain spectrometer for dielectric response characterization
Lou Serafin Lozada (Kobe University)
- P-31 Spectral broadening of a Kerr microresonator soliton comb by local dispersion engineering
Kenji Nishimoto (Tokushima University)