OSJ - OSA Joint Symposia Program (Tentative)

Monday, October 30 [Room A]

9:30 - 10:30
OSJ - OSA Joint Symposia
Nanophotonics
Optical Manipulation 1

30aON1 [Invite 1]
Light-induced Biomolecular Recognition Based on Nano Optical Manipulation
○Takuya Iida
Osaka Prefecture University

30aON2 Optical fabrication and trapping of microspheres in cryogenic conditions
○Masaaki Ashida1, Yusuke Minowa3, Mitsutaka Kumakura2, Yoshiki Moriwaki3
1Graduate School of Engineering Science, Osaka University, 2Graduate School of Engineering, University of Fukui, 3Department of Physics, University of Toyama

30aON3 Crystal growth of glycine by optical trapping with an optical field with optical angular momentum
○Junhyung Lee1,2, Takeshi Murata1,2, Katsuhiko Miyamoto1,2, Takashige Omatsu1,2
1Chiba University Graduate School of Science and Engineering, 2Molecular Chirality Research Center Chiba University

10:50 - 11:50
OSJ - OSA Joint Symposia
Nanophotonics
Biophotonics

30aON4 [Invite 2]
Micro-patterning of polymer microgels in the balance of a thermal force and a plasmon-enhanced optical force
○Mitsuhisa Deguchi, Yuki Uenobo, Tatsuya Shoji, Yasuyuki Tsuboi
Graduate School of Science, Osaka City University

30aON5 Quantitative Detection of Target ssDNA by Digitally Counting Gold Nanoparticle Dimers
○Takahisa Mizuguchi, Keiko Esashika, Toshiharu Saiki
Keio University

30aON6 Direct observation of DNA motion near a nanopore
Naoto Sakashita, Kento Lloyd, Tomoya Kubota, Taiki Ono, Kentaro Ishida, Seiya Minato, ○Toshiyuki Mitsui
Aoyamagakuen University

12:45 - 14:45
OSJ - OSA Joint Symposia
Nanophotonics
Optical Manipulation 2

30pON1 [Invite 3]
Label-Free Single-Molecule Thermoscopy Using a Laser - Heated Nanopore
Hirohito Yamazaki1, Rui Hu1,2, Robert Y. Henley1, Justin Halman2, Kirill A. Afonin2, Dapeng Yu3, Qing Zhao3, ○Meni Wanunu1
1Department of Physics, Northeastern University, USA, 2Department of Chemistry, University of North Carolina, at Charlotte, USA, 3State Key Laboratory for Mesoscopic Physics, School of Physics, Peking University, P.R.C

30pON2 Vortex nearfield with orbital angular momentum enables the chiral mass-transport in nano-scale
○Keigo Masuda1, Shogo Nakano1, Yosinori Kinezuka1, Seigo Ohno1, Daisuke Sakai2, Kenji Harada3, Katsuhiko Miyamoto1,4, Takashige Omatsu1,4
1Graduate School of Advanced Integration Science, Chiba University, 2Department of Physics, Graduate School of Science, Tohoku University, 3Faculty of Engineering, Kitami Institute of Technology, 4Molecular Chirality Research Center, Chiba University

30pON3 Creation of helical fiber with ultraviolet optical vortex illumination
○Junhyung Lee1, Yosihiko Arita2, Shunsuke Toyoshima1, Reimon Matsuo1, Katsuhiko Miyamoto1, Dholakia Kishan1, Takashige Omatsu1
1Graduate School of Science and Engineering, Chiba University, 2SUPA, School of Physics and Astronomy, University of St Andrews

30pON4 Twisted Au nano-needle fabricated by optical vortex illumination
○Yuri Nakamura1, Tatsumasa Sugimoto1, Kai Izumisawa1, Katsuhiko Miyamoto1,2, Tsukasa Torimoto1, Ryuuji Morita1, Keisaku Yamane1, Takashige Omatsu1,2
1Chiba University, 2Molecular Chirality Research Center Chiba University, 3Nagoya University, 4Hokkaido University

30pON5 Control of crystalline structure and FET property of MoTe2 by laser irradiation
Kota Kamiya1, Tomoki Yamanaka1, Takashige Omatsu1,2, Kenji Harada3, Kei-Ichi Sakashiki1, Masahiro Matsunaga2, Peter Kruger1, Katsuhiko Miyamoto1, Takashige Omatsu1, Jonathan P. Bird2, ○Nobuyuki Aoki1
1Chiba University, 2SUNY Buffalo

30pON6 Mechano-plasmonics for stress detections
○Hiroaki Masutani
The University of Tokyo

30pON7 Subwavelength Color Printing with Mie Resonance-based Si Nanostructures
○Masafumi Suzuki1, Yusuke Nagasaki1, Junichi Takahara1,2, ○Osaka University, 2Osaka University Photonics Center
**15:05 - 16:50**
OSJ - OSA Joint Symposia
Nanophotonics
Plasmonics

30pON8 [Invite 4]
Giant Chirality Evolution in Individual Plasmonic Nanoparticle
○Ki Tae Nam
Seoul National University

30pON9
New chemical reactions based on a non-uniform optical near-field
○Tatsuya Kameyama, Kentaro Sato,
Tskasa Torimoto
Nagoya University

30pON10
Plasmonic Enhancement of Electrocatalytic Oxygen Reduction Reaction on Octahedral Au@Pt Nanoparticles
○Tatsuya Kameyama, Kentaro Sato,
Tskasa Torimoto
Nagoya University

30pON11
Enhancement of signal intensity of low-energy inverse photoelectron spectroscopy by surface plasmon resonance of Ag nanoparticles
○Ryota Usui1, Yuki Kashimoto2,
Hiroyuki Yoshida3
1Chiba University, 2Chiba Chirality

30pON12
Excitation and probing of infrared nanoantenna modes under oblique illumination
○Shuta Kitade1, Shingo Usui2,
Ikki Morichika1, Kensuke Kohmura2,
Fumiya Kusa2, Satoshi Ashihara1
1IIS, the Univ. of Tokyo, 2Tokyo Univ. of Agriculture and Technology

30pON13
Control of sub-nm spacing of gold nanoparticle dimers and wide-range tunability of localized surface plasmon resonance
○Ryo Ishii, Keiko Esashika, Toshiharu Saiki
Keio University

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**17:00 - 17:45**
OSJ - OSA Joint Symposia
Plenary Session

30pPL1
Trapped particles for studies in nanophotonics
○Kishan Dholakia
University of St. Andrews, UK

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Monday, October 30 [Room C]

**9:30 - 10:30**
OSJ - OSA Joint Symposia
Digital Photonics
Spectroscopic Imaging

30aOD1 [Invite 1]
Compressive spectral imaging
○Adrian Stern
Ben Gurion University of the Negev, Israel

30aOD2
Multispectral imaging of hemoglobin concentration and tissue scattering in mice during cutaneous two-stage chemical carcinogenesis
○Wares MD. Abdul1, Naoki Tobita2,
Izumi Nishidate1, Satoko Kawauchi1,
Shunichi Sato2
1Graduate School of Bio-Applications & Systems Engineering, Tokyo University of Agriculture and Technology, 2Division of Bioinformation and Therapeutic Systems, National Defense Medical College Research Institute

30aOD3
A Bilinear Model for Hyperspectral Fluorescence and Reflectance Imaging
○Naoyuki Ohara1, Tomoya Nakamura3,
Zheng Yinqiang1, Imari Sato1,2
1School of Engineering, Tokyo Institute of Technology, 2National Institute of Informatics

**11:00 - 12:00**
OSJ - OSA Joint Symposia
Digital Photonics
Scattering and Turbulence

30aOD4 [Invite 2]
Incoherent lensless super-field-of-view imaging by artificially designed scattering medium
○Tomoya Nakamura
Tokyo Institute of Technology

30aOD5
Examining Single Scattering Region in Concentration, Depth, and Wavelength on Diluted Media
○Kazusa Tsubota1, Tsuyoshi Takatani1,
Takahito Aoto1, Kenichiro Tanaka2,
Hiroyuki Kubo1, Takuya Funatomi1,
Yasuhiro Mukaigawa2
1Nara Institute of Science and Technology, 2National Institute of Informatics

30aOD6
Analysis of FSO Link under Atmospheric Turbulence from First Principle
○Arka Mukherjee1, Subrat Kar2,
JAIN Virannder Kumar2
1Bharti School of Telecom Tech. and Mgmt.,
Indian Institute of Technology, Delhi, India,
2Dept. of Electrical Eng., Indian Institute of Technology, Delhi, India

**13:30 - 15:00**
OSJ - OSA Joint Symposia
Digital Photonics
Display
### 15:30 - 16:30
**OSI - OSA Joint Symposia**

**Digital Photonics**

**Digital Holography 1**

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<th><strong>30pO4</strong></th>
<th>Rewritable droplet array for creating digital 3D display</th>
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<td>Kanta Yamada, Yoshihiro Nishimura, Mitsuori Saito, Ryukoku University</td>
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<tr>
<th><strong>30pO5</strong></th>
<th>[Invite 5] TBD</th>
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<td>Pietro Ferrao, CNR, Italy</td>
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<th><strong>30pO6</strong></th>
<th>[Invite 6] Digital holographic inspection systems for industrial applications</th>
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<tr>
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<td>Masayuki Yokota, Kazufumi Takeda, Eiji Kusunoki, Shimane University</td>
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<th><strong>30pO7</strong></th>
<th>Two-color pump-probe digital holography</th>
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### Tuesday, October 31 [Room A]

#### 9:00 - 10:30
**OSI - OSA Joint Symposia**

**Nanophotonics**

**Metamaterials**

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<th><strong>31aO1</strong></th>
<th>[Invite 5] Phase change materials tuned metamaterials</th>
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<td>Robert E. Simpson, University of Technology and Design, Singapore</td>
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<th><strong>31aO2</strong></th>
<th>Filtering aspects of silver nanowire-based hyperbolic metamaterial</th>
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<td>Baqir M. A., Choudhury P.K., Majlis B.Y.</td>
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<th><strong>31aO3</strong></th>
<th>Plasmonic antireflective structures with SiO2 nanocolumns arrays fabricated by oblique angle deposition</th>
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<td>Hao Zhang, Chaogang Lou, School of Electronic Science and Engineering, Southeast University, China</td>
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<th><strong>31aO4</strong></th>
<th>Layer-Dependent Third-Harmonic Generation in Multilayer Graphene</th>
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<tr>
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<td>Hao Yang, Honghua Guan, Yawen Sun, Jerry Dadap, Richard Osgood, Columbia University, Huazhong University of Science and Technology</td>
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<th><strong>31aO5</strong></th>
<th>Controlling electromagnetic waves in a class of invisible materials</th>
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<td>Yangjie LIU, Huabei University, Wuhan, P.R. China</td>
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#### 11:00 - 12:00
**OSI - OSA Joint Symposia**

**Nanophotonics**

**Quantum Optics**

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<th><strong>31aO6</strong></th>
<th>[Invite 6] Light matter quantum interface based on diamond spin qubits</th>
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<td>Fedor Jelezko, Ulm University, Germany</td>
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<tr>
<th><strong>31aO7</strong></th>
<th>Investigation of Tapered Optical Fiber Coated with Graphene Quantum Dots Combined Gold Nanoparticles for Detecting Lard</th>
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<tr>
<td></td>
<td>Ahmad Shukri Muhammad Noor, Che Nur Hamizah Che Lah, Norhanisah Jamaluddin, Suraya Abdul Rashid, Fakhirul Zaman Rokhani</td>
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<tr>
<th><strong>31aO8</strong></th>
<th>Spectral control of surface phonon polariton using phase change material for tunable surface enhanced infrared spectroscopy</th>
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<td></td>
<td>Masaki Nakamura, Masashi Kuwahara, Toshiharu Saiki, Keio University, National Institute of Advanced Industrial Science and Technology</td>
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#### 13:00 - 14:45
**OSI - OSA Joint Symposia**

**Nanophotonics**

**Photonic Devices**

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<th>[Invite 7] Ultra-silicon-rich nitride based devices for high nonlinear figure of merit photonics applications</th>
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<td></td>
<td>Dawn Tan, Doris Ng, Kelvin Ooi, Ju Won Choi, Ezgi Sahin, George Chen, Sohn Byoung uk, Peng Xing, Singapore University of Technology and Design, A*STAR Data Storage Institute</td>
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<tr>
<th><strong>31pO2</strong></th>
<th>Polarizationkeeping research of a dichromatic beam-splitter for laser lights with 780nm and 810nm wavelength</th>
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<tr>
<td></td>
<td>Liu Dingquan, Chen Gang, Li Daqi, Ma Chong, Wang Kaixuan, Shanghai Institute of Technical Physics, CAS</td>
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<tr>
<th><strong>31pO3</strong></th>
<th>On-Chip Waveguide Amplifier Using Rare Earth Doped Polymers</th>
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<td></td>
<td>George Chen Fengrong, Zhao Xinyu, Yang Sun, He Chaobin, Tan Mei Chee, Dawn Tan, Singapore University of Technology and Design, Engineering Product Development, National University of Singapore, Department of Material Science and Engineering</td>
</tr>
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</table>
31pON4 Nano-sized free volume for dye diffusion in a flexible ring laser
Kazuma Yonedo, Junpei Nogami, Saito Mitsunori
Ryukoku University

31pON5 Coding two-dimensional images into mode spectrum of silicon microwindow covered with a phase-change layer
Farrabi Sobhi, Yuya Kihara, Daichi Katawai, Yoshihiro Taguchi, Masashi Kuwahara, Toshiharu Saiki
Keio University, National Institute of Advanced Industrial Science and Technology

31pON6 Optical Properties Study of Ta_2O_5 and SiO_2 Thin Films in Near Ultraviolet Band
Chen Gang
Shanghai Institute of Technical Physics, CAS

Tuesday, October 31 [Room C]

9:30 - 10:30
OSI - OSA Joint Symposia
Digital Photonics
Digital Holography 2

31aOD1 [Invite 7]
Recent progress in digital holographic microscopy: From superresolution to ultrafast imaging
Chau-Jern Cheng
National Taiwan Normal University

31aOD2 Investigation of effect of optical elements on the image quality in incoherent Fourier digital holography using a rotational shearing interferometer
Takuya Matsuda, Takanori Nomura
Graduate School of System Engineering, Wakayama University, Faculty of System Engineering, Wakayama University

31aOD3 Single-shot in-line digital holography without twin-image using diffused illumination
Takanori Nomura, Kenichi Nisaka
Faculty of Systems Engineering, Wakayama University

11:00 - 11:45
OSI - OSA Joint Symposia
Digital Photonics
Imaging

31aOD4 Single-pixel diffractive imaging with compressive sensing
Ryoichi Horisaki, Jun Tanida
Osaka University

31aOD5 Single Pixel Imaging with pAIRR
Shogo Morita, Hirotugu Yamamoto
Utsunomiya University

31aOD6 High-frame-rate image capturing for time-of-flight range imager based on exposure coding with a multi-aperture imaging system
Daisuke Miyazaki, Takehiro Ebata, Kazuma Arimori, Futa Mochizuki, Keichiro Kagawa, Shoji Kawahara
Osaka City University, Shizuoka University

12:45 - 14:45
OSI - OSA Joint Symposia
Digital Photonics
Biophotonics

31pOD1 [Invite 8]
Gradient light interference microscopy (GLIM) for studying thick 3D cellular systems
Gabriel Popescu
University of Illinois at Urbana-Champaign, USA

31pOD2 [Invite 9]
Investigation and correction of optical disturbance caused by living plant cells
Yosuke Tamada
National Institute for Basic Biology

31pOD3 Assessment of cerebral hemodynamics and tissue morphology of rat brain during cortical spreading depolarization with a digital RGB camera
Afirna Mustari, Takuya Kanie, Izumi Nishidate, Satoko Kawauchi, Shunichi Sato, Manabu Sato, Yasuaki Kokubo
Graduate School of Bio-Applications & Systems Engineering, Tokyo University of Agriculture and Technology, Division of Bioinformation and Therapeutic Systems, National Defense Medical College Research Institute, Graduate School of Science and Engineering, Yamagata University, Department of Neurosurgery, Yamagata University Faculty of Medicine

31pOD4 Tissue disorder for label-free diagnosis of biopsies using quantitative phase imaging
Masanori Takabayashi, Hassaan Majeed, Andre Kajdacsy-Balla, Gabriel Popescu
Kyushu Institute of Technology, University of Illinois at Urbana-Champaign, University of Illinois at Chicago

31pOD5 Iterative reconstruction method for refractive index tomography based on the transport of intensity equation
Aina Ikezaki, Takanori Nomura
Graduate School of Systems Engineering, Wakayama University, Faculty of Systems Engineering, Wakayama University

31pOD6 Monitoring of mitochondrial membrane potential by using two-photon fluorescence microscope
Yasutaka Suzuki, Naoya Asamura, Hiroki Moritomo, Jun Kawamata
Graduate School of Sciences and Technology for Innovation, Yamaguchi University, Faculty of Science, Yamaguchi University, National Institute of Technology, Tsuyama College