OSJ - OSA Joint Symposia Program

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[1,2], Syoji Ito[3], Shiho Tokonami[2,4]
[1]Graduate School of Science, Osaka Prefecture University, [2]Research Institute for Light-induced Acceleration System (RILACS), [3]Graduate School of Engineering and Science, Osaka University, [4]Graduate School of Engineering, Osaka Prefecture University

30aON2 **Optical fabrication and trapping of microspheres in cryogenic conditions**
○Masaaki Ashida[1], Yosuke Minowa[1], Mitsutaka Kumakura[2], Yoshiki Moriwaki[3]
[1]Graduate School of Engineering Science, Osaka University, [2]Graduate School of Engineering, University of Fukui, [3]Department of Physics, University of Toyama

30aON3 **Light induced glycine crystallization by utilizing an optical field possessing optical angular momentum**
○Junhyung Lee[1], Takeshi Murata[1,2], Katsuhiko Miyamoto[1,2], Takashige Omatsu[1,2]
[1]Graduate School of Science and Engineering, Chiba University, [2]Molecular 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
○Mitsuhiro 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**
○Takaha Mizuguch, 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, ○Toshiyuki Mitsui
Aoyamagakuin 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 Yamazaki[1], Rui Hu[1,3], Robert Y. Henley[1], Justin Halman[2], Kirill A. Afonin[2], Dapeng Yu[3], Qing Zhao[3],○Meni Wanunu [1]
[1]Department of Physics, Northeastern University, USA, [2]Department of Chemistry, University of North Carolina, at Charlotte, USA, [3]State Key Laboratory for Mesoscopic Physics, School of Physics, Peking University, PRC

30pON2 **Vortex nearfield with orbital angular momentum enables the chiral mass-transport in nano-scale**
○Keigo Masuda[1], Shogo Nakano[1], Yoshinori Kinezuka[1], Seigo Ohno[2], Daisuke Sakai[3], Kenji Harada[3], Katsuhiko Miyamoto[1,4], Takashige Omatsu[1,4]
[1]Graduate School of Advanced Integration Science, Chiba University, [2]Department of Physics, Graduate School of Science, Tohoku University, [3]Faculty of Engineering, Kitami Institute of Technology, [4]Molecular Chirality Research Center, Chiba University

30pON3 **Creation of helical fiber with ultraviolet optical vortex illumination**
○Junhyung Lee[1], Yoshihiko Arita[2,3], Shunsuke Toyoshima[1], Reimon Matsuo[1], Katsuhiko Miyamoto[1], Kishan Dholakia[2], Takashige Omatsu[1,3]
[1]Graduate School of Science and Engineering, Chiba University, [2]School of Physics and Astronomy, University of St. Andrews, UK, [3]Molecular Chirality Research Center, Chiba University

30pON4 **Twisted Au nano-needle fabricated by optical vortex illumination**
○Yuri Nakamura[1], Tatsuyuki Sugimoto[1], Kai Izumisawa[1], Katsuhiko Miyamoto[1,2], Tsukasa Torimoto[3], Ryuji Morita[4], Keisaku Yamane[4], Takashige Omatsu[1,2]
[1]Chiba University, [2]Molecular Chirality Research Center, Chiba University, [3]Nagoya University, [4]Hokkaido University

30pON5 **Control of crystalline structure and FET property of $MoTe_2$ by laser irradiation**
Kota Kamiya[1], Tomoki Yamanaka[1], Trever Shimokusu[1], Hidemasu Ouchi[1], Kohei Sakanashi[1], Masahiro Matsunaga[1], Peter Kruger[1], Katsuhiko Miyamoto[1], Takashige Omatsu[1], Jonathan P. Bird[2], ○Nobuyuki Aoki[1]
[1]Chiba Univeristy, [2]SUNY Buffalo

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

30pON7 **Subwavelength Color Printing with Mie Resonance-based Si Nanostructures**
○Masafumi Suzuki[1], Yusuke Nagasaki[1], Junichi Takahara[1,2]
[1]Osaka University, [2]Osaka 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, Korea

30pON9 **New chemical reactions based on a non-uniform optical near-field**
○Takashi Yatsui
University of Tokyo

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

30pON11 **Enhancement of signal intensity of low-energy inverse photoelectron spectroscopy by surface plasmon resonance of Ag nanoparticles**
○Ryota Usui[1], Yuki Kashimoto[1], Hiroyuki Yoshida[1,2]
[1]Chiba University, [2]Chiba Chirality

30pON12 **Excitation and probing of infrared nanoantenna modes under oblique illumination**
○Shuta Kitade[1], Shingo Usui[2], Ikki Morichika[1], Kensuke Kohmura[2], Fumiya Kusa[2], Satoshi Ashihara[1,2]
[1]IIS, the Univ. of Tokyo, [2]Tokyo 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

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

30pPL1 **Shaped light for nanophotonics: imaging and manipulation**
○Kishan Dholakia
University of St. Andrews, UK

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, Yaniv Oiknine
Electro-Optics Department, 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. Abdul[1], Naoki Tobita[1], Izumi Nishidate[1], Satoko Kawauchi[2], Shunichi Sato[2]
[1]Graduate School of Bio-Applications & Systems Engineering, Tokyo University of Agriculture and Technology, [2]Division of Bioinformation and Therapeutic Systems, National Defense Medical College Research Institute

30aOD3 **A Bilinear Model for Hyperspectral Fluorescence and Reflectance Imaging**
○Naoyuki Ohara[1], Yinqiang Zheng[2], Tomoya Nakamura[1,3], Imari Sato[1,2], Masahiro Yamaguchi[1]
[1]School of Engineering,Tokyo Institute of Technology, [2]National Institute of Informatics, [3]JST PRESTO

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[1,2]
[1]School of Engineering, Tokyo Institute of Japan, [2]JST PRESTO

30aOD5 **Examining Single Scattering Region in Concentration, Depth, and Wavelength on Diluted Media**
○Kazusa Tsubota[1], Tsuyoshi Takatani[1], Takahito Aoto[2], Kenichiro Tanaka[1], Hiroyuki Kubo[1], Takuya Funatomi[1], Yasuhiro Mukaigawa [1]
[1]Nara Institute of Science and Technology, [2]National Institute of Informatics

30aOD6 **Analysis of FSO Link under Atmospheric Turbulence from First Principle**
○Arka Mukherjee[1], Subrat Kar[2], Virander Kumar Jain[2]
[1]Bharti School of Telecom Tech. and Mgmt., Indian Institute of Technology, Delhi, India, [2]Dept. of Electrical Engg., Indian Institute of Technology, Delhi, India

13:30 - 15:00
OSJ - OSA Joint Symposia
Digital Photonics
Display

30pOD1 【Invite 3】
A holographic 3D display using fast binary phase-mode phase spatial light modulator
○Osamu Matoba
Kobe Univ.

30pOD2 【Invite 4】
Speckle reduction and occlusion processing in mesh based computer generated hologram
○Jae-Hyeung Park
Inha University, Korea

30pOD3 **Image quality evaluation of 3D display based on binary and gray-scale phase modulation by two iterative optimization methods with dummy area**
Syo Harada, Kouichi Nitta, ○Osamu Matoba
Kobe Univ.

30pOD4 **Rewritable droplet array for creating digital 3D display**
Kanta Yamada, Yoshihiro Nishimura, ○Mitsunori Saito
Ryukoku University

15:30 - 16:45
OSJ - OSA Joint Symposia
Digital Photonics
Digital Holography 1

30pOD5 【Invite 5】
Optobiology through Digital Holography: biological matter as photonic device
Pietro Ferraro
Institute of Applied Sciences and Intelligent Systems (CNR-ISASI), Italy

30pOD6 【Invite 6】
Digital holographic inspection systems for industrial applications
○Masayuki Yokota, Kazufumi Takeda, Eiji Kusunoki
Shimane University

30pOD7 **Two-color pump-probe digital holography**
○Yoshio Hayasaki[1], Shin-ichi Fukuda[1], Satoshi Hasegawa[1], Saulius Judokazis[2]
[1]Utsunomiya Univ., [2]Swinburne Univ. Tech.

Tuesday, October 31【Room A】

9:00 - 10:30
OSJ - OSA Joint Symposia
Nanophotonics
Metamaterials

31aON1 【Invite 5】
Phase change materials tuned metamaterials
Weiling Dong[1], Li Lu[1], Li Tian Chew[1], Xilin Zhou[1], Tun Cao[2], ○Robert E. Simpson[1]
[1]Singapore University of Technology and Design (SUTD), Singapore, [2]Dalian University of Technology, China

31aON2 **Filtering aspects of silver nanowire-based hyperbolic metamaterial**
M.A. Baqir, ○P.K. Choudhury, B.Y. Majlis
Institute of Microengineering & Nanoelectronics (IMEN) Universiti Kebangsaan Malaysia

31aON3 **withdraw**

31aON4 **Optical Third-Harmonic Generation in Multilayer Graphene**
Hao Yang[1], Honghua Guan[1], ○Yawen Sun[2], Jerry Dadap[3], Richard M. Osgood[1,3]
[1]Department of Electrical Engineering, Columbia University, [2]School of Optical and Electronic Information, Huazhong University of Science and Technology, [3]Department of Applied Physics, Columbia University

31aON5 **withdraw**

11:00 - 12:00
OSJ - OSA Joint Symposia
Nanophotonics
Quantum Optics

31aON6 【Invite 6】
Diamond light matter quantum interface
○Fedor Jelezko
Ulm University, Germany

31aON7 **Investigation of Tapered Optical Fiber Coated with Graphene Quantum Dots Combined Gold Nanoparticles for Detecting Lard**
○C.H.C. Lah[1,2], N. Jamaludin[3], F.Z. Rokhani[1,5], S.A. Rashid[4,5], ○A.S.M.Noor[1,2]
[1]Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia, [2]Research Centre of Excellence for Wireless and Photonic Network, Faculty of Engineering, Universiti Putra Malaysia, [3]Materials Processing and Technology Laboratory (Nanomaterials and Nanotechnology Group), Institute of Advanced Technology, Universiti Putra Malaysia, [4]Department of Chemical and Environmental Engineering, Faculty of Engineering, Universiti Putra Malaysia, [5]Halal Research and Product Institute, Universiti Putra Malaysia

31aON8 **Spectral control of surface phonon polariton using phase change material for tunable surface enhanced infrared spectroscopy**
○Masaki Nakamura[1], Masashi Kuwahara [2], Toshiharu Saiki[1]
[1]Keio University, [2]National Institute of Advanced Industrial Science and Technology

13:00 - 14:45
OSJ - OSA Joint Symposia
Nanophotonics
Photonic Devices

31pON1 【Invite 7】
Ultra-silicon-rich nitride based devices for high nonlinear figure of merit photonics applications
○D.T.H. Tan[1], D.K.T. Ng[2], K.J.A. Ooi[1], E. Sahin[1], G.F.R. Chen[1], J.W. Choi[1], B.U. Sohn[1], P. Xing[1]
[1]Photonics Devices and Systems Group, Singapore University of Technology and Design, Singapore, [2]Data Storage Institute (A*STAR) Agency for Science Technology & Research, Singapore

31pON2 **Polarizationkeeping research of a dichromatic beam-splitter for laser lights with 780nm and 810nm wavelength**
○Dingquan Liu[1,2,3], ○Gang Chen[1,3], Daqi Li[1], Chong Ma[1], Kaixuan Wang[1,2,3]
[1]Shanghai Institute of Technical Physics, Chinese Academy of Sciences, [2]School of Physical Science and Technology, ShanghaiTech University, [3]University of Chinese Academy of Sciences

31pON3 **On-Chip Waveguide Amplifier Using Rare Earth Doped Polymers.**
○George Chen Fengrong[1], Zhao Xinyu[1], Yang Sun[2], He Chaobin[2], Tan Mei Chee[1], Dawn Tan[1]
[1]Singapore University of Technology and Design, Engineering Product Development , [2]National University of Singapore, Department of Material Science and Engineering

31pON4 **Nano-sized free volume for dye diffusion in a flexible ring laser**
Kazuma Yoneda, Jumpei Nogami, ○Saito Mitsunori
Ryukoku University

31pON5 **Coding two-dimensional images into mode spectrum of silicon microcavity covered with a phase-change layer**
Farrabi Sobhi[1], Yuya Kihara[1], Daichi Kataiwa[1], Yoshihiro Taguchi[1], Masashi Kuwahara[2], ○Toshiharu Saiki[1]
[1]Keio University, [2]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**
○Gang Chen, Dingquan Liu, Chong Ma
Shanghai Institute of Technical Physics, Chinese Academy of Sciences

Tuesday, October 31【Room C】

9:30 - 10:30
OSJ - 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
Institute of Electro-Optical Science and Technology, National Taiwan Normal University, Taiwan

31aOD2 **Investigation of effect of optical elements on the image quality in incoherent Fourier digital holography using a rotational shearing interferometer**
○Takuya Matsuda[1], Takanori Nomura[2]
[1]Graduate School of System Engineering, Wakayama University, [2]Faculty of System Engineering, Wakayama University

31aOD3 **Single-shot in-line digital holography without twin-image using diffused illumination**
○Takanori Nomura[1], Kenichi Nisaka[2]
[1]Faculty of Systems Engineering, Wakayama University, [2]Graduate School of Systems Engineering, Wakayama University

11:00 - 11:45
OSJ - 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, Hirotsugu 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[1], Takehiro Ebata[1], Kazuma Arimori[1], Futa Mochizuki[2], Keiichiro Kagawa[2], Shoji Kawahito[2]
[1]Osaka City University, [2]Shizuoka University

12:45 - 14:45
OSJ - 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[1,2], Masayuki Hattori[1,3]
[1]National Institute for Basic Biology, National Institutes of Natural Sciences, [2]School of Life Science, The Graduate University for Advanced Studies (SOKENDAI), [3]National Astronomical Observatory of Japan, National Institutes of Natural Sciences

31pOD3 **Assessment of cerebral hemodynamics and tissue morphology of rat brain during cortical spreading depolarization with a digital RGB camera**
○Mustari Afrina[1], Takuya Kanie[1], Izumi Nishidate[1], Satoko Kawauchi[2], Shunichi Sato[2], Manabu Sato[3], Yasuaki Kokubo[4]
[1]Graduate School of Bio-Applications & Systems Engineering, Tokyo University of Agriculture and Technology, [2]Division of Bioinformation and Therapeutic Systems, National Defense Medical College Research Institute, [3]Graduate School of Science and Engineering, Yamagata University, [4]Department of Neurosurgery, Yamagata University Faculty of Medicine

31pOD4 **Tissue disorder for label-free diagnosis of biopsies using quantitative phase imaging**
○Masanori Takabayashi[1,2], Hassaan Majeed [2], Andre Kajdacsy-Balla[3], Gabriel Popescu[2]
[1]Kyushu Institute of Technology, [2]University of Illinois at Urbana-Champaign, [3]University of Illinois at Chicago

31pOD5 **Iterative reconstruction method for refractive index tomography based on the transport of intensity equation**
○Aina Ikezaki[1], Takanori Nomura[2]
[1]Graduate School of Systems Engineering, Wakayama University, [2]Faculty of Systems Engineering, Wakayama University

31pOD6 **Monitoring of mitochondrial membrane potential by using two-photon fluorescence microscope**
○Yasutaka Suzuki[1]、Naoya Asamura[1]、Hiroki Moritomo[2]、Jun Kawamata[2]
[1]Faculty of Science, Yamaguchi University, [2]National Institute of Technology, Tsuyama College