Poster Sessions

Tuesday September 6, 2016 (17:30 - 19:00)

Tu-9P-1 **Near-field and Far-field Effects on the Sensitivity of Surface Plasmon Enhanced Fluorescence Spectroscopy**
Sun Song, Wu Lin, Bai Ping and Png Ching Eng, *A*STAR, IHPC, Singapore*

Tu-9P-2 **Quantum Effects in Charge Transfer Plasmons**
A. Manjavacas[1,2], and V. Kulkarni[2], *[1]Department of Physics and Astronomy, University of New Mexico, Albuquerque, USA, [2]Department of Physics and Astronomy and Laboratory for Nanophotonics, Rice University, USA*

Tu-9P-3 **Single Mode Lasing in Vertically Standing Coupled Nanowire Lasers**
R. Ditcovski, and T. Ellenbogen, School of Electrical Engineering, *Tel-Aviv University, Israel*

Tu-9P-4 **Detection of Chiroptical Signal using Plasmonic Nanoparticles**
TaeHyung. Kim, SeokJae. Yoo, and Q-Han. Park, Nano Optics Lab., *Korea University, South Korea*

Tu-9P-5 **Boundary Element Method for 2D Materials and Thin Films**
M. Hrtoň[1], V. Křápek[1,2], and T. Šikola[1,2], *[1]Central European Institute of Technology, Brno University of Technology, Czech Republic ,[2]Institute of Physical Engineering, Brno University of Technology, Czech Republic*

Tu-9P-6 **Near-field Characterization of 2D Disk Resonator on Bloch Surface Wave Platform**
R. Dubey, E. Barakat, M.-S. Kim and H. P. Herzog, Optics &Photonics Technology Laboratory (OPT), *École Polytechnique Fédérale de Lausanne (EPFL), Switzerland*

Tu-9P-7 **Enhancement of Two-photon Photoluminescence for Low Coverage Gold Films**
C. Frydendahl[2], S. M. Novikov[1], J. Beermann[1], N. Stenger[2], N. A. Mortensen[2], and S. I. Bozhevolnyi[1], *[1]Centre for Nano Optics, Institute of Technology and Innovation, University of Southern Denmark, Denmark ,[2]Department of Photonics Engineering, Technical University of Denmark, Denmark*

Tu-9P-8 **Proposal of Nano-Optical Functionality Based on Local Phase-change in Photochromic Materials**
Ryo Nakagomi, Kazuharu Uchiyama, Satoru Kubota, and Hirokazu Hori, *University of Yamanashi, Japan*

Tu-9P-9 **Experimental and Theoretical Investigation of Carrier Dynamics after Local Excitation with Two-Probe SNOM**
K. Iwamoto[1], M. Sakai[1], T. Kougo[1], K. Uchiyama[1], K. Kishino[2], H. Hori[1], A. Ishikawa[1], and K. Kobayashi[1], *[1]University of Yamanashi, Japan , [2]Sophia University, Japan*

Tu-9P-10 **Visualization of Nanometer-scale Geometrical Structure of Optical Near-field Generated on Gold Nano-rods System**
K. Uchiyama, N. Nishikawa, K. Kobayashi, and H. Hori*, University of Yamanashi, Japan*

Tu-9P-11 **Plasmonic Hot Electron Tuning the Absorption and Photoluminescence of MOS_2 Monolayers**
Ziwei Li[1], Zheyu Fang[1,2], *[1]State Key Lab for Mesoscopic Physics, School of Physics, and Academy for Advanced Interdisciplinary Studies, Peking University, China, [2]Collaborative Innovation Center of Quantum Matter, China*

Tu-9P-12 **Optical Near Field Probing of Subwavelength Effective Mode Volumes in Integrated Plasmonic Structures on Silicon**
A. A. Meza Olivo[1,2], K. Garay-Palmett[2], R. Salas-Montiel[1], and S. Blaize[1], *[1]Laboratoire de Nanotechnologie et d'Instrumentation Optique, ICD-CNRS-UMR 6281, Université de technologie de Troyes, France, [2]Departamento de Óptica, Centro de Investigación Científica y de Educación Superior de Ensenada, México*

Tu-9P-13 **Improvement of Spin-Coherence Time of Nitrogen-Vacancy Center in Diamond using Near-field Etching**
R. Nagumo[1], F. Brandenburg[1], R. Igarashi[2,3], F. Jelezko[4], T. Iwasaki[5], M. Hatano[5], and T. Yatsui[1], *[1]School of Engineering, University of Tokyo, Japan, [2]Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Japan, [3]PRESTO, Japan Science and Technology Agency, Japan, [4]Institute for Quantum Optics and Center for Integrated Quantum Science and Technology, Ulm University, Germany, [5]Department of Physical Electronics, Tokyo Institute of Technology, Japan*

Tu-9P-14 **Atom Funnels with Evanescent Light Enhanced by SPR**
D. Nonaka, K. Takahashi, Y. Yokoyama, K. Horita, and H. Ito, *Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan*

Tu-9P-15 **Probing and Controlling the Coherent Coupling between Plasmons and a Single Molecule in a Metallic Nanogap**
Yao Zhang[1,2], Qiu Shi Meng[2], Yang Zhang[2], Yang Luo[2], Yun Jie Yu[2], Li Zhang[2], Ruben Esteban[1], Zhen Chao Dong[2] and Javier Aizpurua[1], *[1]Materials Physics Center CSIC-UPV/EHU and Donostia International Physics Center (DIPC), Spain, [2]Hefei National Laboratory for Physical Sciences at the Microscale, University of Science and Technology of China, China*

Tu-9P-16 **Second Harmonic Generation of Few Layer MoS_2 on Au Film**
Y. Li, M. Kang, W. Chen, SP. Zhang and HX. Xu, *School of Physics and Technology, Center for Nanoscience and Nanotechnology, MOE Key Laboratory of Artificial Micro- and Nano-structures, Wuhan University, China*

Tu-9P-17 **Optimizing Plasmon-Enhanced Fluorescence with Nonlocal Metallic Nanospheres**
C. Tserkezis[1], N. Stefanou[2], M. Wubs[1,3], and N.A Mortensen[1,3], *[1]Technical University of Denmark, Department of Photonics Engineering, Denmark, [2]National and Kapodistrian University of Athens, Department of Solid State Physics Greece, [3]Technical University of Denmark, Center for Nanostructured Graphene, Denmark*

Tu-9P-18 **Synchrotron Infrared Nano-spectroscopy on Graphene/Hexagonal Boron Nitride Metamaterial**

F. C. B. Maia[1], I. Barcelos[2], A. Cadore[2], L. C. Campos[2], A. Malachias[2], K. Watanabe[3], T. Taniguchi[3], R. Freitas[1], and C. Deneke[4], *[1]Laboratório Nacional de Luz Síncrotron (LNLS/CNPEM), Brazil, [2]Departamento de Física, Universidade Federal de Minas Gerais, Brazil., [3]Advanced Materials Laboratory, National Institute for Materials Science, Japan., [4]Laboratório Nacional de Nanotecnologia (LNNano/CNPEM), Brazil*

Tu-9P-19 **Cathodoluminescence for *in situ* Plasmonic Sensing of Beam Effects**

C. Wadell, S. Inagaki, H. Ohnishi, and T. Sannomiya, *Department of Innovative and Engineered Materials, Tokyo Institute of Technology, Japan*

Tu-9P-20 **Near Field Optical Imaging and Spectroscopy of Monolayer and Hetero-structure of Transition Metal Dichalcogenide**

Yongjun Lee[1,2], Min Su Kim[1], Seok Joon Yun[1,2], Changwon Seo[1,2], Seki Park[1,2], Jubok Lee[1,2], Sera Kim[1,2], and Jeongyong Kim[1,2], *[1]Center for Integrated Nanostructure Physics, Institute for Basic Science, Sungkyunkwan University, South Korea, [2]Department of Energy Science, Sungkyunkwan University, South Korea*

Tu-9P-21 **Near Field Photoluminescence Imaging of Polymer Chains by Aperture SNOM**

He-Chun Chou[1], Tai-Chun Liu[1,2], Ping-Chih Hsu[1,2], Su-Hua Chen[2], Chi Chen[1], *[1]Research Center for Applied Science, Academia Sinica, Taiwan, [2]Department of Materials Science and Engineering, National Dong Hwa University, Taiwan*

Tu-9P-22 **Hyperspectral Infrared Nanoimaging Based on Nano-FTIR Spectroscopy**

I. Amenabar[1], S. Poly[1], M. Goikoetxea[1], W. Nuansing[1], P. Lasch[2], and R. Hillenbrand[1,3], *[1]CIC nanoGUNE Consolider, Spain, [2]Proteomics and Spectroscopy (ZBS 6), Robert-Koch-Institut, Germany, [3]IKERBASQUE, Basque Foundation for Science, Spain*

Tu-9P-23 **Tip-enhanced Spectral Imaging for Investigating 2D Materials: Ultra-high Spatial and Optical Resolution**

Dung-Sheng Tsai[1], Po-Hao Chang[2], Su-Hua Chen[2] and Chi Chen[1], *[1]Research Center for Applied Sciences, Academia Sinica, Taiwan , [2]Department of Materials Science and Engineering, National Dong Hwa University, Taiwan*

Tu-9P-25 **Enhancement and Inhibition of Spontaneous Photon Emission by Dielectric Photonic Nanoantennas**

Mathieu Mivelle[1,2], Dorian Bouchet[1], Julien Proust[3], Bruno Gallas[4], Igor Ozerov[5], Maria F. Garcia-Parajo[2,6], Yannick De Wilde[1],Nicolas Bonod[3], Valentina Krachmalnicoff[1], and Sébastien Bidault[1], *[1]ESPCI Paris, PSL Research University, CNRS, Institut Langevin, France, [2]ICFO-Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology, Spain, [3]Aix-Marseille Université, CNRS, Centrale Marseille, Institut Fresnel, France, [4]Sorbonne Universités, UPMC Univ Paris 06, CNRS UMR 7588, Institut des Nanosciences de Paris, France, [5]Aix-Marseille Université, CNRS, CINAM, UMR 7325, France , [6]ICREA-Instituci Catalana de Recerca i Estudis Avan ats, Spain*

Tu-9P-26 **How Tiny Changes in Size and Curvature Strongly Affect the Light Confining Properties of Silver Nanocubes**

Joel Henzie[1,2], *[1]National Institute for Materials Science (NIMS), Japan, [2]International Center for Materials NanoArchitectonics (WPI-MANA), Japan*

Tu-9P-27 **Grains of Plasmonic Nanoprobe for Tip-Enhanced Raman Microscopy**

A. Taguchi, P. Verma, and S. Kawata, *Department of Applied Physics, Osaka University, Japan*

Tu-9P-28 **Probing Localized Surface Plasmon - Chromophore Interactions using Porphyrin-functionalized Au@SiO_2 Core-shell Nanoparticles**

Anna Kelm, Jakub Ostapko, Patrycja Kowalska and Jacek Waluk, *Institute of Physical Chemistry, Polish Academy of Sciences, Poland*

Tu-9P-29 **Electron-fed Optical Antennas**

M. Buret[1], N. Cazier[1], A. V. Uskov[2], I. V. Smetanin[2], I. E. Protsenko[2], G. Colas des Francs[1] and A. Bouhelier[1], *[1]Laboratoire Interdsciplinaire Carnot de Bourgogne, UMR 6303 CNRS, Université Bourgogne Franche-Comté, France, [2]Lebedev Physical Institute, Russia*

Tu-9P-30 **A Plasmonic Enhanced Quantum Cascade Detector Formed into Grooved Cascade Structure Responsive to Top Infrared Irradiation**

K. Nakajima, H. Kamei, K. Tanaka, H. Fujiwara, T. Dougakiuchi, S. Hayashi, and T. Hirohata, *Central Research Laboratory, Hamamatsu Photonics K.K., Japan*

Tu-9P-31 **Tuning Surface Plasmon Modes by Optical Spin-orbit Interaction**

Feng Lin, Wei Liu, Fengkai Meng, Xing Zhu, *School of Physics, State Key Laboratory for Mesoscopic Physics, Peking University, China*

Tu-9P-32 **Dynamics of Few Molecule SERS Spectra Measured on a Single Nanoparticle on Mirror**

Felix Benz, Alexander Dreismann, Rohit Chikkaraddy, Hamid Ohadi, Bart de Nijs, Jeremy J. Baumberg, *NanoPhotonics Centre, Cavendish Laboratory, Department of Physics, JJ Thompson Ave, University of Cambridge, UK*

Tu-9P-33 **SERS of Individual Nanoparticles on a Mirror: Size Does Matter**

Felix Benz, Rohit Chikkaraddy, Andrew Salmon, Hamid Ohadi, Bart de Nijs, Richard W. Bowman, Jeremy J. Baumberg, *NanoPhotonics Centre, Cavendish Laboratory, Department of Physics, JJ Thompson Ave, University of Cambridge, UK*

Tu-9P-34 **Plasmon Polaritons in Periodic Graphene Layers**

Ruey-Lin Chern, *Institute of Applied Mechanics, National Taiwan University, Taiwan*

Tu-9P-35 **Plasmonic Helicity-controlled Conic Metasurface**

Yanjun Bao, and Zheyu Fang, *State Key Lab for Mesoscopic Physics, School of Physics, Peking University, China*

Tu-9P-36 **Long-Range Plasmon-Assisted Energy Transfer between Fluorescent Emitters**

D. Bouchet, D. Cao, R. Carminati, Y. De Wilde and V. Krachmalnicoff, *ESPCI ParisTech, PSL Research University, CNRS, Institut Langevin, France*

Tu-9P-37 **Rapid Fabrication of Plasmonic Crystal using Template Stripping Method**

T. Endo[1], Y. Nagashima[2], A. Iwata[2] and K. Yamada[3], *[1]Osaka Prefecture University, Japan, [2]The University of Tokyo, Japan, [3]Osaka University, Japan*

Tu-9P-38 **Controlled Growth of High Aspect-Ratio Single-crystalline Gold-platelets**

E. Krauss[1], R Kullock[1], G. Stein[1], P. Geisler[1] X. Wu & B. Hecht[1,2], *[1]Nano-Optics & Bio-Photonics Group, Experimentelle Physik 5, Physikalisches Institut, Universität Würzburg, Germany, [2]Röntgen Research Center for Complex Material Systems (RCCM), Germany*

Tu-9P-39 **Probing Quasi-dark Surface Plasmon Modes in Au Nanoring Cavities by Cathodoluminescence**

C. Du, W. Cai, W. Wu, Y. Xiang, M. Ren, X. Zhang, and J. Xu, *The Key Laboratory of Weak-Light Nonlinear Photonics, Ministry of Education, School of Physics and TEDA Applied Physics Institute, Nankai University, China*

Tu-9P-40 **Ultralow-loss CMOS Copper Plasmonic Waveguides**

V. S. Volkov[1,2], D. Yu. Fedyanin[1], D. I. Yakubovsky[1], and R. V. Kirtaev[1], *[1]Laboratory of Nanooptics and Plasmonics, Moscow Institute of Physics and Technology, Russia, [2]Institutsky Lane, Dolgoprudny 141700, Russian Federation Centre for Nano Optics, University of Southern Denmark, Denmark*

Tu-9P-41 **Alloy Materials for Plasmonic Nanoparticles**

Y. Nishijima, *Graduate school of engineering, Yokohama National University, Japan*

Tu-9P-42 **Field Enhancement on Hetero Plasmonic Antenna**

E. Komura[1,2], T. Okamoto[2], and M. Haraguchi[2], *[1]Magnetic Heads & Sensors Business Company, TDK Corp., Japan, [2]Development of Optical System Engineering, Tokushima University, Japan*

Tu-9P-43 **Plasmonic Lens for Ultraviolet Wavelength**

M. Takeda[1], A. Tuchiyama[1], T. Inoue[2], and K. Aizawa[2], *[1]Kyoto Institute of Technology, Japan, [2]Spectroscopy Engineering Division, JASCO Corporation, Japan*

Tu-9P-44 **Plasmonic Demultiplexer Based on Multimode Interference Effects**

K. Nakayama[1], A. Sumimura[1], M. Ota[1, 2], M. Fukuhara[1, 2], Y. Ishii[1] and M. Fukuda[1], *[1]Department of Electrical and Electric Information Engineering, Toyohashi University of Technology, Japan, [2]JSPS Research Fellow, Japan Society for the Promotion of Science, Japan*

Tu-9P-45 **Plasmonic Phase Adjuster using Multi-mode Interference**

R. Watanabe[1], M. Ota[1,2], A. Sumimura[1], M. Ito[1], M. Fukuhara[1,2], Y. Ishii[1], M. Fukuda[1], *[1]Department of Electrical and Electric Information Engineering, Toyohashi University of Technology, Japan, [2]JSPS Research Fellow, Japan Society for the Promotion of Science, Japan*

Tu-9P-46 **Observation of Polarization States of Plasmonic Fields in Rectangular Gold Nanostructures using Near-field Polarimetry**

S. Hashiyada[1], T. Narushima[1,2], and H. Okamoto[1], *[1]The Graduate University for Advanced Studies and Institute for Molecular Science, Japan, [2]PRESTO, Japan Science and Technology Agency, Japan*

Tu-9P-47 **Plasmonic Hot Electron Induced Structural Phase Transition in Monolayer MoS_2**

Yimin Kang[1], Zheyu Fang[1,2], and Xing Zhu[1,2,3], *[1]School of Physics, State Key Lab for Mesoscopic Physics, Peking University, China, [2]School of Physics, Collaborative Innovation Center of Quantum Matter, Peking University, China, [3]The National Center for Nanoscience and Technology, China*

Tu-9P-48 **Fabrication of Gold Nanoparticles on $LiNbO_3$ Substrate for Combination LSPR with Surface Acoustic Waves**

R. Horie[1], R. Suzuki[1], and J. Kondoh[1,2], *[1]Graduate School of Integrated Science and Technology, Shizuoka Univ., Japan, [2]Graduate School of Science and Technology, Shizuoka Univ., Japan*

Tu-9P-49 **Optoelectronics of Metallic Nanojunctions Driven by Single Atoms**

F. Marchesi, M. Barbry, P. Koval, D. Sánchez-Portal and J. Aizpurua, *Materials Physics Center (CSIC-UPV/EHU) and DIPC, Spain*

Tu-9P-50 **Application of Silver Nanoplates for SERS**

N. Takeda[1], H. Kawazumi[2], *[1]Ito Research Institute Co., Japan, [2]Department of Biological and Environmental Chemistry Kindai University, Japan*

Tu-9P-51 **Nanorod-based Plasmonic Substrates with Predefined Optical Resonances**

M. V. Gutiérrez[1] and A. F. Scarpettini[1,2], *[1]Laboratorio de Optoelectrónica y Metrología Aplicada, FRD, Universidad Tecnológica Nacional, Argentina, [2]CONICET, Argentina*

Tu-9P-52 **Near-field Mapping of Single Gold Nano-Particles using Photosensitive Polymers**

H. Ishitobi[1,2], T. Kobayashi[1], and Y. Inouye[1,2], *[1]Department of Applied Physics, Graduate School of Engineering, Osaka University, Japan, [2]Graduate School of Frontier Biosciences, Osaka University, Japan*

Tu-9P-53 **Application of Gap Mode Raman Spectroscopy to Non-metal Materials**

S. Nakae, M. Ishikura, T. Yoshikawa and M. Futamata, *Saitama University, Japan*

Tu-9P-54 **Photocatalytic Reaction of Adsorbed Molecules under a Gap Mode Resonance**

K. Akai, C. Iida and M. Futamata, *Saitama University, Japan*

Tu-9P-55 **Structural Color Generation Based on Surface Plasmonic Resonance using Self-assembled Array of Charged Nano-Spheres**

T. Yoneyama, K. Aoki, and M. Fujii, *Mesoscopic Materials Research Laboratory, Japan*

Tu-9P-56 **A High Sensitivity Label-free Nanosensor using the Gap Mode of Nanoparticle/Nanowire-on-mirror System**

W. Chen, S. Zhang, and H. Xu, *School of Physics and Technology, Center for Nanoscience and Nanotechnology, MOE Key Laboratory of Artificial Micro- and Nano-structures, Wuhan University, China*

Tu-9P-57 **Improvement of Single-nanoparticle Fluorescence Image on Bull's Eye-plasmonic Chip**

S. Izumi[1], C. Hosokawa[2], M. Toma[1], K. Tawa[1,2], *[1]Kwansei Gakuin University, Japan, [2]National Institute of Advanced Industrial Science and Technology, Japan*

Tu-9P-58 **Relationship between Space Control and Optical Properties of a Double-layer Surface Plasmon Wire Grid Polariser**

T. Nakajima[1], A. Motogaito[1,3], H. Miyake[2,3], K. Hiramatsu[1,3], *[1]Graduate School of Eng., Mie Univ., Japan, [2]Graduate School of Reg. Innov., Mie Univ., Japan, [3]The center of Ultimate technology on nano-Electro nics, Mie Univ., Japan*

Tu-9P-59 **Full-color Images Based on Reflective Metarsurface**

Wei-Yi Tsai[1], Yi-Hao Chen[1], Yao-Wei Huang[1], Wei Ting Chen[1], Pin Chieh Wu[1], Chih-Ming Wang[2], Greg Sun[3] and Din Ping Tsai[1,4], *[1]Department of Physics, National Taiwan University, Taipei 10617, Taiwan, [2]Institute of Opto-electronic Engineering, National Dong Hwa University, Taiwan, [3]Department of Engineering, University of Massachusetts Boston, USA, [4]Research Center for Applied Sciences, Academia Sinica, Taiwan*

Tu-9P-60 **Visible Range Plasmons in Chalcogenide Topological Insulators**

A. M. Dubrovkin[1], J. Yin[2], G. Adamo[1], Y. Kiasat[1], B. Qiang[1], Q. J. Wang[1,3], C. Soci[1,2], L. Wang[4], N. I. Zheludev[1,5], *[1]Centre for Disruptive Photonic Technologies, Nanyang Technological University, Singapore, [2]School of Physical & Mathematical Sciences, Nanyang Technological University, Singapore, [3]Centre for OptoElectronics & Biophotonics, Nanyang Technological University, Singapore, [4]School of Applied Sciences, RMIT University, Australia, [5]Optoelectronics Research Centre & Centre for Photonic Metamaterials, University of Southampton, UK*

Tu-9P-61 **Lasing at Visible Wavelengths in Plasmonic Nanoparticle Arrays**

H. T. Rekola, T. K. Hakala, A. I. Väkeväinen, J.-P. Martikainen, A. J. Moilanen, and P. Törmä, *COMP Centre of Excellence, Department of Applied Physics, Aalto University School of Science, Finland*

Tu-9P-63 **Surface Plasmon Resonance by Ultra Intense Laser Field**

H. Habara[1], Y. Mishima[1], P. K. Singh[2], A. Adak[2], G. Chatterjee[2], A. D. Lad[2], P. Brijesh[2], M. Dalui[2], J. Jha[2], S. Tatav, T. M. Trivikram[2], M. Krishnamurthy[2], G. R. Kumar[2], and K. A. Tanaka[2], *[1]Graduate School of Engineering, Osaka University, Japan, [2]Tata Institute of Fundamental Research, India*

Tu-9P-64 **Surface Plasmon Resonance Imaging using Staggered Gold-capped Nanoslit Arrays**

Ming-Yang Pan[1,2], Kuang-Li Lee[1], Likang Wang[2], and Pei-Kuen Wei[1,3,4], *[1]Research Center for Applied Sciences, Academia Sinica, Taiwan, [2]Institute of Photonics Technologies, National Tsing Hua University, Taiwan, [3]Department of Optoelectronics, National Taiwan Ocean University, , Taiwan, [4]Department of Mechanical and Mechatronic Engineering, National Taiwan Ocean University, Taiwan*

Tu-9P-65 **Plasmon-assisted Complete Optical Absorption of Ultrashort Pulses in Nanostructured Graphene**

J. R. M. Saavedra[1], G. Cerullo[2], V. Pruneri[1,3], S. Wall[1], and F. Javier García de Abajo[1,3], *[1]ICFO Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology, Spain, [2]Politecnico di Milano, Italy, [3]ICREA-Institució Catalana de Recerca i Estudis Avançats, Spain*

Tu-9P-66 **Near-field Reflection Spectroscopy of Metal Nanostructures**

H. Mizobata and K. Imura, *School of Advanced Science and Engineering, Waseda University, Japan*

Tu-9P-67 **Development of AFM-SNOM System in Liquid**

Jia-Ru Yu and Chi Chen, *Research Center for Applied Sciences, Academia Sinica, Taiwan*

Tu-9P-68 **Development of a Shear-Force Scanning Near-field Cathodoluminescence Microscope for Characterization of Nanostructures' Optical Properties**

N.-B. Bercu and M. Molinari, *Laboratory of Research in Nanosciences LRN EA4682, University of Reims Champagne Ardenne, France*

Tu-9P-69 **Near Field Spectral Imaging of Surface Phonon-polaritons on SiC with Long Wavelength (Around 10μm) External Cavity Quantum Cascade Laser**

T. Dougakiuchi, Y. Kawada and G. Takebe, *Central Research Laboratories, Hamamatsu Photonics K. K., Japan*

Tu-9P-70 **Tapping Mode SNOM Based on Properly Bended and Attached to Quartz Tuning Fork Glass Fiber-made Probes**

A. Smirnov[1], V. M. Yasinskii[2], D. S. Filimonenko[2], E. Rostova[1], G. Dietler[1], and S. K. Sekatskii[1], *[1]LPMV, IPHYS, Ecole Polytechnique Fédérale de Lausanne, Switzerland, [2]Institute of Physics, National Academy of Sciences of Belarus, Belarus*

Tu-9P-71 **Sensitive Detection of Small Particles in Fluids using Near-field Fiber Probe with Dielectrophoresis**

Yi-Hsin Tai[1], Dao-Ming Chang[2], Ming-Yang Pan[3], Ding-Wei Huang[1], and Pei-Kuen Wei[4], *[1]Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taiwan, [2]Department of Biochemical Science and Technology, National Taiwan University, Taiwan, [3]Institute of Photonics Technologies, National Tsing-Hua University, Taiwan, [4]Research Center for Applied Sciences, Academia Sinica, Taiwan*

Tu-9P-72 **Numerical Demonstration for High-efficiency Nanofocusing of Ultrafast SPP Pulses with an Au Tapered Tip**

Y. Kojima, R. Katano, Y. Masaki and F. Kannari, *Department of Electronics and Electrical Engineering, Keio University, Japan*

Tu-9P-73 **Investigation for the Interaction between Pt Nanoclusters and Capping Polymer Ligands**

Kazuki Tsutsukawa[1], Xin Huang[1], Hidekazu Ishitobi[1,2], and Yasushi Inouye[1,2,3], *[1]Graduate School of Frontier Biosciences, Osaka University, Japan, [2]Department of Applied Physics, Osaka University, Japan, [3]Photonics Advanced Research Center, Osaka University, Japan*

Tu-9P-74 **Plasmon-resonance Thin-film Optical Waveguide for Wide Spectral Range Near-field Scanning Optical Microscope**

Kaifeng Zhang[1], Takehiro Tachizaki[2], Toshihiko Nakata[1], Ichiro Yamakawa[1], and Shin-ichi Taniguchi[1], *[1]Hitachi, Ltd., R&D Group, Japan, [2]School of Engineering, Tokai University, Japan*

Tu-9P-75 **Simultaneous Multiwavelength Infrared Near-field Imaging**

M. Schnell[1,2], I. Amenabar[1], W. Nuansing[1], A. Bittner[1,3], R. Hillenbrand[3,4], P. S. Carney[2,5], *[1]CIC nanoGUNE Consolider, Spain, [2]Beckman Institute for Advanced Science and Technology, U of I UC, Illinois, [3]IKERBASQUE, Basque Foundation for Science, Spain, [4]CIC nanoGUNE Consolider and EHU/UPV, Spain, [5]Department of Electrical and Computer Engineering, University of Illinois Urbana- Champaign, USA*

Tu-9P-76 **Detection of Optical Magnetism with Silicon Nanoparticles**

Lin Sun, Jia Wang and Benfeng Bai, *State Key Laboratory of Precision Measurement Technology and Instruments, Department of Precision Instruments, Tsinghua University, China*

Tu-9P-77 **Apertureless Probe with V-groove Structures for Nanosized Circularly Polarized Light**

Yongfu Cai and Takayuki Ishibashi, *Department of Materials Science and Technology, Nagaoka University of Technology, Japan*

Tu-9P-78 **Imaging Characteristics Analysis of Electron Beam Excitation Assisted Optical Microscope**

T. Okamoto[1], M. Fukuta[1], W. Inami[1, 2], and Y. Kawata[1,2], *[1]Graduate School of Integrated Science and Technology, Shizuoka University, Japan, [2]Research Institute of Electronics, Shizuoka University, Japan*

Tu-9P-79 **Dye-assisted Nonlinear Imaging of Plasmon Modes Excited in Single Gold Nanoplates**

K. Imaeda and K. Imura, *Waseda University, Japan*

Tu-9P-81 **Detection Limits in Infrared Near-field Microscopy of Small Buried Structures and Pushing Them by using Superlens-related Effects**

L. Jung[1], B. Hauer[1], P. Li[1], M. Bornhöfft[2,3] , J. Mayer[2,3], and T. Taubner[1], *[1]Institute of Physics (IA), RWTH Aachen University, Germany, [2]Ernst Ruska-Centre and JARA - Fundamentals of Future Information Technologies, Forschungszentrum Jülich GmbH, Germany, [3]Gemeinschaftslabor für Elektronenmikroskopie, RWTH Aachen University, Germany*

Tu-9P-82 **Ultrafast Control of Plasmonic Nanoantennas Driven by Hot-spot Induced Phase-Transition in VO_2**

L. Bergamini[1,2], Y. Wang[3], J. M. Gaskell[4], Nerea Zabala[1,2], C. H. de Groot[3], D. W. Sheel[4], J. Aizpurua[2] and Otto L. Muskens[3], *[1]Department of Electricity and Electronics, UPV/EHU, Spain, [2]CFM, CSIC-UPV/EHU and DIPC, Spain, [3]Faculty of Physical Sciences and Engineering, University of Southampton, UK, [4]Materials and Physics Research Centre, University of Salford, UK*

Tu-9P-83 **Nonlinear Optical Properties of Cavity Polariton in One Dimensional Photonic Crystal Containing Organic Materials**

M. Suzuki, T. Sakata, R. Takenobu, S. Uemura, H. Miyagawa, M. Funahashi, S. Nakanishi, and N. Tsurumachi, *Department of Advanced Materials Science, Faculty of Engineering, Kagawa University, Japan*

Tu-9P-84 **Second Harmonic Generation from Connected Dimers: a Double Resonant Design Based on Charge Transfer Plasmon**

G. D. Bernasconi[1], V. Flauraud[2], J. Butet[1], J. Brugger[2] and O. J. F. Martin[1], *[1]Nanophotonics and Metrology Laboratory*, [2]Microsystems Laboratory*, *Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland*

Tu-9P-85 **Second Harmonic Generation from Au Nanoprisms at LSPR**

H.Yogo, S. Nihashi, A. Ono, Y. Kawata, A. Sugita, *Faculty of engineering, Shizuoka University, Japan*

Tu-9P-86 **Proximity-interaction between Metamaterial Resonators for the Control of Parasitic Modes**

K. Ito[1,2], H. Toshiyoshi[2], and H. Iizuka[1], *[1]Toyota Central R&D Labs., Inc., Japan, [2]RCAST, The University of Tokyo, Japan*

Tu-9P-87 **Nanofocusing of Hyperbolic Phonon-polaritons in a Tapered Boron Nitride Slab**

A. Yu. Nikitin[1,2], E. Yoxall[1], M. Schnell[1,3], S. Vélez[1], I. Dolado[1], P. Alonso-Gonzalez[1,4], F. Casanova[1,2], L. E. Hueso[1,2] and R. Hillenbrand[1,5], *[1]CIC nanoGUNE, 20018, Donostia-San Sebastián, Spain, [2]IKERBASQUE, Basque Foundation for Science, 48011 Bilbao, Spain, [3]Beckman Institute for Advanced Science and Technology, University of Illinois, 61801, Urbana-Champaign, Illinois, USA, [4]Departamento de Física, Universidad de Oviedo, Spain, [5]CIC NanoGUNE and UPV/EHU, Spain*

Tu-9P-88 **Controlled Fano Resonances in Asymmetric Metamaterials for High-sensitive Surface-enhanced Infrared Absorption**

A. Ishikawa[1,2,3], S. Hara[1], T. Tanaka[2,3,4], Y. Hayashi[1], and K. Tsuruta[1], *[1]Okayama University, Japan, [2]Metamaterials Laboratory, RIKEN, Japan, [3]Innovative Photon Manipulation Research Team, RIKEN, Japan , [4]Tokyo Institute of Technology, Japan*

Tu-9P-89 **Vertical Split-Ring Resonator Based Metasurface for Light Manipulation**

Mu Ku Chen[1], Wei-Lun Hsu[1], Pin Chieh Wu[1], Jia-Wern Chen[1], Ting-Yu Chen[1], Wei Ting Chen[1], Yao-Wei Huang[1], Chun Yen Liao[1], Greg Sun[3] and Din Ping Tsai[1,2], *[1]Department of Physics, National Taiwan University, Taiwan, [2]Research Center for Applied Sciences, Academia Sinica, Taiwan, [3]Department of Engineering, University of Massachusetts Boston, USA*

Tu-9P-90 **Frozen Azimuthal Doughnuts in Near-Zero-Index Media**

A. Marini[1] and F. J. García de Abajo[2], *[1]ICFO-Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology, Spain, [2]ICREA-Institució Catalana de Recerca i Estudis Avançats, Spain*

Tu-9P-91 **Resonant Visible Light Modulation with Graphene**

Renwen Yu[1], Valerio Pruneri[1,2] and F. Javier García de Abajo[1,2], *[1]ICFO-Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology, Spain, [2]ICREA-Institució Catalana de Recerca i Estudis Avançats, Spain*

Tu-9P-92 **Active Modulation of Visible Light with Graphene-loaded Ultrathin Metal Plasmonic Antennas**

Renwen Yu[1], Valerio Pruneri[1,2] and F. Javier García de Abajo[1,2], *[1]ICFO-Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology, Spain, [2]ICREA-Institució Catalana de Recerca i Estudis Avançats, Spain*

Tu-9P-93 **Optically-induced Focused Microjets Assisted by Plasmonic Heat Source**

M. Ishii[1,2], S. Kawamoto[1], K. Iwami[1] and Y. Tagawa[1], *[1]Department of Mechanical Systems Engineering, Tokyo University of Agriculture and Technology, Japan, [2]Research Fellow of Japan Society for the Promotion of Science, Japan*

Tu-9P-94 **Local Refrigeration by Evanescent Anti-Stokes Luminescence**

R. Togawa and K. Kajikawa, *Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan*

Tu-9P-95 **Near-field Based FTIR Spectroscopy for Nanoscale Thermography**

B. Kästner[1], P. Hermann[1], A. Hoehl[1], P. Krzysteczko[2], X. Hu[2], H. W. Schumacher[2], P. Patoka[3], E. Rühl[3], and G. Ulm[1], *[1]Physikalisch-Technische Bundesanstalt (PTB), Germany, [2]Physikalisch-Technische Bundesanstalt (PTB), Germany, [3]Physical and Theoretical Chemistry, Institute for Chemistry and Biochemistry, Freie Universität Berlin, Germany*

Tu-9P-96 **Temperature Determination at the Nanoscale via Tip-enhanced THz-Raman Spectroscopy**

M.V. Balois[1], N. Hayazawa[1,2], F.C. Catalan[2], S. Kawata[3], T. Tanaka[1], T. Yano[4], and T. Hayashi[4], *[1]Innovative Photon Manipulation Research Team, RIKEN, Japan, [2]Surface and Interface Science Laboratory, RIKEN, Japan, [3]Department of Applied Physics, Osaka University, Japan, [4]Department of Electronic Chemistry, Tokyo Institute of Technology, Japan*

Tu-9P-97 **Development & Application of MultiProbe Scanned Probe Microscopy for Thermal and Force Detection of Near-field Optically Excited Phenomena**

David Lewis, Rimma Dekhter, Andrey Ignatov, Anatoly Komissar and Aaron Lewis, *Nanonics Imaging Ltd., Jerusalem, Israel & Department of Applied Physics, The Hebrew University, Israel*

Tu-9P-98 **Thermo-plasmonic Heating Effects with Gold Nanocylinders Arrays Induced with Different Excitation Wavelengths**

D. Spadaro[1], A. Foti[1,2], M.G. Donato[1], A. Magazzù[1], E. Messina[1], C. D'Andrea[1,3], B. Fazio[1], F. Colas[4,5], M. Lamy de la Chapelle[4], P. Albella[6], S. A. Maier[6], O.M. Maragò[1], P. G. Gucciardi[1], *[1]CNR IPCF Istituto per i Processi Chimico-Fisici, Italy, [2]Scuola di Dottorato di Ricerca in Fisica, University of Messina, Italy, [3]Matis IMM – CNR, Italy, [4]Laboratoire CSPBAT, CNRS (UMR 7244), Université Paris, France, [5]Ifremer, RER-RDT-LDCM, France, [6]EXSS Group, Physics Department, Imperial College London, U.K.*

Tu-9P-99 **Submicrometer-sized Heating Source with Laser-heated Micropipette**

M. Kawashima, S. Sakozono, H. Nagasaki, K. Iwami, Y. Ohta, and N. Umeda, *Tokyo University of Agriculture and Technology, Japan*

Tu-9P-100 **Monte Carlo Simulation of Raman Scattering in Homogeneous Turbid Media**

I. Krasnikov[1], A. Seteikin[1], B. Roth[2] and M. Meinhardt-Wollweber[2], *[1]Amur State University, Russia, [2]Hannover Centre for Optical Technologies, Leibniz University Hannover, Germany*

Tu-9P-102 **Fabrication of 3D Colloidal Crystals of Titania and Gold Particles**

J. Yamanaka[1], A. Toyotama[1,2], T. Okuzono[1], F. Uchida[3], H. Ozaki[3], H. Imai[3] and Y. Takiguchi[4], *[1]Nagoya City Univ., Japan, [2]CREST, JST, Japan, [3] Fuji Chemicals Co., Ltd., Japan, [4]TAK System Initiative Co., Ltd., Japan*

Tu-9P-103 **Electron Beam Damage Evaluation of the Biocompatible Film for D-EXA Microscope**

Y. Masuda[1], W. Inami[2] and Y. Kawata[2], *[1]Graduate School of Science and Technology, Shizuoka University, Japan, [2]Research Institute of Electronics, Shizuoka University, Japan*

Tu-9P-104 **Innovative and Strategic Materials Against Various Kinds of Tumor Cells: Preclinical Research on Sugar Dendritic Gd-DTPA Complex MRI Contrast Agents and IER5/Cdc25B Targeted Novel Low-molecular-weight Phospha Sugar Antitumor Agents**

H. Hasegawa[1], M. Yamashita[1], K. Hirakawa[1], R. Makita[1], M. Fujie[2], S. Nakamura[2], T . Oshikawa[3], M. Yamada[1], M. Yamaoka[4], J. Yamashita[1], M. Kondo[1], M. Okita[1], M. Toda[4], K. Ohnishi[2], H. Sugimura[2], M. Sato[5], S. Laurent[6] and R. N. Muller[6], *[1]Graduate School of Science and Technology, Shizuoka University, Japan, [2]Faculty of Medicine, Hamamatsu University School of Medicine, Japan, [3]Department of Chemistry and Biochemistry, Numazu National College of Technology, Japan, [4]Graduate School of Engineering, Shizuoka University, Japan, [5]School of Pharmaceutical Sciences, University of Shizuoka, Japan , [6]Faculty of Medicine, University of Mons, Mons, Hainaut, Belgium*

Tu-9P-105 **Rapid SERS Imaging of Biomolecules using Slit-Scanning Raman Microscopy**

J. Ando[1,2], K. Bando[1], K. Mochizuki[1], K. Dodo[2,3], H. Yamakoshi[3], K. Fujita[1,2], M. Sodeoka[2,3] and S. Kawata[1], *[1]Department of Applied Physics, Osaka University, Japan , [2]AMED-CREST, Japan Agency for Medical Research and Development, Japan, [3]Synthetic Organic Chemistry Laboratory, RIKEN, Japan*

Tu-9P-106 **In Site SERS Study of BPT on Immobilized Silver Nanoparticles using a Chemical Adsorbed Monolayer**
Kenzo Yamaguchi, Miho Maekawachi, and Yoshifumi Suzaki, *Department of Advanced Materials Science, Faculty of Engineering, Kagawa University, Japan*

Tu-9P-107 **Large-scale Form Single-crystalline Silver Film and Applications**
Tomohiro Mori[1,2], Takeshi Mori[2], Yasuhiro Tanaka[1], Yoshifumi Suzaki[1], and Kenzo Yamaguchi[1], *[1]Department of Advanced Materials Science, Faculty of Engineering, Kagawa University, Japan, [2]Industrial Technology Center of Wakayama Prefecture, Japan*

Tu-9P-108 **Novel Preparation of Substrates for Surface Enhanced Infrared Absorption Spectroscopy Based on TEM Grids**
E. Pfitzner, K. Kanevche, K. Ataka, and J. Heberle, *Freie Universität Berlin, Exp. Molecular Biophysics*

Tu-9P-109 **sSNOM Near-field Imaging of IR Resonant Antenna**
K. Kanevche, E. Pfitzner, K. Ataka and J. Heberle, *Freie Universität Berlin, Exp. Molecular Biophysics*