



The 20th Takayanagi Kenjiro Memorial Symposium



The 4th ICNERE Joint Symposium



Research Institute of Electronics, Shizuoka University
Toward Advanced Imaging Science Creation

Date 27-29 November 2018

Location S-Port 3F Conference Hall, Hamamatsu Campus, Shizuoka University
3-5-1 Johoku, Naka-ku, Hamamatsu 432-8011, Japan

Program

Tuesday, November 27

10:00 Opening (Chair: Yasuhiro Hayakawa)

Kiyoshi Ishii (President of Shizuoka University)
Dedi Priadi (Vice Rector of University of Indonesia)
Hidenori Mimura (Director of Research Institute of Electronics, Shizuoka University)

10:15 Plenary Talks (Chair: Yasuhiro Hayakawa)

- Invited Talk ① *New World Created by Image Sensors*
Nobukazu Teranishi (Shizuoka University, University of Hyogo, Japan)
- Invited Talk ② *Time-of-Flight Single-Photon Avalanche Diode Imagers*
Franco Zappa (Politecnico di Milano (POLIMI), Dip. Elettronica, Informazione e Bioingegneria (DEIB), Italy)
- Invited Talk ③ *Conductive thin films for transparent electronics*
Felicia Dacia Iacomi (Faculty of Physics, Al. I. Cuza University, Iasi, Romania)

12:15 Lunch

13:30 Special Talks on Network-Type Joint Research (Chair: Keiichiro Kagawa)

- Invited Talk ① *Electrical/Electrochemical biosensors detecting cancer biomarkers for liquid biopsy*
Miyuki Tabata (Tokyo Medical and Dental University, Japan)
- Invited Talk ② *Sub-1mG MEMS Inertial Sensor for Biomedical Applications*
Daisuke Yamane (Tokyo Institute of Technology, Japan)
- Invited Talk ③ *Arrayed Silicon Ring Resonator Biosensor*
Yoshiteru Amemiya (Hiroshima University, Japan)

15:00 Coffee Break

15:15 Lectures by Takayanagi Prize Winners (Chair: Atsushi Ono)

- Invited Talk ① *High Performance Oxide nanoparticles and Thin Films from Molecular-Designed Precursor Solutions*
Hisao Suzuki (Shizuoka University, Japan)
- Invited Talk ② *Study on high-temperature single-electron tunneling via dopant quantum dots in silicon nanodevices*
Daniel Moraru (Shizuoka University, Japan)
- Invited Talk ③ *High range resolution Time-of-Flight range imagers and their applications*
Keita Yasutomi (Shizuoka University, Japan)
- Invited Talk ④ *Dynamic point spread function engineering with phase-only spatial light modulator*
Yu Takiguchi (Hamamatsu Photonics K.K., Japan)

18:00 Welcome Party (Chair: Atsushi Ono)

North Cafeteria, Hamamatsu Campus, Shizuoka University

Wednesday, November 28

9:00 Registration

9:30 Lectures by Invited Speakers (Room 1) (Chair: Gunawan Wibisono, Norihisa Hiromoto)

Invited Talk **1-1** *Comparative Assessment of Neural-Network Based and PID Control System for UAV Altitude Dynamics*
Benyamin Kusumoputro (University of Indonesia)

Invited Talk **1-2** *Humanics information security: security enhancement using human factors*
Masakatsu Nishigaki (Shizuoka University)

9:30 Lectures by Invited Speakers (Room 2) (Chair: Aries Subiantoro, Kenji Murakami)

Invited Talk **2-1** *Perovskite Solar Cells Based on Organic-Metal Halide Perovskite Materials*
Nji Raden Poespawati (University of Indonesia)

Invited Talk **2-2** *Synthesis of Si-based nanowire and nanosheet bundles for energy device applications*
Hirokazu Tatsuoka (Shizuoka University)

10:30 Group Photo

10:40 Poster Presentations by Young Researchers (Chair: Hirokazu Tatsuoka)

- 1** *Phonon-Drag Contribution on Seebeck Coefficient in Si-Wire Thermopile*
Khotimatul Fauziah (Graduate School of Science and Technology, Shizuoka University)
- 2** *Laser fabrication technique of polyimide nanostructures for development of flexible plasmonic substrate*
Yukio Inoue (Graduate School of Integrated Science and Technology, Shizuoka University)
- 3** *Fabrication of ultra-thin SiGe-on-insulator layer for nanostructured thermoelectric devices*
Goyal Chandra Prakash (Graduate School of Science and Technology, Shizuoka University)
- 4** *Three-dimensional chirped photonic crystals for optical field enhancement fabricated by direct laser writing technique*
Ryosuke Hommura (Graduate School of Integrated Science and Technology, Shizuoka University)
- 5** *Micro-Actuation and Environmental Sensing Using Polymeric Microstructures Fabricated by Direct Laser Writing Technique*
Mae Nishimura (Research Institute of Electronics, Shizuoka University)
- 6** *Continuous Detection of Entry of Cell-Penetrating Peptide Transportan 10 into Single Vesicles*
Md. Mizanur Rahman Moghal (Graduate School of Science and Technology, Shizuoka University)
- 7** *Direct laser writing of spin to orbital angular momentum couplers*
Ryosuke Shoyama (Research Institute of Electronics, Shizuoka University)
- 8** *Laser induced metal nano-patterning with polarization control*
Seiya Toriyama (Graduate School of Science and Technology, Shizuoka University)
- 9** *Characterization of latent 3D laser photoexposure patterns in photoresist created by direct laser writing*
Edy Yulianto (Graduate School of Science and Technology, Shizuoka University)
- 10** *Thermoelectric Characterization of SOI-CMOS-Based Thermocouple-Heater Devices and their Application to Antenna-Coupled Bolometer*
Durgadevi Elamaran (Graduate School of Science and Technology, Shizuoka University)
- 11** *Directivity of SOI Photodiode with Gold Hole Array Grating by FDTD Analysis*
Anitharaj Nagarajan (Graduate School of Science and Technology, Shizuoka University)
- 12** *Characterization of self-assembly gold nanoparticles film for optofluidic applications*
Teguh Handoyo (Graduate School of Science and Technology, Shizuoka University)
- 13** *Synthesis and characterization of ZnO-grown fabrics for flexible thermoelectric power generator.*
Faizan Khan (Graduate School of Science and Technology, Shizuoka University)
- 14** *Terahertz Measurement of Sweat Ducts in Human Skin Using Attenuated Total Reflection Spectroscopy*
Shogo Takahashi (Graduate School of Science and Technology, Shizuoka University)
- 15** *Effect of transbilayer asymmetric packing of lipids on antimicrobial peptide magainin 2-induced pore formation in lipid bilayer*
Moynul Hasan (Graduate School of Science and Technology, Shizuoka University)
- 16** *Direct Patterning of Silver Nano Structures by Electron Beam Irradiation*
Keita Mizuno (Graduate School of Integrated Science and Technology Shizuoka University)
- 17** *Fabrication and tuning of perfect absorber metasurfaces by direct laser write technique*
Subhashri Chatterjee (Graduate School of Integrated Science and Technology, Shizuoka University)
- 18** *Efficient coupling of light to surface phonon polariton by gold grating structure on SiC substrate*
Daichi Hayashi (Graduate School of Science and Technology, Shizuoka University)
- 19** *Interaction of cell penetrating peptide oligoarginine with single cells of Escherichia coli*
Sabrina Sharmin (Graduate School of Science and Technology, Shizuoka University)
- 20** *Orientation Control of Polyazomethine Thin Films by Polarized UV-assisted Vapor Deposition Polymerization*
Yan Tan (Graduate School of Science and Technology, Shizuoka University)
- 21** *Deep muscle NIRS measurement for deformed tissues by pinching*
Yoshihiro Matsuki (Graduate School of Integrated Science and Technology, Shizuoka University)
- 22** *Oxygenation measurement for intestinal tissue and contents using spatially resolved near-infrared spectroscopy*
Keita Suzuki (Graduate School of Integrated Science and Technology, Shizuoka University)

- 23** *Development of ion imaging system with high spatial resolution*
Kiyohisa Nii (Graduate School of Integrated Science and Technology, Shizuoka University)
- 24** *Effect of Membrane Tension on Transbilayer Movement of Lipids*
Samiron Kumar Saha (Graduate School of Science and Technology, Shizuoka University)
- 25** *Novel measurement technique of thermal diffusivity using an SEM/thermography system*
Palanisamy Baskaran (Graduate School of Science and Technology, Shizuoka University)
- 26** *Synthesis of Ge-based Layered Structure for High Capacity Lithium-Ion Storage*
Vimal Saxena (Graduate School of Integrated Science and Technology, Shizuoka University)
- 27** *Low cost and high catalytic 1T and 2H phase MoS₂ nanosheets for counter electrode in dye sensitized solar cell*
K. Silambarasan (Research Institute of Electronics, Shizuoka University/SRM Institute of Science and Technology)
- 28** *Enhanced power factor of novel Cu₄Se_xTe_{2-x} compounds synthesized by two-step ball-milling and hot-pressing technique*
S. Kavirajan (Research Institute of Electronics, Shizuoka University/SRM Institute of Science and Technology)
- 29** *Role of Vertically Aligned Nanorods on the ZnO Thin Film for the Persistent Photocurrent*
Suchada Worasawat (Graduate School of Science and Technology, Shizuoka University)
- 30** *Observation of a power device by scanning capacitance force microscopy using a dissipative force modulation method*
Takeshi Uruma (Graduate School of Science and Technology, Shizuoka University)
- 31** *Fabrication technique for micropillars based on local electrophoretic deposition using a scanning ion conductance microscope*
Masayoshi Yoshioka (Graduate School of Integrated Science and Technology, Shizuoka University)
- 32** *Control of Dopant-Atom Chains in Selectively-Doped Si Nano-Transistors for Single-Electron Transfer Applications*
Adnan Affif (Graduate School of Science and Technology, Shizuoka University)
- 33** *Analysis of Single-Electron Tunneling via Donor-induced Quantum Dots in Si Nanoscale Esaki Diodes*
Gaurang Prabhudesai (Japan Institute of Science and Technology (JAIST), Nomi, Japan)
- 34** *Deep UV SPR for the enhancement of photoelectron emission*
Hirofumi Morisawa (Graduate School of Science and Technology, Shizuoka University)
- 35** *Simulation of Multi-Exposure Laser Speckle Contrast Blood Flow Imaging with Multi-Tap Charge Modulation Pixels*
Panneer Selvam Sivakumar (Graduate School of Science and Technology, Shizuoka University)
- 36** *Synthesis of crosslink polymer through host guest inclusion polymerization approach.*
Hoque Mohammed Jabedul (Graduate School of Science and Technology, Shizuoka University)
- 37** *Fabrication of independent top electrode on the surface of hemispherical PZT thin film in the array structure*
Sridevi Meenachisundaram (Graduate School of Science and Technology, Shizuoka University)
- 38** *Sparse deconvolution of structured illumination microscope image*
Hirohito Kondo (Research Institute of Electronics, Shizuoka University)
- 39** *A Wide Dynamic Range (WDR) CMOS Image Sensor with Gated Dual Storage Diodes.*
Minho Lee (Graduate School of Science and Technology, Shizuoka University)
- 40** *Visualization of charge distribution of biological tissues without staining using scanning ion conductance microscopy*
Yuichiro Katsura (Graduate School of Integrated Science and Technology, Shizuoka University)
- 41** *TiO₂-Graphene Oxide Composite Fabricated QCM for Gas Sensing under UV Irradiation*
Savidya Jayawardena (Graduate School of Science and Technology, Shizuoka University)
- 42** *One-step growth of vertically aligned rutile TiO₂ nanorod arrays on FTO substrate for the dye-sensitized solar cell applications*
S. Nithiananth (Graduate School of Science and Technology, Shizuoka University)

12:30

Lunch

13:40

Contributed Papers 1 (Room 1) (Chair: Abdul Halim, Daniel Moraru)

- 1-1** *Design and Experiment for Ship Detection using Wireless Sensor Network*
Ajib Setyo Arifin (University of Indonesia)
- 1-2** *Analysis of Cooperation Policies for Over the Top Internet Video Service Provider with Telecommunication Operator in Indonesia*
Gunawan Wibisono (University of Indonesia)
- 1-3** *Performance Evaluation of Median Filter In Modeling Household Electric Load Profile*
Abdul Halim (University of Indonesia)
- 1-4** *Crossed Technique for Bandwidth and Gain Enhancement of Terahertz Planar Bowtie Antenna*
Catur Apriono (University of Indonesia)
- 1-5** *Computational Microscopy toward Light-field Acquisition and Super-resolution*
Shin Usuki (Shizuoka University)

Wednesday, November 28

13:40 Contributed Papers 1 (Room 2) (Chair: Purnomo S. Priambodo, Yukinori Ono)

- 2-1** *Fabrication of Organic Light Emitting Diode using Vacuum Free Lamination Method on Different Anode and Substrate Materials*
Arief Udhiarto (University of Indonesia)
- 2-2** *Multichannel long-period fiber grating realized by using the helical sampling approach*
Chengliang Zhu (Shizuoka University)
- 2-3** *Semiconductor Laser Coherency in Relationship to The Linewidth: An Analysis*
Purnomo Sidi Priambodo (University of Indonesia)
- 2-4** *Energy Inefficiency on Battery Internal Resistance and Application*
Harry Sudibyo (University of Indonesia)
- 2-5** *Solution derived low temperature synthesis of cage structured $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ particles*
Naonori Sakamoto (Shizuoka University)

14:55 Coffee Break

15:25 Contributed Papers 2 (Room 1) (Chair: Eko T. Rahardjo, Hiroshi Inokawa)

- 1-6** *Size Reduction of Cavity Backed Slot Antenna with Half Mode Substrate Integrated Waveguide Structure*
Eko Tjipto Rahardjo (University of Indonesia)
- 1-7** *Tissue-Mimicking Model for Bioelectromagnetics Study in Microwave Frequency*
Basari (University of Indonesia)
- 1-8** *State Space Event Based Model for Simulation of Power Electronics System*
Feri Yusivar (University of Indonesia)
- 1-9** *Comparison Accuracy K-NN and WD-NN Method In Predicted Wind Power Model on Wind Farm Pandansimo*
Ane Prasetyowati (University of Indonesia)
- 1-10** *Highly Accurate Daily Solar Radiation Forecasting using SW-SVR for Hybrid Power Plant in Indonesia*
Prasetyo Aji (Shizuoka University)
- 1-11** *High accuracy and high resolution terahertz spectroscopy for impurity detection in pharmaceutical drugs*
Tetsuo Sasaki (Shizuoka University)

15:25 Contributed Papers 2 (Room 2) (Chair: Arief Udhiarto, Jun Kondoh)

- 2-6** *BaSnO₃ based perovskite materials for thermoelectric applications*
Palani Rajasekaran (Shizuoka University)
- 2-7** *Vertically aligned MoS₂ nanostructured thin film for thermoelectric application*
R. Abinaya (Shizuoka University)
- 2-8** *Surface acoustic wave sensors for gas and liquid monitoring*
Jun Kondoh (Shizuoka University)
- 2-9** *Analysis of Small-Scale Electrohydrodynamic Drying Device for Rough Rice using Response Surface Methodology*
Tomy Abuzairi (University of Indonesia)
- 2-10** *Phase relaxation of hole-spin superposition in GaAs/AlGaAs quantum wells*
Tetsu Ito (Shizuoka University)
- 2-11** *High spatial resolution ion imaging with potentiometric sensor using an electron beam*
Wataru Inami (Shizuoka University)
- 2-12** *Adaptive Cruise Control Based on Multistage Predictive Control Approach*
Fauzan Muzokir, Feri Yusivar, and Aries Subiantoro (Department of Electrical Engineering, Faculty of Engineering, Universitas Indonesia)

17:15 Award Ceremony and Closing (Chair: Hiroya Ikeda)

18:30 Banquet (Chair: Daniel Moraru)

Hotel Concorde Hamamatsu

Co-organized by Research Institute of Electronics and Graduate School of Science and Technology, Shizuoka University

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