10:30 *Coffee Break*

10:50 **PL1: Plenary Session 1**
(Chair: Prof. Suzuki)

Invited Talk ❶ ***High reflection coating on a silver nanorod array for enhanced directional scattering***
Yi-Jun Jen
(National Taipei University of Technology, Taiwan)

11:20 **CP2: Collaborative Project Supported by Special Budget for Education and Research**
(Chair: Prof. Suzuki)

Invited Talk ❶ ***Sensor surfaces***
Saulius Juodkazis
(Swinburne University of Technology, Australia)

Invited Talk ❷ ***Phosphorescence and long after glow property of $MSi_2O_2N_2$:Eu (M=Ca, Sr, Ba) powder***
Hidetoshi Miyazaki
(Shimane University, Japan)

12:20 *Lunch*

14:10 **NM2: Researches by New Members of RIE**
(Chair: Prof. Hayakawa)

❶ ***Designing CMOS image sensors as a key building block of new camera systems***
Keiichiro Kagawa, Taishi Takasawa, Min-Woong Seo, Keita Yasutomi, and Shoji Kawahito
(RIE, Shizuoka University, Japan)

❷ ***Continuous wave GaP terahertz signal generator for industrial use***
Tetsuo Sasaki[1], Tadao Tanabe[2], and Jun-ichi Nishizawa[3]
([1]RIE, Shizuoka University, [2]Institute of Multidisciplinary Research for Advanced Materials, [3]Nishizawa Center, Tohoku University, Japan)

❸ ***Functions of Lipid in the Photosynthetic Membranes***
Koichiro Awai[1,2,3], Hiroyuki Ohta[4,5,6], and Naoki Sato[6,7]
([1]Graduate School of Science, [2]RIE, Shizuoka University, [3]JST, PRESTO, [4]Center for Biological Resources and Informatics, [5]Earth-Life Science Institute, Tokyo Institute of Technology, [6]JST, CREST, [7]Graduate School of Arts and Sciences, University of Tokyo, Japan)

❹ ***Flower/pillar structured InN crystals grown by HCVD method under atmospheric pressure***
Naonori Sakamoto[1], Haruka Sugiura[2], Tomohiro Murase[3], Yumiko Kodama[4], Takanori Kiguchi[4], Toyohiko Konno[4], Naoki Wakiya[1], and Hisao Suzuki[1]
([1]RIE, [2]Graduate School of Science and Technology, [3]Graduate School of Engineering, Shizuoka University, [4]Institute for Materials Research, Tohoku University, Japan)

❺ ***Resolution-improved Optical Imaging by Low-coherence Interference Illumination***
Shin Usuki, Tomohiro Takada, and Kenjiro T. Miura
(Research Institute of Electronics, Shizuoka University, Japan)

16:00 *Closing*

Hideki Asai
(Symposium Chair)

Organizer: Research Institute of Electronics, Shizuoka University

Information: http://www.rie.shizuoka.ac.jp/ Contact: TEL 053-478-1301 FAX 053-478-1651

The 16th Takayanagi Kenjiro Memorial Symposium

Research Institute of Electronics, Shizuoka University

Toward Advanced Imaging Science Creation

-Interdisciplinary Innovation in Nano Vision, Materials Science, and Mechatronics-

DATE November 11 and 12, 2014, Registration Fee: Free

Location Sanaru Hall, Hamamatsu Campus, Shizuoka University
3-5-1 Johoku, Naka-ku, Hamamatsu 432-8011, Japan.

Program

Tuesday, November 11

10:00 **Opening (Chair: Prof. Asai)**
Y. Ito (President of Shizuoka University)
T. Usui (Trustee of Shizuoka University)
H. Mimura (Director of Research Institute of Electronics, Shizuoka University)

10:15 **PL1: Plenary Session 1**
(Chair: Prof. Asai, Prof. Tabe)

Invited Talk ❶ ***Strain engineering via octahedral distortions in epitaxial perovskite oxide films***
Arturas Vailionis
(Stanford University,USA)

Invited Talk ❷ ***TeraByte/s Data-bandwidth TSV and Interposer Design for 2.5D and 3D IC***
Joungho Kim
(KAIST, Korea)

Invited Talk ❸ ***Beam focusing/imaging in reflections from sub-wavelength gratings***
Yu-Chieh Cheng
(Universitat Politècnica de Catalunya, Spain)

Invited Talk ❹ ***Bio-inspired Nonlinear Nano-devices for Coexisting with Fluctuation***
Seiya Kasai
(Hokkaido University, Japan)

12:15 *Lunch*

14:00 **CP1: Collaborative Project Session 1**
(Chair: Prof. Ikeda)

Invited Talk ❶ ***Methodology of single atom control for quantum processing in silicon and diamond***
Takahiro Shinada
(Tohoku University, Japan)

Invited Talk ❷ ***Application of terahertz imaging in pharmaceutical sciences***
Tomoaki Sakamoto
(National Institute of Health Sciences, Japan)

15:00

PS1: Young Researcher's Presentation (Poster Viewing)

❶ ***Contribution of Phonon Transport to Seebeck Coefficient of P-Doped SOI Layer***
F. Salleh[1], T. Oda[1], Y. Suzuki[1], Y. Kamakura[2], and H. Ikeda[1]
([1]RIE, Shizuoka University; [2] Graduate School of Engineering, Osaka University, Japan)

❷ ***Study on the Theoretical Estimation of Phonon-Drag Part of Seebeck coefficient between Ge-on-insulator and Si-on-insulator***
V. Manimuthu[1], S. Yoshida[2], Y. Suzuki[2], F. Salleh[2], and H. Ikeda[2]
([1]Graduate School of Science and Technology, [2]RIE, Shizuoka University, Japan)

❸ ***Visualization of entry of cell-penetrating peptide transportan 10 into a single vesicle by translocating across lipid membrane and its induced pores***
Md. Zahidullslam[1], H. Ariyama[1], J. Md. Alam[2], and M. Yamazaki[1,2],
([1]Graduate School of Science and Technology, [2]RIE, Shizuoka University, Japan)

❹ ***Visualization of initial step of pore formation induced by antimicrobial peptide magainin 2***
J. Md. Alam[1], Md. Abu Sayem Karal[2], T. Takahashi[3], V. Levadnay[4], and M. Yamazaki[1,2,3]
([1]RIE, [2]Graduate School of Science and Technology, [3]Faculty of Science, Shizuoka University, Japan, [4]Russian Academy of Sciences, Russia)

❺ ***Psychological states to sound stimuli evaluated by alpha wave***
Xi Chen[1], Y. Mizutani[3], I. Takahashi[1], Y. Okita[1,2], H. Hirata[3], and T. Sugiura[1,2,3]
([1]Graduate School of Science and Technology, [2]Graduate School of Engineering, [3]RIE, Shizuoka University, Japan)

❻ ***Stress induced effect of Ca-doped Barium Zirconate Titanate thin filmsby RF magnetron sputtering***
T. Arai[1], Y. Kamai[2], N. Sakamoto[3], T. Ohno[4], T. Matsuda[4], N. Wakiya[3], and H. Suzuki[3]
([1]Graduate School of Science and Technology, [2]Graduate School of Engineering, [3]RIE, Shizuoka University, 4Kitami Institute of Technology, Japan)

❼ ***Low-temperature spectroscopy of donor states in silicon nano-channels***
D. Moraru, A. Samanta, T. Tsutaya, Y. Takasu, T. Mizuno, and M. Tabe
(Research Institute of Electronics, Shizuoka University, Japan)

❽ ***Single Electron Transport in Double-Donor System at Si/SiO_2Interface in Ultrathin SOI-FETs***
A. Samanta, D. Moraru, T. Mizuno, and M. Tabe
(Research Institute of Electronics, Shizuoka University, Japan)

❾ ***KPFM observation of donors in field effect transistor channel***
K. Tyszka[1,2],D. Moraru[1], T. Mizuno[1], R. Jablonski[2], and M. Tabe[1]
([1]RIE, Shizuoka University, Japan, [2]Warsaw University of Technology, Poland)

❿ ***Development of microparticle manipulation by optically controllable electrophoresis***
T. Nagashima[1], W. Inami[1], and Y. Kawata[1,2]
([1]Graduate School of Engineering, [2]RIE, Shizuoka University, Japan)

⓫ ***Surface hydrophilicity control of silicon nitride for cell culture***
Y. Masuda[1], Y. Nawa[2], T. Furukawa[2], S. Lin[2], W. Inami[3], and Y. Kawata[2]
([1]Graduate School of Science and Technology, [2]RIE, [3]Graduate School of Engineering, Shizuoka University, Japan)

⓬ ***Fabrication of luminescent thin films for electron beam excitation assisted optical microscope***
T. Furukawa[1,4], S. Kanamori[2], M. Fukuta[2], Y. Nawa[1,4], H. Kominami[1], Y. Nakanishi[1], A. Sugita[3], W. Inami[1,4], and Y. Kawata[1,4]
([1]RIE, [2]Faculty of Engineering, [3]Department of Materials Science, Shizuoka University, [4]CREST, Japan Science and Technology Agency, Japan)

⓭ ***The evaluation of cathodoluminescence analysis excited in Y_2O_3: Eu^{3+} luminescent thin film***
M. Fukuta[1], W. Inami[2], A. Ono[2], and Y. Kawata[2]
([1]Graduate School of Science and Technology, [2]RIE, Shizuoka University, Japan)

⓮ ***High Sensitive Bioimaging using Surface Plasmon Resonance in Deep Ultraviolet Region***
M. Kikawada[1], A. Ono[2,3,4], W. Inami[2,3,4], and Y. Kawata[1,2,4,5]
([1]Graduate School of Science and Technology, [2]RIE, [3]Department of Electronics and Materials Science, Shizuoka University, [4]CREST, Japan Science and Technology Agency, [5]Department of Mechanical Engineering, Graduate School of Engineering, Shizuoka University, Japan)

⓯ ***Label-free organelle imaging with high spatial resolution by D-EXA microscopy***
Y. Nawa[1,2], W. Inami[1,3], A. Ono[1,3], S. Lin[1], Y. Kawata[1,3], and S. Terakawa[3]
([1]RIE, Shizuoka University, [2] Research Fellow of the Japan Society for the Promotion of Science, [3]CREST, Japan Science and Technology Agency, [4]Faculty of Health Science, Tokoha University, Japan)

⓰ ***Analysis of the metallic nanostructure surface plasmon modes by the cathodoluminescence method***
M. Kawashima[1], A. Ono[2,3], W. Inami[1,2,3], and Y. Kawata[1,2,3]
([1]Graduate School of Science and Technology, [2]JST-CREST [3]RIE, Shizuoka University, Japan)

⓱ ***The Characteristics of Nanocrystalline $MgFe_2O_4$ Spherical Particles Prepared by Ultrasonic Spray Pyrolysis Method for Hyperthermia Applications***
H. Das[1,2], N. Sakamoto[3], H. Aono[4], K. Shinozaki[5], H. Suzuki[1,3], and N. Wakiya[1,3]
([1]Graduate School of Science and Technology, Shizuoka University, Japan [2]Bangladesh Atomic Energy Commission, Bangladesh, [3]Research Institute of Electronics, Shizuoka University, [4]Ehime University, [5]Tokyo Institute of Technology, Japan)

⓲ ***Hydrothermal growth of three dimensional ZnO nanostructures from one dimensional nanorods and functional properties***
M. Navaneethan, J. Archana, T. Koyama, andY. Hayakawa
(Research Institute of Electronics, Shizuoka University, Japan)

⓳ ***Hydrothermal synthesis of mesoporous TiO_2 spheres and the performance of dye sensitized solar cells***
J. Archana, M. Navaneethan, T. Koyama, and Y. Hayakawa
(Research Institute of Electronics, Shizuoka University, Japan)

⓴ ***Energy transferred emission of $NaGdF_4$:Yb:Tm@$NaGdF_4$ /$Cs_2Mo_6Br_{14}$***
D. Thangarajua[4], P. Gredin[1], M. Mortier[1], T. Aubert[2], C. Neaime[2], S. Cordier[2], F. Grasset[2] , R. Karthikeyan[3,4], T.Koyam[1,4], M. Arivanathan[4], and Y. Hayakawa[4]
([1]UPMC-Chimie ParisTech, France, [2]Universit. de Rennes, France, [3]GSST, [4]RIE, Shizuoka University, Japan)

㉑ ***Development of high sensitivity photodetector using amorphous selenium and diamond cold cathode***
T. Masuzawa[1], J. Ochiai[2], A. Ohata[2], R. Tsukimura[2], M. Onishi[2], T. Ebisudani[2], I. Saito2, T. Yamada[3], Y. Neo[1], H. Mimura[1], and K. Okano[2]
([1]RIE, Shizuoka University, [2]International Christian University, [3]AIST, Japan)

㉒ ***P(VDF:TrFE/75:25) Nanofibers web for Piezoelectric device***
M. Noyori,Y.Neo, and H.Mimura
(RIE, Shizuoka University, Japan)

㉓ ***Fast Circuit Transient Simulation based on Multi-GPU LIM***
Y. Inoue[1], and H. Asai[2]
([1]Graduate School of Engineering, [2]Research Institute of Electronics, Shizuoka University, Japan)

17:30 *Reception (Chair: Prof. Suzuki)*
North Cafeteria, Hamamatsu Campus, Shizuoka University

Wednesday, November 12

9:00

TP2 : Lectures of Takayanagi Prize Winners (Chair: Prof. Kawata)

Invited Talk ❶ ***Effect of gravity on the dissolution and growth processes of InGaSb ternary alloy bulk semiconductor***
Yasuhiro Hayakawa
(RIE, Shizuoka University, Japan)

Invited Talk ❷ ***Single-shot measurement of terahertz temporal waveforms using probe pulse with tilted pulse front***
Yoichi Kawada
(Hamamatsu Photonics K. K., Japan)

Invited Talk ❸ ***Inverter Frequency and Transformer for Low Frequency Power Transmission***
Atsushi Nakata
(Shizuoka Institute of Science and Technology)

Invited Talk ❹ ***Single-crystalline organic semiconductor microcavities***
Kazuki Bando
(Graduate School of Science, Shizuoka University, Japan)