



The 9<sup>th</sup> Takayanagi Kenjiro  
Memorial Symposium  
Research Institute of Electronics, Shizuoka University

The 4<sup>th</sup> International Symposium  
on Nanovision Science  
The 21st century COE program, Shizuoka University



# Nanospace Manipulation of Photons and Electrons for Nanovision Systems

**D**ATE

October 29 and 30, 2007

Registration Fee : Free

**L**ocation

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

**Program**

10:00

**Opening**

Naotaka Oki (President of Shizuoka University)  
Hidenori Mimura (Director of Research Institute of Electronics, Shizuoka University)

10:10

**Session 1 : Plenary Talks**

- ① **Plasmonic Coupling for Nano Imaging and Nano Recording**  
Din Ping Tsai (National Taiwan University, Taiwan)
- ② **Technical Development toward Implementation of Super Hi-Vision System**  
Kenkichi Tanioka (Science and Technical Research Laboratories, NHK, Japan)
- ③ **Origin of the Ferromagnetism in ZnO Based DMS and Its Application to OLED**  
Se-Young Jeong (Pusan National University, Korea)

12:10

*Lunch*

13:30

**Session 2 : Advanced Optoelectronic Devices and Human Interfaces**

- Invited Talk
- ① **Progress in Uncooled Infrared Focal Plane Arrays**  
Masafumi Kimata (Ritsumeikan University, Japan)
  - ② **Recent Progress in Field Emission Displays and Vacuum Nanotechnology**  
Masayuki Nakamoto (Shizuoka University)
  - ③ **Micromachined Probes as Tools for Bio/Nano Technology**  
Gen Hashiguchi (Shizuoka University)
  - ④ **Non-invasive Measurement of Deep Brain Temperature in New-Born Infants by Multi-Frequency Microwave Radiometry**  
Toshifumi Sugiura (Shizuoka University)
  - ⑤ **Quasi-Solid Electrolytes for Dye-Sensitized Solar Cells**  
Oliver A. Ileperuma (Shizuoka University, Japan and Peradenya University, Sri Lanka)

15:30

*Coffee Break*

15:50

**Session 3 : Highlights of the 21st Century COE program**

- ① **Overview of the 21st Century COE program at Shizuoka University**  
Hidenori Mimura (Shizuoka University)
- ② **Photon Emission**  
Hidenori Mimura (Shizuoka University)
- ③ **Photon Detection**  
Shoji Kawahito (Shizuoka University)
- ④ **Information and Human Technology**  
Norihisa Hiromoto (Shizuoka University)

17:00

*Reception (~19:00)* Sanaru Hall, Hamamatsu Campus, Shizuoka University

10/29  
Monday



# Nanospace Manipulation of Photons and Electrons for Nanovision Systems

## Program



9:00

### Session 4 : Photon Emission

- Invited Talk
- ① **Development of Nano and Composite Phosphor Materials for LED Lighting and Display Device Applications**  
Muniasamy Kottaisamy (Kalasalingam University, India)
  - ② **Self-Organized Synthesis of ZnO-Based and Carbon Nanostructures**  
Jiro Temmyo and Atsushi Nakamura (Shizuoka University)
  - ③ **Slow Light in Coupled-Resonator-Induced Transparency**  
Makoto Tomita and Kouki Totsuka (Shizuoka University)
  - ④ **Approach to the Fabrication of Nanostructure-Embedded GaN-Based Crystalline Particles**  
Kazuhiko Hara (Shizuoka University)

10:25

*Coffee Break*

10:45

### Session 5 : Photon Detection

- Invited Talk
- ① **High-Sensitivity CMOS Imagers-Challenges, limits, and trade-offs**  
Bedabrata Pain (California Institute of Technology, USA)
  - ② **Nanofabrication with a Femtosecond Laser and Its Application for Data Storage**  
Yoshimasa Kawata (Shizuoka University)
  - ③ **Single-Electron Devices: Interplay with Individual Dopants**  
Michiharu Tabe (Shizuoka University)
  - ④ **ARTS Noise Reduction Technique for High-sensitivity CMOS Image Sensors**  
Shoji Kawahito (Shizuoka University)

12:10

*Lunch*

13:30

### Session 6 : Young Researcher's Presentation

／ Part 1: Short Oral Presentations (13:30-14:30)

／ Part 2: Poster Presentations (14:30-15:45)

15:45

### Session 7 : Information and Human Technology

- Invited Talk
- ① **Terahertz Sensing and Imaging Technology**  
Xi-Cheng Zhang (Rensselaer Polytechnic Institute, USA)
  - ② **Development of Video-Based Gaze Detection Systems for Human Monitoring**  
Yoshinobu Ebisawa (Shizuoka University)
  - ③ **Terahertz Detectors and Sensing for the Ground Use**  
Norihsa Hiromoto (Shizuoka University)

16:55

*Closing*