

Nanovision Research Division

▪ Three Dimensional Modeling & Noise Simulation Lab

Three-dimensional SI/PI/EMI simulation technology and design optimization for automotive electronics H. Asai

▪ Imaging Devices Lab

Image sensor research and development for ultra-high time, spatial and amplitude resolutions S. Kawahito

Image sensors for high sensitivity and high energy physic N. Teranishi

Ultra-high-speed, ultra-high-sensitivity, and functional multi-aperture camera K. Kagawa

Time-of-Flight CMOS image sensors with sub-mm range resolution K. Yasutomi

Time-resolved CMOS image sensors with sidewall electric field modulation pixels for fluorescence lifetime

imaging microscopy Z. Li

▪ Vision Integration Lab

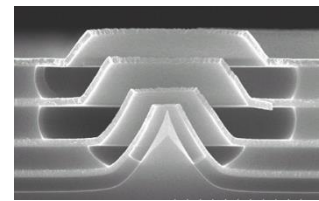
Electron sources for vacuum nanoelectronics H. Mimura

Study of potassium ion electret and its application to MEMS devices G. Hashiguchi

Advanced radiation imaging and its application T. Aoki

Superradiant smith-percell emission in tera hertz region Y. Neo

Spin state control in semiconductor nano structure T. Ito



MEXT JOINT USAGE/RESEARCH CENTER Imaging Device Research Center



Ministry of Education,
Culture, Sports, Science and
Technology, MEXT



Advanced Device Research Division

▪ Nanosystem Integration Lab

Research on integrated nanodevices for circuits and systems H. Inokawa

Development of super resolution imaging device by surface plasmon resonance A. Ono

Study on label-free biosensing using SOI integrated circuits with surface plasmon antenna H. Satoh

▪ Nanodevice Lab

Dopant-atom devices based on silicon nanostructures M. Tabe

Fabrication of micro- and nano-photonic structures by femtosecond laser lithography V. Mizeikis

High-sensitivity infrared photodetector and high-efficiency thermoelectric power generator using silicon nanowires H. Ikeda

Tunneling Silicon nano-transistors using dopant atoms D. Moraru

Nanomaterials Research Division

▪ Nanomaterials Integration Lab

Chemical processing of ceramic thin films and nanoparticles H. Suzuki

Preparation of functional ceramic thin films via vapor phase processing N. Wakiya

Nano-structure analysis of thin films by TEM and AFM N. Sakamoto

▪ Material Science Lab

Crystal growth of energy-related high quality materials Y. Hayakawa

Fabrication of novel nitride-based light-emitting materials and their application for DUV light sources K. Hara

Defect engineering for high quality energy-related semiconducting materials M. Arivanandhan

▪ Biomembrane Dynamics Imaging Lab

Investigation on functions and dynamics of biomembranes using the single GUV method M. Yamazaki

Physiological significance of lipids in photosynthetic organisms K. Awai

Single crystallization of lipidic cubic phase and its application to phase transition study T. Oka

Biomedical Photonics Research Division

▪ Optical Science Lab

High resolution optical imaging with electron beam excitation for biological applications Y. Kawata

Development of microscope techniques for micro and nano meter scale manipulation of biological samples F. Iwata

Optical microscopy beyond the diffraction limit W. Inami

Three dimensional in-process measurement and geometric modeling for the nano-micro manufacturing industry

S. Usuki

▪ Biomedical Sensing Systems Lab

Five-band microwave radiometer system for non-invasive measurement of deep brain temperatures T. Sugiura

Development of terahertz laser spectrometer and its application to detect molecular defects T. Sasaki

Non-invasive hemodynamic measurement system using visible and near-infrared spectroscopy M. Niwayama

International Collaboration

Academy of Science of Moldova
 Albert Ludwigs University
 Budapest University of Technology and Economics
 Carleton University
 Chernivtsi Yury Fedkovych National University
 Greek Atomic Energy Commission
 Institute for Single Crystals of National Academy of Sciences of Ukraine
 Institute of Nuclear Physics
 Institute of Nuclear and Particle Physics
 Jožef Stefan Institute
 Kaunas University of Technology
 National Center of Radiobiology and Radiation Protection
 National Taras Shevchenko University of Kiev
 National Technical University of Ukraine
 Óbuda University
 Politecnico di Torino
 Riga Technical University
 Russian Academy of Science
 Southernmpton University
 St. Petersburg State Institute of Technology
 Technical University of Darmstadt
 Technical University of Moldova
 Technological Educational Institute of Chalkida
 Universidad Autonoma de Madrid
 University of Southern Denmark
 University of Wuppertal
 Vilnius University
 V.E. Lashkaryov Institute of Semiconductor Physics
 Warsaw University of Technology

Brookhaven National Laboratory
 Santa Clara University
 University of Toledo
 Utah State University
 Victoria University
 Wright State University

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 Institute of Physics Chinese Academy of Science
 Korea Advanced Institute of Science and Technology
 Kyungpook National University
 Nankai Univeristy
 National Taiwan University
 National Taipei University of Technology
 National Tsing Hua University
 Ocean University of China
 Pusan National University
 Tongji University
 Yonsei University

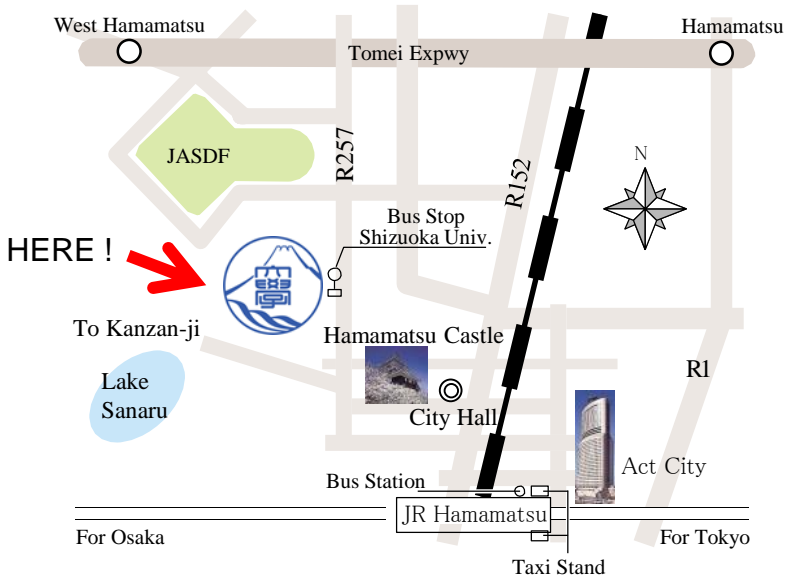
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 Alagappa University
 Curtin University of Technology
 Homi Bhabha National Institute
 Indonesian Institute of Sciences
 Karunya University
 King Mongkut's University of Technology
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 National University of Singapore
 Peelamedu SamaNaidu Govindasamy College of Technology
 Dr.Sivanthi Aditanar College of Engineering
 Sri Ramaswamy Memorial University
 Swinburne University of Technology
 University of Dhaka
 University of Indonesia
 Vellore Institute of Technology University



Research Institute of Electronics

Create the Future by Ultimate Imaging Technology

2014-2015



Public Transit

- JR Hamamatsu Station (Shinkansen, JR Tokaido Line)
- Taxi: 10 min., about 1,000 Yen
- Bus: North Exit Bus Station, No.15 & 16, about 15 min.

Contact Us

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Electronics is a fundamental study of all the industrial and scientific technologies. Research Institute of Electronics (RIE) originated from Prof. Kenjiro Takayanagi's television laboratory at the former Hamamatsu Technical College at the end of the Taisho era. RIE was founded in 1965 as an institute attached to Shizuoka University, aiming to carry out researches related to electronics. Now RIE has four research divisions; Nanovision Research Division, Advanced Device Research Division, Nanomaterials Research Division and Biomedical Photonics Research Division. RIE intensively studies photonics and electronics to pioneer novel imaging science, and educates undergraduate students and graduate students in master and doctoral courses. RIE was designated as a "Joint Usage/ Research Center" by MEXT in 2013. RIE also plays main roles at Shizuoka University for the both projects of "International Research Center for Photonics" and "Center of Innovation (COI)", which are jointly proposed by Hamamatsu Photonics Co. Ltd., Hamamatsu University School of Medicine, The Graduate School for the Creation of New Photonics Industries and Shizuoka University. We have gained a position as an international research center by creating novel imaging science based on nanotechnology.

Research Institute of Electronics, Shizuoka University

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