International workshop on Advanced Materials and Devices

Workshop Program

August 23
10:00 – 10:10 Opening remark

Session I: Chair Prof. Kazuhiko Hirakawa
10:10 – 10:50 Carbon nanotube networks for electronics and optoelectronics applications: Prof. Paolo Lugli (TUM)
10:50 – 11:30 Coherent terahertz dynamics in low-dimensional plasmas: Prof. Junichiro Kono (Rice Univ.)

Session II: Chair Prof. Mitsuaki Yano
11:30 – 11:45 Some approaches to enhance the response property of liquid crystal displays: Prof. Shoichi Ishihara (OIT)
11:45 – 12:00 Intense terahertz emission from InAs thin films: Prof. Shigehiko Sasa (OIT)
12:00 – 13:00 Lunch

Session III: Chair Prof. Shigehiko Sasa
13:00 – 14:00 Keldysh meets Capasso: Green's functions and quantum cascade lasers: Prof. Peter Vogl (TUM)
14:00 – 14:40 Physics and applications of metal nanogap/quantum nanostructure junctions: Prof. Kazuhiko Hirakawa (Tokyo Univ.)
14:40 – 15:20 Dynamic terahertz emission microscopy of optically excited photo-conductive switches: Prof. Masayoshi Tonouchi (Osaka Univ.)
15:20 – 15:40 Break

Session IV: Chair Prof. Masayoshi Tonouchi
15:40 – 16:20 Nonequilibrium carrier transport in emerging CMOS devices: Prof. Walter Hansch (UBW)
16:20 – 17:00 Advanced optical spectroscopy of nanostructures designed for novel applications: Prof. Jan Misiewicz (WUT)
17:00 – 17:15 Radiation hardness of ZnO: Ao. Prof. Kazuto Koike (OIT)
17:15 – 17:30 High-performance ZnO flexible thin-film transistors: Ao. Prof. Toshihiko Maemoto (OIT)
17:40 – 18:20 Poster viewing
Poster Presentation

P-1
Localized surface plasmon resonance sensing properties of photocatalytically prepared Au/TiO₂ and Ag/TiO₂ films
I. Tanahashi
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-2
Midinfrared luminescence from PbSnTe nanodots fabricated by lattice-type mismatched epitaxy
Y. Nakata, A. Iwamoto, K. Koike, and M. Yano
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-3
Fabrication and characterization of antimonide-based composite-channel InAs/AlGaSb HFETs using high-k gate insulators
T. Kiso, K. Nishisaka, K. Ogata, T. Maemoto, S. Sasa, and M. Inoue
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-4
Fabrication and transport properties in InAs-based self switching nano-diodes
T. Kiso, K. Nishisaka, T. Maemoto, S. Sasa, and M. Inoue
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-5
Growth of ZnO nanorods from aqueous solution by microwave heating and their application to high sensitive glucose detection
K. Ogata, K. Koike, S. Sasa, and M. Yano
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-6
Radiation hardness of ZnO
T. Aoki, R. Fujimoto, R. Wada, K. Koike, S. Sasa, and M. Yano
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-7
Radiation hardness of ZnO/ZnMgO HFETs
T. Yabe, T. Aoki, Y. Higashiyama, K. Koike, S. Sasa, and M. Yano
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-8
Fabrication of high transconductance InZnO transparent thin film transistors by sol-gel method
Y. Fujihara, T. Maemoto, and S. Sasa
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-9
Flexible zinc oxide thin-film transistors using oxide buffer layers on polyethylene naphthalate substrates
T. Higaki, Y. Kimura, T. Maemoto, and S. Sasa
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-10
Zinc oxide ion-sensitive FETs for biosensor applications
T. Nogami, S. Tanabe, K. Mukai, K. Koike, S. Sasa, and M. Yano
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-11
Charging simulation of a resist film on Si substrate by electron beam irradiation
A. Osada, M. Otani, Y. Ohara, and M. Kotera
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-12
Measurement of surface potential of a resist film irradiated by electron beam
M. Otani, Y. Ohara, A. Osada, and M. Kotera
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-13
Measurement of fogging electrons in scanning electron microscope
Y. Ohara, M. Otani, A. Osada, and M. Kotera
Nanomaterials Microdevices Research Center, Osaka Institute of Technology

P-14
Multiscale nonlinear simulation of ferroelectric materials
T. Hata, Y. Uetsuji, H. Kuramae, K. Tsuchiya, and M. Kamlah
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2 Department of Technology Management, Osaka Institute of Technology
3 Department of Precision Engineering, Tokai University
4 Institute for Applied Materials, Karlsruhe Institute of Technology

P-15
Crystal morphology and finite element analyses of piezoelectric materials
S. Kimura, Y. Uetsuji, H. Kuramae, K. Tsuchiya, and M. Kamlah
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2 Department of Technology Management, Osaka Institute of Technology
3 Department of Precision Engineering, Tokai University
4 Institute for Applied Materials, Karlsruhe Institute of Technology

P-16
First-principles study on novel lead-free piezoelectric materials
Y. Fukuda, Y. Uetsuji, and K. Tsuchiya
1 Nanomaterials Microdevices Research Center, Osaka Institute of Technology
2 Department of Precision Engineering, Tokai University