

International Symposium on Materials Science and Surface Technology 2013

MSST2013

November 29, 2013

F-201 & Foyer (10F), Foresight 21, Kanazawa-Hakkei Campus
Kanto Gakuin University (KGU), Yokohama, Japan

Organized by

MEXT-Supported Program for the Strategic Research Foundation at Private Universities
KGU Materials and Surface Engineering Research Institute

Cooperated by

KGU Research Advancement and Management Organization
KGU Society of Science and Engineering/Architecture and Environmental Design



MSST2013 TIME TABLE

9:00	Opening	F-201	13:50	Session IV (Invited Oral)	F-201
9:20	Session I (Short Oral)		14:50	Break	
10:05	Break		15:00	Session IV (Invited Oral)	
10:10	Session I (Short Oral)		16:20	Break	
10:55	Session II (Plenary Lecture)		16:30	Session V (Oral)	
11:30	Break		17:00	Closing Remarks	
11:40	Session II (Plenary Lecture)		17:05	Ending	
12:20	Session III (Poster Session)	Foyer (10F)	17:30	Banquet	Agora (12th Build.)

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PROGRAM

Speaker: Prof. Kazuhiro Shimada

Opening

Room: F-201

9 : 00 – 9 : 10 **Plenary Remarks**

Hitoshi Kato, Professor, KGU, Japan
Leader of MEXT-supported program

9 : 10 – 9 : 20 **Plenary Remarks**

Osamu Takai, Professor, KGU, Japan
Vice director of KGU Materials and Surface Engineering Research Institute

Session I: Technical Session: Short Oral Presentation for Poster

Room: F-201

9 : 20 – 10 : 05 **Part 1: SP01 – SP09**

Chair: Prof. Ichiro Koiwa, KGU

10 : 05 – 10 : 10 **Break**

10 : 10 – 10 : 55 **Part 2: SP10 – SP18**

Chair: Prof. Tomoyasu Hiramatsu, KGU

Session II: Plenary Lecture

Room: F-201

10 : 55 – 11 : 00 **“Overview of Surface Engineering”**

Chair: Honorary Prof. Hideo Honma, KGU

Hideo Honma, Honorary Professor, KGU, Japan
Director of KGU Materials and Surface Engineering Research Institute

11 : 00 – 11 : 30 **PL01 (Invited Talk)**

“The Latest Trends of Surface Finishing in Japanese Automotive Industry”

Kazuichi Satomi, COO, Nihon Parkerizing Co., Ltd., Japan
President of Surface Finishing Society of Japan

11 : 30 – 11 : 40	Coffee Break	
11 : 40 – 12 : 20	PL02 (Invited Talk) “Surface Treatment and Low Temperature Bonding - Current Status and Future Outlook of Surface Activated Bonding -”	
	Tadatomo Suga, Professor, The University of Tokyo, Japan	
Session III: Technical Poster Session		Room: Foyer (10F)
		Chair: Prof. Tsugito Yamashita, KGU Prof. Ichiro Koiwa, KGU
12 : 20 – 13 : 45	PA01-PA23: Nano-Micro Surface Technology, Plating Technology, and Packaging	
	PB01-PB22: Nano-Micro Functional Materials, Devices, and Sensors	
Session IV: Technical Invited Session		Room: F-201
Part 1:		Chair: Prof. Kazunori Matsui, KGU
13 : 50 – 14 : 10	OA01 (Invited Talk) “Depolymerization of Sodium Alginate by Solution Plasma Process”	
	Anyarat Watthanaphanit, Assistant Professor, Nagoya University, Japan	
14 : 10 – 14 : 30	OA02 (Invited Talk) “Numerical analysis for the flow and turbulence on the structure using CFD Model”	
	Kyu-Han Kim, Professor, Kwandong University, Korea	
14 : 30 – 14 : 50	OA03 (Invited Talk) “Cation Diffusion in Solid Oxide Fuel Cells (SOFCs) : A Microstructural Perspective”	
	Manuel E. Brito, Professor, University of Yamanashi, Japan	
14 : 50 – 15 : 00	Coffee Break	
Part 2:		Chair: Prof. Masayuki Ohkoshi, National Defense Academy
15 : 00 – 15 : 20	OA04 (Invited Talk) “Through-Hole Filling by Copper Electroplating”	
	Wei-Ping Dow, Professor, National Chung Hsing University, Taiwan	
15 : 20 – 15 : 40	OA05 (Invited Talk) “Electrochemical Investigation of the Corrosion Mechanism of Chromium Plated Panels in Aerated Solutions of Acidic Calcium Chloride “Russian Mud””	
	A. Hasebe, IS R&D, Nippon MacDermid Co., Ltd., Japan	

15 : 40 – 16 : 00	OA06 (Invited Talk) “Bonding Plated Copper to Polyimide Films with Nanotechnology” Belen Gil-Ibáñez, Atotech Deutschland GmbH, Germany
16 : 00 – 16 : 20	OA07 (Invited Talk) “Through-Hole Filling by Copper Electroplating Using Direct Current Plating Systems” Elie Najjar, Dow Electronic Materials, The Dow Chemical Company, USA
16 : 20 – 16 : 30	Coffee Break
Session V: Technical Session, Material and Surface Advanced Technology from KGU	
Room: F-201	
Chair: Prof. Hitoshi Kato, KGU	
16 : 30 – 16 : 45	OB01 “Metal Oxide Film Direct Photopatterning & Direct Plating on Glass” Christopher E. J. Cordonier, Visiting Researcher, Materials and Surface Engineering Research Institute, KGU, Japan
16 : 45 – 17 : 00	OB02 “Nanomaterial Syntheses by Solution Plasma Processing” Osamu Takai, Professor, KGU, Japan
Closing Remarks	
Room: F-201	
17 : 00 – 17 : 05	Toshinosuke Akutsu, Professor, KGU, Japan
Ending	
Room: F-201	
17 : 05 – 17 : 10	Keiichiro Sano, Professor, KGU, Japan Director of Promotion Section of Industry-Government-University Relations, KGU
17 : 10 – 17 : 15	Ceremony for Best Poster Awards, Prof. Ichiro Koiwa, KGU
Banquet	
Room: Agora, The 12th Building	
17 : 30 – 19 : 30	

List of Poster Session Articles

The article numbers in parentheses are those for short oral presentation.

A. Nano-Micro Surface Technology, Plating Technology, and Packaging

PA01. “Analyses of Plated Films by Thermal Desorption Spectrometry (TDS) - Especially for Cyanide for Films Plated from Cyanide Free Bath -”

*Ichiro Koiwa[1], Nobuaki Watanabe[2], Shoma Koike[1], Norio Hirashita[3], Makoto Urano[3], and Kunimitsu Maejima[3]

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[2] *Institute of Science and Technology, Kanto Gakuin University, 1-50-1 Mitsuura-Higashi, Kanazawa-ku, Yokohama 236-8501 Japan*

[3] *Engineering Division, ESCO Ltd., 3rd Floor Oak Bldg., 1-3-12 Nishikubo Musashino-shi, Tokyo 180-0013, Japan*

PA02. “Fabrication of Low Cost Micro Array Chip for Medical Use by Plating Method”

*Taichi Yamaguchi[1], Hiroshi Takanashi[2], Tsutomu Obata[3] and Ichiro Koiwa[1]

[1] *Graduate School of Engineering, Kanto Gakuin University, 1-50-1, Mutsuurahigashi, Kanazawa-ku, Yokohama-shi, Kanagawa 236-8501, Japan*

[2] *Institute of Science and Technology, Kanto Gakuin University, 1-50-1 Mutsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan*

[3] *The Central Institute, Toyama Industrial Technology Center, 150 Futakami-cho Takaoka, Toyama 933-0981, Japan*

PA03. “Analysis of the Memory Effect in Positive Electrode of Ni-MH Batteries by Scanning Electron Microscopy/Energy Dispersive X-ray Mapping and Transmission Electron Microscopy”

Misa Ueno[1], Miku Gotou[1], Nobuaki Watanabe[2], Yasushi Sasaki[1], Tsugito Yamashita[1], *Ichiro Koiwa[1], Kazuhiro Yabe[3], Takaharu Nakamura[3]

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[3] *Oki Engineering, Ltd., 3-20-16 Hikawadai, Nerima-ku, Tokyo 179-0084, Japan*

PA04. “Electrodeposition of Metal-Oxide Composite Films from Non-Suspended Solution”

*Akihiro Yamamoto[1], Nobuaki Watanabe[2], Miku Gotou[1], Ichiro Koiwa[1]

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**PA05. “Aluminum Alloys Formation from Non-Aqueous Solution by Electrochemical Technique”
(SP01)**

*Nobuaki Watanabe[1], Naoya Tasugi[2], Katsuhito Sano[2], Miku Gotou[3], and Ichiro Koiwa[2,3]

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[3] *Department of Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University*

PA06. “Crystallographic Orientation of Electrodeposited Aluminum Films”

Miku Gotou[1], Nobuaki Watanabe[2], Katsuhito Sano[3], Naoya Tasugi[3], and Ichiro *Koiwa[1,3]

[1] *Department of Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University, 1-50-1 Mitsuura-Higashi, Kanazawa-ku, Yokohama 236-8501, Japan*

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**PA07. “Thermal Desorption Studies of Recent Plated Films”
(SP02)**

Makoto Urano, Kunimitsu Maejima, and *Norio Hirashita

Engineering division, ESCO Ltd., 3rd Floor Oak Bldg. 1-3-12 Nishikubo, Musashino-shi, 180-0013, Tokyo, Japan

**PA08. “Fundamental Study of Boric Acid Free Nickel Electroplating for Electronic Components”
(SP03)**

*Kaori Urasaki[1], Tadashi Doi[1], Tsugito Yamashita[2]

[1] *Tokyo Metropolitan Industrial Technology Research Institute, 2-4-10 Aomi, Koto-ku, Tokyo, 135-0064, Japan*

[2] *Department of Applied Material and Life Science Faculty of Engineering, Kanto Gakuin University, 1-50-1 Mitsuurahigashi, Kanazawa-ku, Yokohama, 236-8501, Japan*

PA09. “The Electrode Reaction of Nickel Deposition from Nickel Citrate Bath”

*Yoshiaki Ouya[1], Kenji Wakasugi[2] and Tsugito Yamashita[3]

[1] *Mitsuya Co., Ltd., 3-8-11, Nishigotanda, Shinagawa-Ku, Tokyo 141-0031, Japan*

[2] *Graduate School of Engineering, Kanto Gakuin University.*

[3] *Department of Science and Engineering, Kanto Gakuin University*

PA10. “Perfect Bottom-Up Filling of Blind Microvia in the New Single Additive System”

Takuya Takahashi, Takahiro Yoshii, Tomoko Hatsukade, Kazuyoshi Kikuchi, and *Yuji Morishima
ADEKA Corporation, 7-2-34 Higashi-Ogu, Arakawa-ku, Tokyo 116-8553, Japan

**PA11. “F₂ Laser Induced Surface Modification of Iron Thin Films for Micro-patterning (2)”
(SP04)**

*Masayuki Okoshi[1], Yuta Awaiharu[1], Jean-Baptiste Beringue[2], Tsugito Yamashita[3], and Narumi Inoue[1]

[1] *Department of Electrical and Electronic Engineering, National Defense Academy, 1-10-20 Hashirimizu, Yokosuka, Kanagawa 239-8686, Japan*

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[3] *College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mitsuura-Higashi, Kanazawa-ku, Yokohama 236-8501, Japan*

PA12. “Effect of Additives in Electroless Copper Plating Using Hypophosphite as a Reducing Agent”

*K. Okabe[1], K. Tashiro[2], H. Honma[2], and T. Yamashita[1,2]

[1] *Department of Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University*

[2] *Kanto Gakuin University Materials and Surface Engineering Research Institute*

PA13. “Study of Copper Diffusion into Parylene-HT Dielectric Thinfilm using Dynamic Secondary Ion Mass Spectrometry (D-SIMS)”

*Bui Thanh Tung[1], Naoya Watanabe[1], Xiaojin Cheng[2], Fumiki Kato[1], Katsuya Kikuchi[1], and Masahiro Aoyagi[1]

[1] *National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba Central 2, 1-1-1 Umezono, Tsukuba, Ibaraki 305-8568, Japan*

[2] *Wolfson School of Mechanical and Manufacturing Engineering, Loughborough University, Loughborough, Leicestershire, LE11 3TU, United Kingdom*

PA14. “Surface Modification of Polyimide Using Ozone Micro/Nano Bubble Water”

*Kyoko Yokota[1,3], Katsuhiko Tashiro[1], Yasushi Umeda[1], Osamu Takai[1,2], and Hideo Honma[1]

[1] *Kanto Gakuin University Materials and Surface Engineering Research Institute*

[2] *Department of Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University*

[3] *Ebina Denka Kogyo Co.,Ltd., Japan*

PA15. “Surface Modification Effect of Resin by UV and VUV Irradiation”

*Sayuri Orichi[1], Yasushi Umeda[2], Hideo Honma[2], Osamu Takai[1,2]

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PA16. “Preparation and Evaluation of Ni-W-P/SiC Composite Coatings by Electroless Plating Method”

*Kenji Kashimura[1,2], Masahiro Yoshino[1], Michinari Sone[1], Katsuhiko Tashiro[2], Yasushi Umeda[2], and Hideo Honma[2]

[1] *YOSHINO DENKA KOGYO, INC., 1-2, Asahi, Yoshikawa, Saitama, 342-0008, Japan*

[2] *Kanto Gakuin University Materials and Surface Engineering Research Institute, 1-1-1 Fukuura, Kanazawa-ku, Yokohama-shi, Kanagawa, 236-0004, Japan*

PA17. “Adsorption Behavior of Various Additives on Micro-Irregularity Surfaces of Copper Electro-Deposition”

*Natsuki Takahashi and Tsugito Yamashita

Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University, 1-50-1, Mitsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

PA18. “Study of Via Filling Capability of Sn Plating”
(SP06)

*Masao Hori, Takuro Sato, Moriji Matumoto, Kanae Tokio, and Toshiaki Fukushima

Research and Development Headquarters, JCU Corporation, 4-3 Kurigi 2-chome, Asao-ku, Kawasaki-shi Kanagawa 215-0033, Japan

PA19. “Formation of Plated Metal Patterns Directly on Grass Using Photosensitive Complex”
(SP07)

*Hitoshi Endo[1], Christopher E. J. Cordonier[2], Hideo Honma[2], and Osamu Takai[1]

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[2] *Kanto Gakuin University Materials & Surface Engineering Research Institute, 1-1-1 Fukuura, Kanazawa-ku, Yokohama 236-0004, Japan*

PA20. “Electroless Nickel Plating on Aluminum Pads in a Zincateless Process”

*Takahiro Iwadate, Yasushi Umeda, Katsuhiko Tashiro, Hideo Honma, and Osamu Takai
Kanto Gakuin University Materials and Surface Engineering Research Institute, 1-1-1 Fukuura, Kanazawa-ku, Yokohama 236-0004, Japan

PA21. “Plated Pattern Transfer to Resin for Fabrication of Embedded Circuit”

Yoshio Horiuchi [1], Takahiro Kagami [1,2], *Christpher E. J. Cordnier[1], Osamu Takai [1,2], and Hideo Honma [1]
[1] *Kanto Gakuin University Materials and Surface Engineering Research Institute, 1-1-1 Fukuura, Kanazawa, Yokohama, Kanagawa, Japan*
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**PA22. “The Inhibitory Effect of the Buffer on Various Nickel Plating Bath”
(SP08)**

Masayoshi Terada[1], *Yoshiaki Oya[2], and *Tsugito Yamashita[3]
[1] *Rough Neck*
[2] *Institute of Science and Engineering, Kanto Gakuin University*
[3] *Department of Applied Material and Life Science Kanto Gakuin University*

**PA23. “Hardness and Abrasion-Resistant Study of Ni-W Alloy Films Formed Using Electrodeposition”
(SP09)**

Soujirou Kirihiro, Yasushi Umeda, Katsuhiko Tashiro, Hideo Honma, and Osamu Takai
Kanto Gakuin University Materials and Surface Engineering Research Institute, 1-1-1 Fukuura, Kanazawa-ku, Yokohama 236-0004, Japan

B. Nano-Micro Functional Materials, Devices, and Sensors

**PB01. “Mach-Zehnder Optical Switch Thermo-Optically Controlled Silicon Microring Resonator Mach-Zehnder Modulator for Low Power Operation on Cascaded and Push-Pull Microring Design”
(SP10)**

*Rajdeep Gautam, Taro Arakawa, and Yasuo Kokubun
Division of Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University, Yokohama, Kanagawa 240-8501, Japan

PB02. “Fabrication of Graphene Films on Micro-scale Patterned Si wafer by Focused Ion Beam”

Yoshiyuki Takarai, Kazunobu Doi, *Hitoshi Kato, Susumu Takemura, and Tomoyasu Hiramatsu
Department of Electrical and Electronic Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mitsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

**PB03. “Photoluminescence Enhancement of Crystal Violet Molecules on Nanostructured Aluminum Surfaces”
(SP11)**

Atsuro Ishii, Hiroki Jindo, Ryo Hoshiya, *Hitoshi Kato, Susumu Takemura, and Tomoyasu Hiramatsu
Department of Electrical and Electronic Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mitsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

PB04. “SEM and SPM Studies of Single Wall, Double Wall and Cup Stack Carbon Nanotubes Deposited on Line-typed Aluminum Surface”

Yohei Watanabe, Yuuki Kitajima, *Hitoshi Kato, Susumu Takemura, Kazuhiro Shimada, and Tomoyasu Hiramatsu

Department of Electrical and Electronic Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mutsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

PB05. “Photoluminescence Characterization of Structural Modified Phthalocyanine Doped Polythiophene”

Hiroaki Kobe[1], Nobukazu Seto[1], Ryu Sakamoto[1], *Hitoshi Kato[1], Susumu Takemura[1], Kazuhiro Shimada[1], Kazunori Matsui[2], and Tomoyasu Hiramatsu[1]

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[2] *Department of Applied Material and Life Science, College of Science and Engineering, Kanto Gakuin University*

PB06. “Development of Carbon Drawing Techniques Combined by Taping Method and Graphene Film (SP12) Fabrication on Nanostructured Aluminum Surfaces”

Kazunobu Doi, Yuudai Suzuki, Takenori Sugii, Yoshiyuki Takarai, *Hitoshi Kato, Susumu Takemura, and Tomoyasu Hiramatsu

Department of Electrical and Electronic Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mutsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

PB07. “Scanning Electron Microscopy and DIC Optical Microscopy Observation of Polyaniline polymerized on Micro Scale Patterns fabricated on Si Wafer by Focused Ion Beam”

Yohei Watanabe, Kouichi Sato, *Hitoshi Kato, Susumu Takemura, and Tomoyasu Hiramatsu

Department of Electrical and Electronic Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mutsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

PB08. “PL Investigation of Oxidized States of Anodized Amorphous Alumina”

Ryo Hoshiya, Ippei Sugisaki, Atsuro Ishii, *Hitoshi Kato, Susumu Takemura, and Tomoyasu Hiramatsu

Department of Electrical and Electronic Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mutsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

PB09. “Thermal Decomposition of Polyurethane Foam in Vegetable Oil”

*Keiichiro Sano[1] and Katsuhiko Takeda[2]

[1] *College of Human and Environmental Studies, Kanto Gakuin University*

[2] *Department of Science and Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mutsuura-Higashi, Kanazawa-ku, Yokohama 236-8501, Japan*

PB10. “Composite Structure of InGaAs/InAlAs Five-Layer Asymmetric Coupled Quantum Well for High-Performance Phase Modulator”

*Toru Sekiguchi, Joo-Hyong Noh, and *Taro Arakawa

Division of Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University, Yokohama, Kanagawa 240-8501, Japan

**PB11. “Potential-Tailored Strained InGaAs Quantum Well for Polarization-Independent 2×2 Optical Switch”
(SP13)**

*Hiroki Tominaga, Joo-Hyong Noh, and Taro Arakawa

Division of Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University, Yokohama, Kanagawa 240-8501, Japan

**PB12. “Improvement of Extinction Ratio of Wavelength-Selective Switch Using Quantum Well Double-Series-Coupled Microring Resonators”
(SP14)**

*Hiroki Ikehara, Hiroshi Kamiya, Taro Arakawa, and Yasuo Kokubun

Division of Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University, Yokohama, Kanagawa 240-8501, Japan

PB13. “Design of Low-Voltage 2×2 Optical Switch Based on Quantum Well Microring-Enhanced Mach-Zehnder Interferometer”

*Masaki Nishimura, Taro Arakawa, and Yasuo Kokubun

Division of Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University, Yokohama, Kanagawa 240-8501, Japan

**PB14. “Simulated Tree Propagation Influenced by Filler Shapes in Composite Insulating Materials”
(SP15)**

*Hiroaki Uehara[1] and Katsutoshi Kudo[2]

[1] *Department of Science and Engineering, College of Science and Engineering, Kanto Gakuin University, 1-50-1 Mitsuura-higashi, Kanazawa-ku, Yokohama 236-8501, Japan*

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**PB15. “Influence of Rotating Cylinder Electrode on Convective Layer Vorticity and Velocity Strength and Space Distribution”
(SP16)**

*Toshinosuke Akutsu[1] and Kouichi Sekino[2]

[1] *Graduate School of Engineering, Kanto Gakuin University*

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**PB16. “Response Properties of the Inner Hair Cell Synaptic Model to the Simulated Vowels”
(SP17)**

*Parichat Kumsa and Hiroyuki Mino

Department of Electrical Engineering, Graduate School of Engineering, Kanto Gakuin University, 1-50-1 Mitsuura-Higashi, Kanazawa-ku, Yokohama 236-8501, Japan

**PB17. “First-Principles Study of Polarization in Wurtzite $Mg_xZn_{1-x}O$ Grown on a ZnO Substrate”
(SP18)**

*Kazuhiro Shimada[1], Naomichi Takahashi[2], Yoshiaki Nakagawa[2], Yuusuke Nakamura[2], Tomoyasu Hiramatsu[1], and Hitoshi Kato[1]

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[2] *Department of Electrical, Electronic and Information Engineering, College of Engineering, Kanto Gakuin University, Yokohama 236-8501, Japan*

PB18. “Humidity Characteristics of Nb Doped ZrO_2 Films”

*Tomoyasu Hiramatsu, Minoru Ohtsu, Kazuhiro Shimada, and Hitoshi Kato

Department of Electrical, Electronic and Information Engineering, College of Engineering, Kanto Gakuin University, 1-50-1 Mitsuurahigashi, Kanazawa-ku, Yokohama 236-8501, Japan

PB19. “Fabrication of Electro-Optic Tunable 1×2 Multimode Interference Splitter”

*Naomichi Kawasaki, Joo-Hyong Noh, and *Taro Arakawa

Division of Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University, Yokohama, Kanagawa 240-8501, Japan

PB20. “A Search for Global and Local Energy Minima of Crystal Structures by Immune Algorithms”

*Manabu Kawana[1], Kazuhiro Shimada[1], Yohei Tanaka[2], and Michio Miyazaki[1]

[1] *Department of Electrical, Electronic and Information Engineering, College of Engineering, Kanto Gakuin University, Yokohama 236-8501, Japan*

[2] *Department of Electrical Engineering, Graduate School of Engineering, Kanto Gakuin University, Yokohama 236-8501, Japan*

PB21. “Proposal of Ion Sensor Based on Quantum Well Microring Resonator-Loaded Mach-Zehnder Interferometer”

*Tatsuya Sakamoto, Rajdeep Gautam, Shintaro Ishihara, Shota Kita, Taro Arakawa, and Yokubun Kokubun

Division of Electrical and Computer Engineering, Graduate School of Engineering, Yokohama National University, Yokohama, Kanagawa 240-8501, Japan

PB22. “Effect of Preparation Conditions on Crystal Formation on Copper Surface in Aqueous Solution with Amides”

*Akio Mochida[1] and Kazunori Matsui[2]

[1] *Department of Industrial Chemistry, Graduate School of Engineering, Kanto Gakuin University, 1-50-1 Mitsuura-Higashi, Kanazawa-ku, Yokohama 236-8501, Japan*

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Scope

MSST 2013 (International Conference on Materials Science and Surface Engineering 2013) is organized by the MEXT-supported Program for the Strategic Research Foundation at Private Universities and Kanto Gakuin University Materials and Surface Engineering Research Institute. The MEXT-supported Program, which was organized by 13 research members from Kanto Gakuin University, Materials and Surface Engineering Research Institute and National Defense Academy, was selected by Japanese Education and Science Ministry (MEXT) in 2012 as a MEXT-supported Program for the Strategic Research Foundation at Private Universities. The project title is “Fabrication of highly-controlled nano- and micro-scale functional surface structures for frontier smart materials”. On the other hand, Kanto Gakuin University Materials and Surface Engineering Research Institute was established in 2011 whose aim is to develop advanced technologies concerning materials and surface technologies based on the historical research heritage of Kanto Gakuin University as a surface technology pioneer.

This conference focuses on advanced and frontier materials and surface technologies applicable to wide ranged fields such as Electronics, Optoelectronics, Molecular Electronics, Nano- and Micro-Science and Technology, Energy, Micro- and Nano-Machines (MEMS, NEMS), Chemical and Bio-Medical materials. The conference also focuses on interdisciplinary research topics related to Environment not only from a viewpoint of technology but also from social and economic point of view. The conference intends to provide a latest technical session for researchers and a forum for educators and business leaders around the world to exchange state-of-the-art research and development and identify research needs and opportunities in these emerging fields.

We, organizing committee members, hope participants will enjoy the technical and forum program of MSST 2013.

Co-Chair

Prof. Hitoshi Kato, KGU, Leader of MEXT-supported program

Prof. Osamu Takai, KGU, Vice Director of Materials and Surface Engineering Research Institute

Executive Organizing Committee

Honorary Prof. Hideo Honma, KGU

Prof. Osamu Takai, KGU

Prof. Tsugito Yamashita, KGU, Vice Director of Materials and Surface Engineering Research Institute

Prof. Kazuzori Matsui, KGU

Prof. Tomoyasu Hiramatsu, KGU

Prof. Hitoshi Kato, KGU

Prof. Ichiro Koiwa, KGU

Prof. Keiichiro Sano, KGU, Senior Manager of KGU Research Advancement and Management Organization

Oral Program Committee

Prof. Osamu Takai, KGU

Honorary Prof. Hideo Honma, KGU

Prof. Hitoshi Kato, KGU

Dr. Christopher E. J. Cordonier, KGU Materials and Surface Engineering Research Institute

Short Oral and Poster Program Committee

Prof. Ichiro Koiwa, KGU

Prof. Tsugito Yamashita, KGU

Prof. Tomoyasu Hiramatsu, KGU

Prof. Kazuhiro Shimada, KGU

Prof. Hitoshi Kato, KGU

Best Poster Committee

Prof. Ichiro Koiwa, KGU

Prof. Tsugito Yamashita, KGU

Prof. Tomoyasu Hiramatsu, KGU

Prof. Kazunori Matsui, KGU

Prof. Kazuhiro Shimada, KGU

Prof. Hitoshi Kato, KGU

Proceedings Editorial Committee

Prof. Kazuhiro Shimada, KGU

Prof. Masayuki Ohkoshi, National Defense Academy

Dr. Joo-Hyong Noh, KGU Materials and Surface Engineering Research Institute

Prof. Hitoshi Kato, KGU

Organizing Committee Board

Prof. Hitoshi Kato, KGU

Prof. Osamu Takai, KGU

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Dr. Christopher E. J. Cordonier, KGU Materials and Surface Engineering Research Institute

Dr. Joo-Hyong Noh, KGU Materials and Surface Engineering Research Institute

Mr. Susumu Takemura, Research Associate, KGU

Mr. Yasushi Umeda, KGU Materials and Surface Engineering Research Institute

Dr. Katsuhiko Tashiro, KGU Materials and Surface Engineering Research Institute

Banquet & Lunch Meeting

Prof. Ichiro Koiwa, KGU

Prof. Hiroaki Kouzai, KGU

Technical Management

Researcher, Mr. Susumu Takemura, KGU

Dr. Yasushi Umeda, KGU Materials and Surface Engineering Research Institute

Dr. Katsuhiko Tashiro, KGU Materials and Surface Engineering Institute

Dr. Joo-Hyong Noh, KGU Materials and Surface Engineering Research Institute

Secretary

Mr. Shigeru Mizukoshi, Chief Secretariat, KGU

Ms. Kayako Yoshikawa, KGU

Mr. Kenji. Mori, KGU

CONFERENCE INFORMATION

Registration

Conference Registration is located at ground floor hall (the 1st floor) at Foresight 21. Registration desk is open from 8:30 a.m. to 2:00 p.m. Registration charge is free for all on-site registered participants including Symposium Program & Proceedings (CD-ROM), Beverages and Banquet.

Key Dates: Deadline

Author Registration (Entry for Presentation): September 27, via website.

Manuscript Submission for Proceedings: October 12, via website, Proceedings Template.

Correction for submitted manuscripts should be made until October 31.

Contact us: shimada@kanto-gakuin.ac.jp

URL: <http://home.kanto-gakuin.ac.jp/~kg064010/msst2013.html>

Proceedings

Proceedings will be published in the form of CD-ROM by November 29.

Oral Presentation

Oral sessions are composed of plenary remarks, plenary lectures and invited oral sessions by only keynotes and invited speakers. Short oral session and poster session are widely open to contributed papers.

Poster Session and Best Poster Awards

Poster Session will be held at Foyer (the 10th floor) of Foresight 21 from 0:20 p.m. to 1:45 p.m. Poster size is A0. Presenters should paste their Posters on the appointed positions according to their Poster Number until 11:30 a.m. Posters should be removed after Poster Session finishes (3:00 p.m.). Excellent posters (best 2 posters) will be selected thorough a peer-review process by Best Poster Committee and will be awarded as **Best Poster Awards**.

Short Oral Session

Short Oral Session will be held at 9:20 a.m. to 10:55 a.m. 18 papers from contributed papers for Poster Session will be selected through peer review by Short Oral Program Committee. Each presenter has 5 min for presentation corresponding to 6-8 slides in Power Point. Selected presenters should submit their Power Point Files for presentation prior to November 28. Please send your file to Prof. Koiwa: koiwa@kanto-gakuin.ac.jp. If your file exceeds 8 MB, please turn in your file in USB directly to the registration desk until 9:10 a.m. on November 29.

Banquet

Banquet will be held at 5:30 p.m. at AGORA, University Lounge Restaurant, located at the 12th Building. Banquet fee is free for all participants.

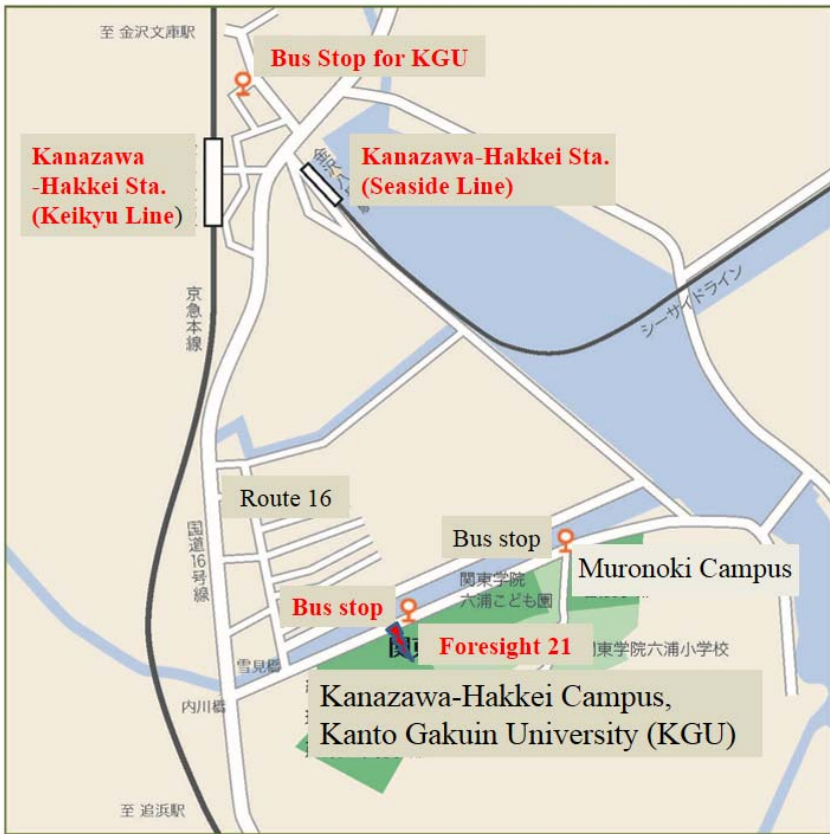
Kanto Gakuin University Campus Map

Banquet Room : Agora (2F), The 12th Building



Oral Session : F-201 (2F), Foresight 21
 Poster Session : Foyer (10F), Foresight 21

Access to the Kanazawa-Hakkei Campus, Kanto Gakuin University (KGU)



Yokohama Sta.
 ↓
 19min. by Rapid-service Keikyu Line
 ↓
 Kanazawa-Hakkei Sta.

By Walk

A 15 minute walk after getting off at Kanazawa-Hakkei Station.

By Bus

Take “Kanto Gakuin loop” bus at Kanazawa-Hakkei Station and get off at main entrance of KGU.

Kanazawa-Hakkei Campus,
 Kanto Gakuin University,
 1-50-1 Mitsuura-Higashi,
 Kanazawa-ku, Yokohama-shi,
 Kanagawa 236-8501, Japan