Advance Program

nanonet
Nanotechnology Researchers Network Center of Japan

Micro Nano Conference

MNC 2006

2006 International MIcroprocesses and Nanotechnology Conference

October 24 Technical Seminar in Japanese
October 25-27 Conference
Kamakura Prince Hotel, Japan
MNC Web Site: http://imnc.jp/

Sponsored by
The Japan Society of Applied Physics

Technical-Cosponsored
IEEE Electron Device Society

Cooperation
Association of Super-Advanced Electronics Technologies
The Institute of Electrical Engineers of Japan
The Institute of Electronics, Information and Communication Engineers
The Japan Society for Precision Engineering
The Japanese Society for Synchrotron Radiation Research
The Japanese Society of Electron Microscopy
The Surface Science Society of Japan
The Vacuum Society of Japan

19th International Microprocesses and Nanotechnology (MNC 2006) Session

Wednesday, October 25		Thursday, October 26		Friday, October 27	
Room B		**Room A**	**Room B**	**Room A**	**Room B**
25B-1 Plenary Session 9:30-11:50 9:30-9:50 Opening Remarks and 2005 Award Announcement 9:50-10:30 M. Aono, NIMS, Japan 10:30-11:10 K. Shimizu, Cabinet Office, Government of Japan. 11:10-11:50 V. Zhirnov, SRC, USA *Page 6*		**26A-4**:8:50 -10:20 Electron- and Ion-Beam Lithography *Page 9*	**26B-4**: 8:50-10:20 Symposium B: Possibility of Organic Electronic Devices I *Page 9*	**27A-8**: 8:50-10:40 Symposium C Nanoimprint Technology I *Page 23*	**27B-8**: 8:50-10:40 DUV/EUV Lithography *Page 23*
		26A-4 Author's Interview 10:20-10:30			27B-8 Authors Interview 10:40-10:50
		Coffee Break (Room C)		*Coffee Break (Room C)*	
		26A-5: 10:30-12:00 Nanomaterial II *Page 9,10*	**26B-5**:10:30-12:00 Symposium B: Possibility of Organic Electronic Devices II *Page 10*	**27A-9**: 10:50-11:50 Symposium C Nanoimprint Technology II *Page 24*	**27B-9**: 10:50 -11:50 Late News *Page 24*
		26A-5 Author's Interview 12:00-12:10		27A-8,9 Author's Interview 11:50-12:00	27B-9 Author's Interview 11:50-12:00
Lunch		*Lunch*		*Lunch*	
Room A	**Room B**	**26A-6**: 13:00 -14:50 Resist Materials and Processing *Page 10*	**26B-6**: 13:00 -14:50 Nanofabrication I *Page 11*	**27A-10**: 13:00 -14:00 Nanomaterial III *Page 24, 25*	**27B-10**:13:00 -14:20 Nanofabrication II *Page 25*
25A-2:13:00 -15:00 Symposium A: EUV-Lithography I *Page 6*	**25B-2**:13:00-14:50 Nanomaterial I *Page 7*				
	25B-2 Author's Interview 14:50-15:00	26B-6 Author's Interview 14:50 -15:00	26B-6 Author's Interview 14:50-15:00	27A-10 Author's Interview 14:00-14:10	27B-10 Author's Interview 14:20-14:30
Coffee Break (Room C)		*Coffee Break (Room C)*		*Coffee Break (Room C)*	
25A-3:15:20-17:20 Symposium A: EUV-Lithography II *Page 8*	**25B-3**:15:20-17:30 Bio MEMS, Lab on a chip *Page 8*	**Room C**		**27A-11**: 15:10 -17:10 Microsystem & MEMS *Page 25, 26*	**27B-11**: 14:50-17:20 Nanodevices *Page 26*
		26C-7: 15:10 -17:00 **Poster Session :** DUV, VUV, EUV and X-ray Lithography, Electron- and Ion-Beam Lithography, Resist Materials and Processing, Nanodevice, Nanofabrication, Nanomaterials, Nanoimprint, Nanoprint and Rising Lithography, Bio MEMS, Lab on a Chip and Microsystem Technology and MEMS *Page 11-22*			
25A-3 Author's Interview 17:20-17:30	25B-3 Author's Interview 17:30-17:40				
Plenary 40 min., Invited 30 min., Oral 20 min. Late News 20min., Poster 110 min.		**Room B** **MNC 2006 Banquet 17:30-19:30**		27A-11 Author's Interview 17:10 - 17:30	27B-11 Author's Interview 17:20 - 17:30

October 24, Technical Seminar in Japanese 13:00-17:20, October 24, Get Together Party 17:30-19:30

MNC 2006 Greeting

We are very pleased to inform you that MNC 2006 - 2006 International Microprocesses and Nanotechnology Conference - will be held at Kamakura Prince Hotel, Kanagawa, Japan, from October 24 to 27, 2006. This conference has been held annually in Japan since 1988, except for in Taiwan (1994) and in Korea (1998). It is dedicated to micro- and nano-fabrication technologies, their physics and applications, and equipments using photons, electrons, ions, and other energetic particles. This year, distinguished 169 papers from 204 submitted papers were accepted through severe reviewing procedure, and submission of late-news papers are being anticipated. MNC 2006 will provide participants with a chance to hear original papers on recent important finding and achievements, including 27 invited talks by outstanding guest speakers and two special symposia, "EUV Lithography", "Possibility of Organic Electronics Devices" and "Nanoimprint Technology".
The Organizing Committee and I hereby extend a hearty welcome to all of you who will be participating in MNC 2006.

August 19, 2006

Prof. Shinji Matsui
Chair, Organizing Committee

GENERAL INFORMATION

LOCATION

KAMAKURA PRINCE HOTEL
1-2-18 Shichirigahama Higashi Kamakura-shi, Kanagawa-ken Japan 248-0025
Web Site: http://www.princehotels.co.jp/kamakura/index.html

LANGUAGE

The official language of the conference is English.

REGISTRATION DESK

The registration and information desk will be open during the following hours:

Technical Seminar in Japanese Registration

October 24, Tuesday	12:00 - 16:00

Conference Registration

October 24, Tuesday	17:00- 18:30
October 25, Wednesday	8:30 - 17:30
October 26, Thursday	8:30 - 17:30
October 27, Friday	8:30 - 15:30

ONLINE REGISTRATION INFORMATION: http://imnc.jp//

(1) Registration Fees

The registration fees are given as below. Early registration is encouraged with a reduced registration fee.

Categories	on and before September 30	on site after October 1
Full Conference with Digest, Proceedings(CD) and Banquet	¥55,000	¥60,000
Full Conference with Digest and Proceedings (CD) (No Banquet)	¥50,000	¥55,000
Student: Conference with Digest （No Proceedings, No Banquet)		¥10,000
Banquet Ticket		¥5,000
Technical Seminar (in Japanese: October 24) (MNC participant and Nanoimprint technology study group members are free; joining only Technical Seminar is 3,000 yen)		¥3,000

(2)Cancellation

In the event of cancellation, written notification should be sent to JTB GMT Corp as soon as possible. The following cancellation fees will be deducted before any refund is made.

Registration:

If a cancellation notice is received by JTB GMT Corp. on or before

September29, 2006	**JPY5,000 of processing fee**
on and after September 30, 2006	**100% of the registration fee**

Get Together Party (17:30-19:30, Tuesday, October 24)

Ger Together Party will be held on Tuesday, October 24 in Room C.

BANQUET (MNC 2006 Most Impressive Poster Ceremony)

(17:30-19:30, Thursday, October 26)

Banquet will be held on Thursday, October 26 in Room B.

GENERAL INFORMATION

CONFERENCE AWARDS

Conference awards will be given to the **Outstanding Paper(s)**, **the most impressive poster(s)**, **the most impressive paper**, and **young author's award**. The outstanding paper(s) will be selected from the paper published in the JJAP special issue (MNC), the most impressive paper from oral presentations in the conference, and young author's award from oral and poster presentations. The most impressive poster(s) will be selected on the basis of participant's vote.

SPECIAL SYMPOSIUM

Symposium A: "EUV Lithography for 32 nm Node and Below"
Organizer: T. Watanabe (Univ. of Hyogo)
A potential lithography candidate for 32 nm node and below is extreme ultraviolet lithography (EUVL). We will discuss on new developments, issues and solutions for the advancement and improvement of EUV lithographic technologies including EUV light source, EUV exposure tool, mask technology, and resist technology. Symposium Invite Speakers:

Symposium B: "Possibility of Organic Electronics Devices"
Organizer: T. Ueno (Hitachi Chemical)
Sponsored by The Japanese Research Association for Organic Electronic Materials and MNC 2006
The session of Organic Electronics is also sponsored by JOEM (The Japanese Research Association for Organic Electronics Materials). Recent progress of organic electronics has received a great deal of attention in research and development of microelectronics. The session covers wide range of research areas of organic electronic materials such as organic transistors, liquid crystal display, light emitting diode, organic diode lasers, flexible display, molecular electronics and printable electronics. The organizing committee expects the interaction of organic electronics with advanced micorprocess technologies stimulates the novel research area of microelectronics.

Symposium C: "Nanoimprint Technology ""
Organizer: Y. Hirai (Osaka Pref. Univ.)
MNC2006 technical seminar offers information for commercially available apparatus and materials related to the nanoimprint technology. Leading companies will introduce their highly efficient products and will exhibit those performances.

YOUNG AUTHORS TRAVEL ASSISTANCE

Young authors, under age 33, who will present paper at MNC 2006 are able to apply for Young Authors Travel Assistance. It supports a part of their travel expense within the limit amount of budget. The support amount is alternative and depends on the number of persons accepted. It is the conference policy that the persons who will receive the assistance are asked to help the session progress in terms of timekeeping, speaker's slide preparation etc. Those who are interested in application may contact the MNC2006 Secretariat (secretariat@imnc.jp) to get the application form no later than 10th September.

SPEAKER’S INSTRUCTION

<< Oral Presentation >>

== Session Equipments ==

All speakers for oral presentations are required to use electronic projector. OHP is not available at the conference. To avoid software problem, you are requested to bring your own PC with you for your presentation.

The connector type of the projector is D-sub (15 pin). USB connection is not available. Please set up your PC at the beginning of the previous presentation of you.

== Author's Interview ==

A 10 minutes Author's Interview will be held after each session at the same room. The authors are requested to make brief discussions.

Please prepare a copy of the viewgraphs or slides used in your presentation. Your materials will be posted on the 90cm-wide X 210 cm-high surface board by the MNC staff and will be returned after the session.

* Note that the Author's Interview is different from so-called poster sessions and come off Most Impressive Poster Award.

== Session Registration ==

In order to ensure that the program would run smoothly, speakers are requested to register at the session registration desk no later than 30 minutes before the session starts.

Please hand materials for Author’s Interview in the MNC staff.

<< Poster Presentation >>

Poster Session is scheduled on Thursday afternoon, October 26 at the Room P. Authors are requested to make a discussion in front of their panels from 15:00-17:00

Please be sure which part your paper is belonging to.

Poster panels (180cm wide x 210cm height) are available. A program number will be posted at the top of each panel.

Authors are requested to display their materials during the conference.

The poster panels are available from 13:00 in October 25 to 12:00 in October 27. Please remove your poster materials by 12:00 on October 27.

JJAP INSTRUCTION

<<Submission of paper to the JJAP>>

Authors are commended to submit a paper
to the Japanese Journal of Applied Physics (JJAP) by October 27, 2006. Strict adherence to this deadline would be helpful for publication on schedule. Manuscripts will be reviewed using standard JJAP procedures and published in the special issue of JJAP as the proceeding of MNC 2006. The JJAP Editorial Board requests authors to note that the manuscript should not be identical with the text of the abstract submitted nor any papers published elsewhere. The content of the manuscript should be original by including additional data and/or further discussion.
The best paper award will be selected in the proceeding.
When you send your manuscript to JJAP, please be sure the program number (session number) of your paper on the JJAP application form.
(http://www.ipap.jp/index_authors.html) For more information on the preparation of manuscripts, see the JJAP website.
Authors who wish to submit a paper to publish in JJAP Special Issue of MNC2006 are requested to send application form including agreement for copyright transfer and payment of publication charge of the article with your signatures with

- One manuscript of paper
- Electronic form of the manuscript in PDF format

(Please prepare the paper as one file with documents, figures and tables.)

TO
Editorial Section of JJAP Special Issue,
The Institute of Pure and Applied Physics (IPAP),
Yushima Bldg. 5F, 2-31-22 Yushima, Bunkyo-ku,
Tokyo 113-0034, Japan

via STANDARD MAIL. Do not send the manuscript by electronic mail or fax. Electronic submission via web is unavailable.

<<Publication Charge>>

The authors (or their institution) are requested to pay the publication charge for the JJAP special issue (Microprocesses and Nanotechnology) according to the following rates when the paper is accepted. Publication charge includes 100 coverless reprints.
JJAP LaTeX compuscripts------------------¥ 9,300X Page
Manuscripts----------------------------------¥15,300X Page

Additional fee for unscannable figures (including photographs) in LaTeX compuscripts is ¥800 per figure.
The standard color printing fee is ¥50,000 per color page.

PROGRAM, Wednesday, October 25

Program Update Sptember 15, 2006

Room B

25B-1: Plenary Session

Chairpersons J. Fujita (Univ. of Tsukuba)
T. Itani (Selete)

25B-1-0 Opening Remarks
9:00 S. Matsui (Univ. of Hyogo)
MNC 2005 Award Presentation
Y. Ochiai (JST)

25B-1-1 Novel Atomic and Molecular Switches (Plenary)
9:50 M. Aono, T. Hasegawa, T. Nakayama, *T. Sakamoto, NIMS and *NEC, Japan

25B-1-2 Japan's R&D Strategy of Nanotechnology (Plenary)
10:30 K. Shimizu, Depty Director-General, Japan

25B-1-3 Emerging Research Nanoelectronic Devices (Plenary)
11:10 V.V. Zhirnov and R.K. Cavin, Semiconductor Res. Corp., USA

Room A

25A-2: Symposium A: EUV Lithography I

Chairpersons T. Watanabe (Univ. of Hyogo)
M. Hosoya (Hoya)

25A-2-1 EUV Lithography Development in the United States (Invited)
13:00 S. Wurm, SEMATECH, USA

25A-2-2 Recent Development Activities in EUV Lithography in Japan (Invited)
13:30 S. Okazaki, ASET, Japan

25A-2-3 Development Status of EUVL Technologies at Canon (Invited)
14:00 S. Uzawa, H. Kudo, Y. Miwa and T. Tsuji, Canon, Japan

25A-2-4 Nikon EUVL Exposure Tool (Invited)
14:30 T. Miura, Nikon, Japan

Author's Interview: 17:20-17:30
Coffee Break: 14:50-15:20

PROGRAM, Wednesday, October 25

Room B

25B-2: Nanomaterials I

Chairpersons D. Backes (Paul Scherrer Inst.)
S. Akita (Osaka Pref. Univ.)

25B-2-1
13:00
Fabrication of Magnetic Nanostructures on Membranes for Electron Holography Investigation of Domain Walls (Invited)
D. Backes 1,2, L.J. Heyderman 1, C. David 1, M. Klaui 1, F. Jungingcr 2, 3, H. Ehrkc 2,3, U. Rudiger 2, C.A.F. Vaz 3, J.A.C. Bland 3, T. Kasama 3, R.E. Dunin-Borkowski 3, 1 Paul Scherrer Inst., Switzerland, 2 Univ. Konstanz, Germany, 3 Univ. of Cambridge, UK

25B-2-2
13:00
Driving Force of Iron Particle Movement in Solid Phase Graphitization
K. Higashi 1,2, M. Ishida 1,3 , S. Matsui 1,4 and J. Fujita 1,2, 1 CREST JST, 2 Univ. of Tsukuba, 3 NEC and 4 Univ. of Hyogo, Japan

25B-2-3
13:50
Force Measurement of the Recreated Bond between the Carbon Nanotubes
A. Nagataki 1,2, O. Suekane 3, S. Akita 2 and Y. Nakayama 1,2, 1 Osaka Univ., 2 Osaka Pref. Univ. and 3 Osaka Sci. and Technol. Center, Japan

25B-2-4
14:10
Elastic Double Structure of Amorphous Carbon Pillar Grown by FIB-CVD
J. Fujita 1,2, S. Okada 1,2, R. Ueki 1,2, M. Ishida 1,3, T. Kaito 4 and S. Matsui 1,5, 1 CREST-JST, 2 Univ. of Tsukuba, 3 NEC, 4 SII Nanotechnol. and 5 Univ. of Hyogo, Japan

25B-2-5
14:30
Study of Contact Formation between Carbon Nanotube Via and Metal Electrodes Using Diameter-Controlled Cobalt Particles as a Catalyst for Future ULSI Interconnects
D. Kondo 1, 2, M. Nihei 1, 2, S. Sato 1, 2, A. Kawabata 1, 2, E. Ikenaga 3, M. Kobata 3, J.-J. Kim 3, S. Ueda 3, K. Kobayashi 3 and Y. Awano 1,2, 1 Fujitsu Labs., 2 Fujitsu and 3 Japan Syncrotron Radiation Res. Inst., Japan

Author's Interview: 14:50-15:00
Coffee Break: 14:50-15:20

PROGRAM, Wednesday, October 25

Room A

25A-3: Symposium A: EUV Lithography II

Chairpersons S. Wurm (SEMATEC)
M. Hasegawa (Canon)

25A-3-1
15:20
LPP EUV Source Development at Cymer (Invited)
T. Oga, I.V. Fomenkov, A. Ershov, N. Bowering, W. Partlo, D.C. Brandt and D.W. Myers, Cymer, Japan

25A-3-2
15:50
Development of EUV Mask Blanks (Invited)
T. Shoki, HOYA, Japan

25A-3-3
16:20
Aerial Image Mask Inspection System for EUVL (Invited)
H. Kinoshita1,3, K. Hamamoto2,3, N. Sakaya2,3, N. Hosoya2,3 and T. Watanabe1,3, 1 Univ. of Hyogo, 2 HOYA and 3 CREST-JST, Japan

25A-3-4
16:50
EUV Resist Development (Invited)
T. Watanabe, Y. Fukushima, H. Shiotani, R. Ohnishi, S. Suzuki, H. Kinoshita and S. Yusa, Univ. of Hyogo, Japan

Author's Interview: 17:20-17:30

Room B

25B-3: Bio MEMS, Lab on a chip

Chairpersons Y. Miyahara (NIMS)

25B-3-1
15:20
Ensemble Recording from Cultured Neuronal Networks (Invited)
Y. Jimbo, Univ. of Tokyo, Japan

25B-3-2
15:50
Effect of Tetanic Stimulation in Single-Cell-Based Reconstructed Neuronal Network Pattern
I. Suzuki 1, Y. Jimbo 1 and K. Yasuda 1,2, Univ. of Tokyo and 2 Tokyo Medical and Dental Univ, Japan

25B-3-3
16:10
Cell-Based Field Effect Devices for Cell Functional Analysis -Electrical Detection of Glucose-Induced Insulin Secretion for Pancreatic Beta Cell -
T. Sakata 1,2, A. Ueda 1 and Y. Miyahara 1,2, 1 NIMS and 2 Univ. of Tokyo, Japan

25B-3-4
16:30
On-Chip Qualification of Cell Damage Induced by Cytodetachment Agents
T. Akagi, M. Suzuki, T. Sato* and T. Ichiki, Univ. of Tokyo and *Biomaster Inc., Japan

25B-3-5
16:50
On-Chip Single Cell Lysis For Extracting Intracellular Material
N. Ikeda, N. Tanaka, Y. Yanagida* and T. Hatsuzawa*, NSK Ltd., and *Tokyo Inst. of Technol., Japan

25B-3-6
17:10
Fabrication of Nanofluidic Filter Device for Surface Enhanced Raman Spectroscopy
M. Wang, N. Jing, A. Baldwin, G.L. Cote and J. Kameoka, Texas A&M Univ., USA

Author's Interview: 17:30-17:40

PROGRAM, Thursday, October 26

Room A

26A-4: Electron & Ion-Beam Lithography

Chairpersons S. Kawata (Nikon)
S. Babin (Abeam Technologies)

26A-4-1
8:50
Low Energy Electron Beam Direct Write Equipment - EBIS (Invited)
T. Fuse, A. Ando, T. Kotsugi, H. Kinoshita and K. Sugihara, e-Beam Corp., Japan

26A-4-2L
9:20
Measurements of VSB Electron Beams with SSD and Scattering Aperture
M. Sakakibara1, H. Ohta1, T. Kanosue2, Y. Sohda1, and N. Ban3, 1Hitachi, 2Hitachi High-Tech Fielding and 3Hitachi-HITEC., Japan

26A-4-3
9:40
Full-Chip Lithography Verification for Multilayer Structure in EB Lithography
K. Ogino, H. Hoshino, H. Arimoto and Y. Machida, Fujitsu, Japan

26A-4-4
10:00
Electron Beam Lithography for Non Self-Aligned HBTs with Extremely Narrow Emitter Mesa
T. Kai 1, Y. Fukuyama 1, Y. Miyamoto 1,2, K. Furuya 1,2, K. Kurishima 3 and S. Yamahata 3, 1 Tokyo Inst. of Technol., 2 CREST-JST and 3 NTT, Japan

Author's Interview: 10:20-10:30
Coffee Break: 10:20-10:30

Room B

26B-4: Symposiumu B: Possibility of Organic Electronic Devices I

Chairpersons T. Ueno (Hitachi Chemical)
M. Ishida (NEC)

26B-4-1
8:50
Recent Progress of Organic Transistors and Application to Flexible Devices (Invited)
K. Kudo and M. Nakamura, Chiba Univ., Japan

26B-4-2
9:20
Novel Light Souces in Crossing of Telecom and Non-Telecom Technologies (Invited)
H. Suzuki, NTT, Japan

26B-4-3
9:50
Optical and Electronic Properties of Organic Semiconductor Crystals (Invited)
M. Ichiwaka and Y. Taniguchi, Shinshu Univ., Japan

Room A

26B-5: Nanomaterials II

Chairpersons T. Yoshinobu (Tohoku Univ.)
Y. Awano (Fujitsu)

26A-5-1
10:30
Nanostructure Fabrication on a Glass Slide for Next Generation Single Molecule Imaging Method (Invited)
T. Tanii 1, T. Miyake 1, T. Ueno 2, H. Sonobe 1, R. Akahori 1, N. Shimamoto 1, T. Funatsu 2 and I. Ohdomari 1, 1 Waseda Univ. and Univ. of Tokyo, Japan

26A-5-2
11:00
Single-Molecule-Level Detection of Target Genes by Using a Set of Gold Nano-Particle Probes
H. Kim 1, A. Kira 2, K. Okano 2 and K. Yasuda 1,2, 1 Tokyo Medical and Dental Univ. and 2 Univ. of Tokyo, Japan

26A-5-3
11:20
Development of the Eu Enhanced TiO_2 Nano-Photocatalyst for Effective Utilization of Spent Nuclear Fuel
E. Setiawati, B.C. Hong and K. Kawano, The Univ. of Electro-Communications, Japan

26A-5-4
11:40
Energy Dissipation of Carbon Nanotube Cantilevers for Mechanical Vibration
S. Akita 1, S. Sawaya 1 and Y. Nakayama 1,2, 1 Osaka Pref. Univ. and 2 Osaka Univ., Japan

Author's Interview: 12:00-12:10

Room B

26B-5: Symposiumu B: Possibility of Organic Electronic Devices II
Chairpersons T. Ueno (Hitachi Chemical)
M. Ishida (NEC)

26B-5-1
10:30
Supramolecular Photonics Materials for Polarization Control (Invited)
M. Horie, M. Kawamoto, T. Sassa and T. Wada, RIKEN, Japan

26B-5-2
11:00
Recent Advancements and Future Possibilities of Liquid Crystal Displays (Invited)
K. Kondo, Hitachi, Japan

26B-5-3
11:30
Novel Type of Color, Flexible and Reflective Display Using Electronic Liquid Powder (Invited)
R. Sakurai 1, I. Tamura 1, Y. Maeda 1 and R. Hattori 2, 1 Bridgestone and 2 Kyushu Univ., Japan

Room A

26A-6: Resist Materials and Processing
Chairpersons K. Asakawa (Toshiba)
T. Kozawa (Osaka Univ.)

26A-6-1
13:00
Characterization of Materials for Nanoscale Lithography (Invited)
W.D. Hinsberg, J. Hoffnagle, F. Houle, G. Wallraff, M. Sanchez, M. Jefferson, D. Bethune and C. Larson, IBM Almaden Res. Center, USA

26A-6-2
13:30
Chemically Amplified Resist Containing New Alicylic-lactone Group for ArF Excimer Laser Lithography
K. Nakano and K. Maeda, NEC, Japan

26A-6-3
13:50
Effect of Molecular Weight Distribution on Pattern Profile of ArF Resist
M. Shirai and A. Kuroshima, Osaka Pref. Univ., Japan

26A-6-4
14:10
Dissolution Studies of Polycarbocycle-Based Aqueous Base Developable Molecular Resists
D. Niakoula 1, D. Drygiannakis 1, I. Raptis 1, G.P. Patsis 1, P. Argitis 1, E. Gogolides 1, V.P. Vidali 1, D.R. Gautam 1, E.A. Couladouros 2, W. Yueh 3, J. Roberts 3 and R. Meagley 3, 1 NCSR "Demokritos", Greece, 2 Agricultural Univ., Greece and 3 Intel, USA

26A-6-5
14:30
Effects of Protecting Group Distribution on LER for Chemical Amplification Molecular Resist
D. Shiono1, H. Hada 1, T. Hirayama1, H. Yukawa 2, H. Oizumi 2 and I. Nishiyama 2, 1 Tokyo Ohka Kogyo and 2 ASET, Japan

Author's Interview: 14:50-15:00
Coffee Break: 14:50-15:10

PROGRAM, Thursday, October 26

Room B

26B-6: Nanofabrication I

Chairpersons H. Ikeda (Shizuoka Univ.)
E.K. Kim (Hanyang Univ.)

26B-6-1
13:00
Nanofabrication Using Carbon Nanowalls and Challenge for New Functional Devices (Invited)
M. Hori 1 and M. Hiramatsu 2, 1 Nagoya Univ. and 2 Meijyo Univ., Japan

26B-6-2
13:30
Low Cost Fabrication Technique of Carbon Nanotube by Laser Ablation of Carbon Micro-Bead :(1) Fundamental technique and Primary Product
Y. Nishida, K. Benten, H. Takano and M. Itoh, Doshisha Univ., Japan

26B-6-3
13:50
Mechanical Characteristics of Fe and SiOx Based Pillars Deposited by FIB-CVD
J. Igaki 1,2, K. Nakamatsu 1,2,3, R. Kometani 1,2,3, K. Kanda 1,2, Y. Haruyama 1,2, T. Kaito 4 and S. Matsui 1,2, 1 Univ. of Hyogo, 2 CREST JST, 3 JSPS and 4 SII Nano Technol., Japan

26B-6-4
14:10
Nanostructures Fabrication by Eelectron Beam Induced Deposition with $Fe(CO)_5$ and H_2O Followed by Thermal Treatment
M. Takeguchi 1, R. Che 1, M. Shimojo 1,2 and K. Furuya 1, 1 NIMS and 2 Saitama Inst. of Technol., Japan

26B-6-5
14:30
Substrate Temperature Dependence of Carbon Pillar Growth by FIB-CVD
M. Okada 1,2, R. Kometani 1,2,3, K. Nakamatsu 1,2,3, T. Kaito 4, Y. Haruyama 1,2, K. Kanda 1,2 and S. Matsui 1,2, 1 Univ. of Hyogo, 2 CREST-JST, 3 JSPS and 4 SII NanoTechnol., Japan

Author's Interview: 14:50-15:00
Coffee Break: 14:50-15:10

Room C

POSTER SESSION (15:10-17:00)

DUV, VUV, EUV Lithography

26C-7-1
Which Mask is Preferred for Sub-60nm Node Imaging
S.-H. Kima1, S.-Y. Choi2, G.-S. Yoon2, S.-Y. Yu2, Y.-H. Kim2, J.-S. Park2, S.-W. Choi2, S.-G. Woo2, W.-S. Hana2 and H.-K. Oh1, 1 Samsung Electronics and 2Hanyang Univ., Korea

26C-7-2
The Process Latitude Dependency on Local Photomask Haze Defect
Y.-M. Kang, S.-J. Kim, J.-B. Park, W. Chang, S.-W. Park and H.-K. Oh, Hanyang Univ., Korea

26C-7-3
Evaluation Method of Scattering Light from an EUV Mask
M. Hosoya1, N. Sakaya1, O. Nozawa1, Y. Shiota1, S. Shimojima1, T. Shoki1, T. Watanabe2 and H. Kinoshita2, 1 HOYA and 2 Univ. of Hyogo, Japan

26C-7-4
Influence of Defect on Top of the Absorber in Extreme Ultraviolet Lithography
E.-J. Kim, W. Chang, J.-B. Park, S.-J. Kim, S.-W. Park and H.-K. Oh, Hanyang Univ., Korea

26C-7-5 Novel lithography technique less than k1~0.25
D.-Y. Lee, Y. Kang, Y.-S. Chae, S.-J. Lee, H.-K. Cho and J.-T. Moon, Samsung Electronics, Korea

Electron- and Ion-Beam Lithography

26C-7-6 A Feasibility Study on Character Projection Electron Beam Writing for Photomasks
K. Kato, K. Nishizawa, T. Inoue, M. Shoji, K. Kuriyama and M. Yamabe, ASET, Japan

26C-7-7 EB Proximity Effect Correction with Threshold Method
D. Tsunoda, T. Niinuma, Y. Fujimoto and M. Shoji, Nippon Control System, Japan

26C-7-8 Focused Ion Beam System Equipped with 3D-CAD for Nano-scale Fabrication
J. Uegaki , T. Tsuchida , S. Yoshino , T. Shinotsuka, S. Honme, Elionix, Japan

26C-7-9 A Newly Developed XY-Stage for Electron Beam Systems
T. Nakamura, N. Saji, M. Miyashita, A. Amada and M. Tsunoda, NSK, Japan

26C-7-10 Analysis of Charging Phenomena of Polymer Films on Silicon Substrates under Electron Beam Irradiation
K. Morimoto, M. Yasuda, Y. Kainuma, H. Kawata and Y. Hirai, Osaka Pref. Univ., Japan

26C-7-120L Feasibility study on the registration mark in low energy lithography using a microcolumn
T. Yoshimoto, D.J. Seong, Y.C. Kim, D.-W. Kim, S.J. Ahn and H.S. Kim, Sun Moon Univ., Korea

Resist Materials and Processing

26C-7-11 Effect of Acid Diffusion and Polymer Structure on Line Edge Roughness
H. Yamamoto, T. Kozawa, A. Saeki, K. Okamoto, S. Tagawa, K. Ohmori*, M. Sato* and H. Komano*, Osaka Univ. and *Tokyo Ohka Kogyo, Japan

26C-7-12 Proton Dynamics and Amines in Chemically Amplified Resist
K. Natsuda, T. Kozawa, K. Okamoto and S. Tagawa, Osaka Univ., Japan

26C-7-13 Surface Tension and Bulk Effect Included Resist Reflow Modeling
J.-E. Lee, J.-M. Park, K.B. Kim, J.-T. Park, J.-Y. Hong and H.-K. Oh, Hanyang Univ., Korea

26C-7-14 Photoelectron Trajectory Simulation in a Resist for EUV Lithography
K. Yagura, H. Tanaka, T. Maekawa and M. Kotera, Osaka Inst. of Technol., Japan

26C-7-15 Imaging of Chemically-Amplified Negative-Tone Molecular Resist for EUV and EB Lithograph
K. Kojima 1, H. Fukuda 1, Y. Hashimoto 1, S. Mori 2, H. Hada 3, D. Shiono 3, J. Onodera 3, H. Oizumi 4 and I. Nishiyama 4, 1 Hitachi, 2 Hitachi ULSI Sys. 3 Tokyo Ohka Kogyo and 4 ASET, Japan

26C-7-16 Stochastic Simulation of Material and Process Effects on the Patterning of Complex Layouts
N. Tsikrikas, D. Drygiannakis, G.P. Patsis, I. Raptis, S. Stavroulakis* and E. Voyiatzis*, NCSR Demokritos and *Photronics Hellas, Greece

26C-7-17 Development of Small LER and High Sensitive Resist for EUVL
T. Watanabe, Y. Fukushima, H. Shiotani, M. Hayakawa*, S. Ogi*, Y. Endo*, R. Ohnishi, S. Suzuki, T. Yamanaka*, S. Yusa and H. Kinoshita, Univ. of Hyogo and *Toyo Gosei Kogyo, Japan

26C-7-121L Withdrwan

Nanodevices

26C-7-18 First-Principles Calculations for In-Terminated (000T) Surface of InN with Defects and Impurities
S.-H. LeePP, Y.-S. Kim* and Y.-C. Chung*, 1 Samsung Electro-Mechanics and 2 Hanyang Univ., Korea

26C-7-19 The Phase Transformation of $Ge_2Sb_2Te_5$ Alloys for Isothermal Heat Treatment
W.-S. Lim, S.-J. Cho and H.-Y. Lee, Chonnam National Univ., Korea

26C-7-20 KMC Explanation on the Suppression of Boron Diffusion in Ge Pre-amorphized Silicon Substrate
J.-S. Kim and T. Won, Inha Univ., Korea

26C-7-21 Kinetic Monte Carlo Study on Boron Diffusion in Strained Silicon under Biaxial Stress
Y.-K. Kim, K.-S. Yoon and T. Won, Inha Univ., Korea

26C-7-22 Evaluation of Backscattering Effect on Drain Current in Silicon Decanano Diode
T. Tsutsumi and K. Tomizawa, Meiji Univ., Japan

26C-7-23 FinFET Structure Having Isolated n+/p+ Gate Region Strapped with Metal and Polysilicon
H.-G. Kim, J.-S. Kim and T. Won, Inha Univ., Korea

26C-7-24 Nano-Dot & Nano-Wire MOSFET Device Modelling and Fabrication Process
Y. Chen, VICMOS Nanoelectronics, USA

26C-7-25 The Fabrication and Characterization of Omgea-Shaped gate Si Nanowire FETs
K. Keem, C. Yoon, J. Kang, D.-Y. Jeong, M.-S. Lee*, I.-S. Yeo*, U.-I. Chung*, J.-T. Moon* and S. Kim, 1 Korea Univ. and 2 Samsung Electronics, Korea

26C-7-26 Effect of Bi-layer Structure on the Long-Term Stability of Nanocrystalline Porous Silicon Ultrasonic Emitter
Y. Watabe 1, Y. Honda 1 and N. Koshida 2, 1 Matsushita Electric and 2 Tokyo Univ. of A & T, Japan

26C-7-114 Self-Aligned Carbon Nanotube Field-Emitter Source by Simple One Mask Process
B. Eom, C. Han, H. Kim, M. Yum*, J. Yang*, C* Park* and K. Chun, Seoul National Univ. and Sungkyunkwan Univ., Korea

26C-7-27 Improvement of OLED Performance Using Oxygen Plasma/ Thermal Treatments of Indium Tin Oxide (ITO)
S. Jang, H. Chae and D. Jung, Sungkyunkwan Univ., Korea

26C-7-29 Dark Current Analysis of Resonant-Cavity Separate Absorption & Charge Multiplication APD
D.H. Kim 1,2, H.J. Song 2, C.H. Roh 2, C.-K. Hahn2, H. Kim 2 and T.G. Kim 1, 1 Korea Univ. and 2 Korea Electronics Technology Institute (KETI), Korea

26C-7-30 Design of Near Infrared Sensitivity Improved InP based Heterojunction Phototransistor and Its Characterization for Linear Array Applications
Y.C. Jo 1, H.J. Song 1, C.K. Hahn 1, H. Kim 1 and P. Choi 2, 1 Korea Electronics Technology Institute(KETI) and 2 Kyungpook National Univ., Korea

26C-7-31 Electrical Characteristics of a ZnO Nanowire-Based Field-Effect Transistor on a Flexible Plastic Substrate
J. Kang, K. Keem, D.-Y. Jeong and S. Kim, Korea Univ., Korea

26C-7-32 Enhanced Performances of ZnO Nanowire FETs by H_2 Annealing
K. Keem, J. Kang, C. Yoon, D.-Y. Jeong, B.-M. Moon and S. Kim, Korea Univ., Kore

26C-7-33 Synthesis of CdS Quantum Dots using Zeolite-on-Glass and Their Photoluminescence Propertie
E.-S. Lee, K. Ha and H.-Y. Lee, Chonnam National Univ., Korea

26C-7-115 Electrical and Optical Properties of Multi Stacked In-rich InGaN/GaN Quantum Well System
J.S. Kim, E.K. Kim, H.J. Kim* and E. Yoon*, Hanyang Univ. and *Seoul National Univ., Korea

26C-7-34 Cotunneling Current in Si Single-Electron Transistor Based on Multiple Islands
K. Ohkura, T. Kitade and A. Nakajima, Hiroshima Univ., Japan

26C-7-35 Collective Pulse-Density Modulation with Neuromorphic Single-Electron Circuits
T. Oya 1 and T. Asai 2, 1 Yokohama National Univ. and 2 Hokkaido Univ., Japan

26C-7-36 Low Temperature Electrical Transport through Phenylene-Ethynylene Conjugated Molecular Junction Formed by Feedback Controlled Electromigration
S. H. Hong 1, A. Umeno 2, T. Akasaka 2, K. Hirakawa 2, C. Lee 4, S. W. Hwang 1,3 and D. Ahn 3, 1 Korea Univ., Korea, 2 Univ. of Tokyo, Japan, 3 Univ. of Seoul, Korea and 4 Korea Res. Inst. of Chemical Technol., Korea

26C-7-37 Chemical Gating FETs by AEAPTMS and Gold NPs
J.-T. Sheu 1,3, C.C. Chen 2, W.H. Chen 2 and M.L. Sheu 2, 1 National Chiao Tung Univ., 2 National Chi Nan Univ. and 3 National Synchrotron Radiation Res. Center, Taiwan

26C-7-116 Characteristics of Nano Floating Gate Memory with Au Nanoparticles in SiO_2 Dielectrics
M.S. Lee 1,2, D.U. Lee 1, J.H. Kim 1, E.K. Kim 1, W.M. Kim 2 and W.J. Cho 3, 1Hanyang Univ., 2 KIST and 3 Kwangwoon Univ., Korea

26C-7-117 Characterization of Nano-Floating Gate Capacitor with SnO_2 Nano-Particles Embedded in Polymeric Matrix
D.U. Lee, S.P. Kim, J.-H. Kim, E.K. Kim and Y.-H. Kim, Hanyang Univ., Korea

26C-7-38 Solvent Annealing in Polymer Thin Film Transistor Application
T.Y. Huang 1, F.C. Chen 1 and C.J. Ko 1,2, 1 National Chiao Tung Univ. and 2 National Nano device Labs., Taiwan.

26C-7-122L Fabrication and Physical Properties of Photoresist Spacers on Color Filters of LCD
H.S. Koo 1, M. Chen 2, H.K. Ku 1, P.C. Pan 1, C.H. Kang 1 and T. Kawai 1
1 Osaka Univ., Japan and 2 Ming-Hsin Univ. of Sci. and Tech., Taiwan

Nanofabrication

26C-7-39 Electron Beam Induced Deposition of Fe on STO
M. Tanaka 1, K. Mitsuishi 1, M. Takeguchi 1, M. Shimojo1,2, K. Furuya 1 and N. Koguchi 1, 1 NIMS and 2 Saitama Inst. of Technol., Japan

26C-7-40 Effect of Water Addition to Iron Carbony1 on the Formation of Iron Oxide Nanostructures in Electron Beam-Induced Deposition
M. Shimojo1,2, R.C. Che 2, M. Takeguchi 2, M. Tanaka 2, K. Mitsuishi 2 and K. Furuya 2, 1 Saitama Inst. of Technol. and 2 NIMS, Japan

26C-7-41 Initial Growth Process of Carbon Nanowalls Using Radical Injection Plasma Enhanced CVD
S. Kondo 1, K. Yamakawa 2, S. Kawai 1, T. Obayashi 1, S. Takashima 1, S. Den 2, H. Kano 3, M. Hiramatsu 4 and M. Hori 1
1 Nagoya Univ., 2 Katagiri Engineering and 3 NU Eco Engineering and 4 Meijo Univ., Japan

26C-7-42 The Influence of Oxidation on Shape, Number Densities, and Field Emission Ability of Tungsten Oxide Nanowires
Y. Kojima, K. Kasuya, T. Ooi, K. Takayama and M. Nakao, Univ. of Tokyo, Japan

26C-7-43 Annealing Effect of the Field Emission from DLC Emitter Fabricated by FIB-CVD
R. Kometani 1, 2, 3, K. Kanda 1, 2, Y. Haruyama 1, 2, T. Kaito 4 and S. Matsui 1, 2, 1 Univ. of Hyogo, 2 CREST JST, 3 JSPS and 4 SII NanoTechnol., Japan

26C-7-44 Fabrication and Investigation of Tungsten Deposit on Both Top and Bottom Surfaces of Thin Film Substrate
Z.-Q. Liu, K. Mitsuishi and K. Furuya, NIMS, Japan

26C-7-45 Effect of Additive Chloride Ion on Submicron Size-Dependence of Electroless Nickel Plating
S. Mononobe 1,2 and M. Ohtsu 3, 1 Toyo Univ., 2 Kanagawa Academy of Sci. and Technol. and 3 Univ. of Tokyo, Japan

26C-7-46 Atomic Layer Deposition of Aluminum Oxide at Low Temperature on CH3-Terminated Alkanethiolate Self-assembled Monolayer Surfaces
N.P. Kobayashi, C.L.. Donley, S.-Y. Wang and R.S. Williams, Hewlett-Packard Labs., USA

26C-7-47 Thermal Diffusion of Ag Atoms to Form Nanoparticles in SiO2 on Si
N. Arai 1,2, H. Tsuji 1, T. Minotani 1, T. Ishibashi 1, K. Adachi 2, H. Kotaki 2, Y. Gotoh 1 and J. Ishikawa 1, 1 Kyoto Univ. and 2 SHARP, Japan

26C-7-48 Dip-Pen Nanolithography Process to Fabricate Two-Dimensional Photonic Crystal for Planar-type Optical Biosensor
J.-H. Kim and H.-Y. Lee, Chonnam National Univ., Korea

26C-7-49 Fabrication and Verification of Micro Electrostatic Actuator by Focused-Ion-Beam Chemical-Vapor-Deposition
A. Ozasa 1, 2, K. Nakamtsu 1, 2, 3, R. Kometani 1, 2, 3, K. Kanda 1, 2, Y. Haruyama 1, 2, T. Kaito 4 and S. Matsui 1, 2, 1Univ. of Hyogo, 2 CREST JST, 3JSPS and 4 SII NanoTechnol., Japan

26C-7-50 Ultra-fine Patterning of the Nanocrystalline Diamond Film Grown by Microwave Plasma-enhanced Chemical Vapor Deposition
H. Gamo 1, K. Shimada 2,3, M. N.-Gamo 2 and T. Ando 3, 1 Toppan Printing, 2 Toyo Univ. and 3 NIMS, Japan

26C-7-51 Scanning Probe Lithography of Self-Assembled AEAPTMS Monolayers on The SiO_2 Surfaces
J.-T. Sheu 1,2, C.-H. Wu 1,2 and T.-S. Chao 1, 1 National Chiao Tung Univ. and 2 National Synchrotron Radiation Res. Center, Taiwan

Nanomaterials

26C-7-52 Electrical Properties and Synthesis of Spray-Pyrolyzed $SrBi_2Ta_2O_9$ Thin Ferroelectric Films
H.S. Koo 1,2, H.K. Ku 3, M. Chen 1 and T. Kawai 1, 1 Osaka Univ., Japan, 2 National Cheng Kung Univ. and 3 Tainan and Fortune Inst. of Technol., Taiwan.

26C-7-53 Effects of Microplasma Treatment in Water on Water-solubility and Gas Sensing Properties of Carbon Nanotubes
K. Imasaka, Y. Kato and J. Suehiro, Kyushu Univ., Japan

26C-7-54 In Situ SEM Observation of the Growth of One-Dimensional Nanostructures
K. Kasuya, T. Ooi, Y. Kojima and M. Nakao, Univ. of Tokyo, Japan

26C-7-55 Non-Volatile Phase Change Characteristics of $Ge_2Sb_2Te_5$ and $Ge_1Se_1Te_2$ Thin Film with The Triple Layer Structure Device
H.-B. Chung, H. Choi and H.-G. Kim, Kwangwoon Univ., Korea

26C-7-56 Investigation of Resistance Change Characteristics with Ag Polarization Photodoping on Ag / Chalcogenide Thin Film
H.-B. Chung and Y.-W. Koo, Kwangwoon Univ., Korea

26C-7-57 Optoelectronic Characteristics of CdTe/HgTe/CdTe Quantum-dot Quantum-Well Nanoparticles
D.-W. Kim, K. Cho, H. Kim, B. Park and S. Kim, Korea Univ., Korea

26C-7-58 Evaluation of Protein Adsorption on Organosilane Self-Assembled Monolayer
Y. Kanari, Y. Shyoji*, T.Tanii, T. Hoshino* and I. Ohdomari, Waseda Univ. and *Chiba Univ., Japan

26C-7-59 Fabrication of Au Nanostructures by Electron Beam Induced Deposition and Post-Deposition Heat Treatment
R. Che 1, M. Takeguchi 1, M. Shimojo 1,2 and K. Furuya 1, 1 NIMS and 2 Saitama Inst. of Technol., Japan

26C-7-60 Atomic Investigation of Fe-Cu Magnetic thin Films by Molecular Dynamics Simulation
S.-G. Lee and Y.-C. Chung, Hanyang Univ., Korea

26C-7-61 Magnetic Properties and Electronic Structure of Transition Metal Adsorbed ZnO(0001): ab Initio Calculations
Y.-S. Kim 1, S.-H. Lee 2, J.-I. Im 3 and Y.-C. Chung 1, 1 Hanyang Univ., Korea, 2 Samsung Electro-Mechanics and 3 Korea Inst. of Ceramic Eng. and Technol., Korea

26C-7-62 Gasochromic Properties of Nano-Structured Tungsten Oxide Films by Sputtering Deposition
K. Takano 1, A. Inouye 1,2, S. Yamamoto 1, M. Sugimoto 1, M. Yoshikawa 1 and S. Nagata 2, 1 JAEA and 2 Tohoku Univ., Japan

26C-7-63 Non-Destructive Graphitization of FIB-CVD Structures by Joule Heating with Flash Discharge
S. Nakazawa 1, 2, M. Ishida 1, 3, T. Ichihashi 1, 3, T. Kaito 4, S. Matsui 1, 5 and J. Fujita 1, 2, 1 CREST JST, 2 Univ. of Tsukuba, 3 NEC, 4 SII Nanotechnology and 5 Univ. of Hyogo, Japan

26C-7-64 Effect of Thickness of Nanotube TiO_2 Electrodes Sensitized with CdSe Quantum Dots on Photoacoustic, Photoelectrochemical, and Ultrafast Carrier Dynamic Properties
T. Toyoda 1, K. Yamamoto 1, K. Katayama 2, T. Sawada 3 and Q. Shen 1, 1 Univ. Electro-Commun., 2 Chuo Univ. and 3 Tokyo Univ. Agri .& Technol., Japan

26C-7-65 Syntheses of Eu-Activated Alkaline Earth Fluoride MF2 (M =Ca, Sr) Nano-Particles
B.-C. Hong and K. Kawano, Univ. of Electro-Communications, Japan

26C-7-66 Local Resistance Measurement of Carbon Nanotube Cathodes Using Scanning Spreading Resistance Microscopy
K. Tanaka, F. Wakaya, S. Abo, T. Shiroishi*, A. Hosono*, S. Okuda*, and M. Takai, Osaka Univ. and *Mitsubishi Electric, Japan

26C-7-67 Mechanical Properties of Single Carbon Nanofibers Grown on Tips of Scanning Probe Microscope by Ion Irradiation
M. Kitazawa, R. Ohta, T. Okita*, J. Tanaka* and M. Tanemura*, Olympus and *Nagoya Inst. of Technol., Japan

26C-7-68 Field Emission Characteristics of the Marimo Carbon
M. Kikuchi 1, H. Gamo2, K. Nakagawa 1, T. Ando 3, and M. Nishitani-Gamo 1, 1Toyo Univ., 2 Toppan Printing and 3 NIMS, Japan

26C-7-69 Liquid Phase Deposition of Aligned Carbon Nanotubes by Using a Cobalt Catalyst
T. Shibasaki 1, H. Gamo 2, K. Nakagawa 1, T. Ando 3, and M. Nishitani-Gamo 1, 1 Toyo Univ., 2 Toppan Printing and 3 NIMS, Japan

26C-7-70 Enhancement of Conductivity for PET Matrix Reinforced with Carbon Nanotubes
S.H. Shiau 1, C.Y. Kuo 1, C. Gau 1, C.W. Liu 2, C.H. Lin 3 and C.H. Wei 4, 1 National Cheng Kung Univ., 2 National Nano Device Labs., 3 Taiwan Textile Res. Inst. and 4 Southern Taiwan Univ. of Technol., Taiwan

26C-7-71 GaN Nanowires Synthesis from Ga_2O_3 with Graphite Vapor Phase Using Vapor Phase Epitaxy Method
T.I. Shin, H.J. Lee, W.Y. Song, S.M. Kang, H. Kim and D.H. Yoon, Sungkyunkwan Univ., Korea

26C-7-72 Preparation and Its Evaluation of Hydrogen Perm-Selective Membrane by Nanoparticle Bottom-up Method Induced by Electrophoresis
A. Tominaga, S. Hamaguchi, K. Hayamizu, O. Kamatsu, Y. Mizukoshi and S. Tanabe, Nagasaki Univ., Japan

26C-7-73 Sonochemical Prepar Ation of Nanosized Magnetite Par Ticles by Rever Se Precipitation Method
Y. Mizukoshi, T. Shuto and S. Tanabe, Nagasaki Univ., Japan

26C-7-74 Field Emission Characteristics of Well-aligned Carbon Nanotubes Synthesized in Organic Liquids
H. Gamo 1, T. Shibasaki 2, K. Nakagawa 2, T. Ando 3 and M. N.-Gamo 2, 1 Toppan Printing, 2 Toyo Univ. and 3 NIMS, Japan

26C-7-75 Field Emission from Standalone MgO-coated Carbon Nanotube
L. Pan, Y. Konishi, H. Tanaka, S. Chakrabarti*, S. Hokusin, S. Akita and Y. Nakayama, Osaka Pref. Univ. and *Osaka Sci. and Technol. Center, Japan

26C-7-76 Diameter Control of Carbon Nanocoils by the Catalyst of Organic Metals
S. Hokushin, L. Pan and Y. Nakayama, Osaka Pref. Univ., Japan

26C-7-77 Characterization of Ag_2S Nanoparticles Synthesized by a Colloidal Method
J. Jang, K. Cho and S. Kim, Korea Univ., Korea

26C-7-78 Low Temperature Synthesis of Single Crystal Silicon Nanowires Using Anodic Aluminum Oxide Template
C.W. Liu, C.Y. Kuo 1, C.P. Wang 1, C. Gau 1 and B.T. Dai, National Nano Device Labs. and 2 National Cheng Kung Univ., Taiwan

26C-7-79 Field Effect Penetration and Modulation in Nanoscale Organic Transistors
A. Boudjella, A.B. Gougam* and H. Alizadeh*, Queen's College and *Univ. of Toronto, Canada

26C-7-118 Development of New Hydrogenated Amorphous Silicon Thin Films with Quantum Wires
M. Iida, E. Natori, M. Motohashi and K. Homma, Tokyo Denki Univ., Japan

26C-7-123L The Effects of Relaxed InGaAs Virtual Substrates on the Formation of Self-Assembled InAs Quantum Dots
C.C. Thet, S. Panyakeow, and S. Kanjanachuchai, Chulalongkorn Univ., Thailand

Nanoimprint, Nanoprint and Rising Lithography

26C-7-80 Synchronized Nanoimprint for Micro and Nano Structures
N. Niimi, K. Okuda, K. Sogo, H. Kawata, M. Seki and Y. Hirai, Osaka Pref. Univ., Japan

26C-7-81 Nanoimprint Lithography Combined Ultrasonic Vibration on Polycarbonate
H. Mekaru, T. Noguchi, H. Goto and M. Takahashi, AIST, Japan

26C-7-82 An Elastodynamic Modeling of Laser Assisted Direct Imprinting Process
Y.-C. Lee 1, C.-H. Chuang 2 and F.-B. Hsiao 3, 1 National Cheng Kung Univ., Tainan, 2 Southern Taiwan Univ. of Technol. and 3 National Cheng Kung Univ., Taiwan

26C-7-83 Process Optimization for the Thermal-Imprint of Parylene /Silicon
S.W. Youn, H. Goto, M. Takahashi and R. Maeda, AIST, Japan

26C-7-84 Effects of Back Grooves on Improving Uniformity in Nanoimprint Lithography
H. Hocheng and W.H. Hsu, National Tsing Hua Univ., Taiwan.

26C-7-85 O2 Plasma Irradiation Effect on HSQ Nanopatterns Fabricated by Room-Temperature Nanoimprint Lithography
K. Nakamatsu 1,2, M. Kawamori 1 and S. Matsui 1, 1 Univ. of Hyogo and 2 JSPS, Japan

26C-7-86 Bakable Lamellar Grating Fabrication by Room-Temperature Nanoimprint Using Hydrogen Silsesquioxane (HSQ)
C. Minari 1, 2, K. Nakamatsu 1, 2, 3, R. Kometani 1, 2, 3, K. Kanda 1, 2, Y. Haruyama 1, 2 and S. Matsui 1, 2, 1 Univ. of Hyogo, 2 CREST-JST and 3 JSPS, Japan

26C-7-87 Surface Evaluation of Fluorinated Diamond-like Carbon as an Anti-sticking Layer of Nanoimprint Mold
N. Yamada, K. Nakamatsu, K. Kanda, Y. Haruyama and S. Matsui, Univ. of Hyogo, Japan

26C-7-88 Fabrication of Nano-Porous Structure on Si Substrate Using Nanoimprint Lithography with AAO Template
S.-H. Hong, H. Lee, J.U. Cho and Y.K. Kim, Korea Univ., Korea

26C-7-89 Micro Press Molding of Borosilicate Glass using Plated Ni-W Molds
M. Yasui 1, M. Takahashi 2, J. Uegaki 3, Y. Hirabayashi 1 and R. Maeda 2, 1 Kanagawa Industrial Technol. Center, 2 AIST and 3 Elionix Inc., Japan

26C-7-90 The Effect of Metal-Film Thickness on Formation by Using Direct Imprint
M.-C. Cheng, Y.-T. Lu and C.-K. Sung, National Tsing Hua Univ., Taiwan

26C-7-91 Nanoimprint-Induced Nanostructure Transformation of Polymer Thin Films Visualized by Cross-Sectional TEM Observation with a Diblock Copolymer
N. Aoai 1, K. Nakamatsu 2, K. Kamata 1, T. Iyoda 1, S. Matsui 2 and M. Nakagawa 1, 1 Tokyo Inst. of Technol., 2 Univ. of Hyogo, Japan

26C-7-92 Atomistic-scale Friction in Direct Imprinting Process a Molecular Dynamics Simulation
C.W. Hsieh, W.Y. Lai, and C.K. Sung, National Tsing Hua Univ., Taiwan

26C-7-93 The Effects of Mold Geometry on the Formation of Metallic Patterns by Using Direct Nanoimprint
H.S. Hsiung, Y.T. Lu and C.K. Sung, National Tsing Hua Univ., Taiwan

26C-7-94 A Study of Mechanical Failure and Anti-Adhesion Treatment for Nanoimprint Process
F.Y. Chang 1, H.Y. Lin 1, C.H. Hsueh 2, K.W. Chen 3, S.H. Chang 1, T.C. Wu 1 , 1 Industrial Technol. Res. Inst., Taiwan, 2 Oak Ridge National Lab., USA and 3 National Cheng Kung Univ., Tainan

26C-7-124L Nanotransfer Method of the High-Density Capacitor and Its Application to the Embedded Substrate
M. Ichiki and R. Maeda, AIST, Japan

Bio MEMS, Lab on a Chip

26C-7-95 Effects of Carbon Nanospheres as Matrix on MALDI-TOF Analysis
H.S. Wen, L.F. Tsai, C. W. Liu, S.L. Shy, B.T. Dai, P.C. Liao 1, Y.C. Tyan 1 and C.Y. Wang 1, National Nano Device Labs. and 1 National Cheng Kung Univ., Taiwan

26C-7-96 Micro-Fluidic Dialysis Device for Protein Solution Enrichment
C. Kim, C. Ryu and H. Chae, Sungkyunkwan Univ., Korea

26C-7-97 Enzyme-Linked Immunosorbent Assay Using Micro Reactor Stack for the Detection of Biomolecules
Y. Utsumi, T. Asano, Y. Ukita, K. Matsui, M. Takeo and S. Negoro, Univ. of Hyogo, Japan

26C-7-98 Fabrication of Polytetrafluoroethylene Microparts by High-Energy X-ray Induced Etching
Y. Ukita1, K. Kanda1, S. Matsui1, M. Kishihara2 and Y. Utsumi1, 1 Univ. of Hyogo and 2 Okayama Pref. Univ., Japan

26C-7-125L Vertically Mounted Micro-fluidic Chip for Use in Multi-step Reagent Testing
M. Matsuzawa1, H. Inami1, Y. Sasaki1, S. Togashi1, R. Miyake1, M. Kurihara1, K. Tsuge2, Y. Seto2, 1Hitachi and 2 Natioanl Res. Inst. of Policesci., Japan

Microsystem Technology and MEMS

26C-7-99 Fabrication of a Vertical Pore Using an Anodic-Reaction on (110) Silicon
J.-H. Jeong, J.-B. Cho, D.-S. Eun and J.-H. Lee, Kyungpook National Univ., Korea

26C-7-100 Fabrication and Emission Characteristics of Sputter-Induced Carbon Nanoneedle Field-Emitters for Application to Electron-Beam-Pumped Light Sources
K. Shiozawa 1, Y. Neo 1, M. Okada 1,2 and M. Takahashi 3, G. Hashiguchi 3, T. Ikedo 4 and H. Mimura 1, 1 Shizuoka Univ., 2 Nippon Steel Corp., 3 Kagawa Univ. and 4 Ikedo Electric, Japan

26C-7-101 Tuning of Resist Slope for RF MEMS with Hard Baking Parameters
S.C. Saha, H. Sagberg*, G.U. Jensen* and T. Saether, Norwegian Univ. of Sci. and Technol. and *SINTEF ICT, Norway

26C-7-102 Effects of Exposure on Adhesive Strength Between Microsized Photoresist and Si Substrate
C. Ishiyama, M. Sone and Y. Higo, Tokyo Inst. of Technol., Japan

26C-7-103 A Multi-Sensor with Integrated Three Functions
D.-S. Eun, D.-Y. Kong, J.-H. Jeong, H.-S. Kim, S.-H. Kong, J.-K. Shin and J.-H. Lee, Kyungpook National Univ., Korea

26C-7-105 Design and Fabrication of a MEMS-Based Multi-Chamber
D.-S. Eun, D.-Y. Kong, S.-H. Kong, J.-K. Shin and J.-H. Lee, Kyungpook National Univ., Korea

26C-7-104 Patterning of PDMS/Carbon Black Conductive Polymer Composite for Chemical Sensors Fabrication
N. Andreadis 1,2, S. Chatzandroulis 1, D. Goustouridis 1, K.Beltsios 2 and I. Raptis 1, 1 NCSR, Demokritos, 2 Univ. of Ioannina, Greece

26C-7-106 Effect of Illumination of Light-Guiding Plates on Roughness of Micro-Structures by Microelectromechanical Systems
C.-H. Chien and Z.-P. Chen, Tatung Univ., Taiwan

26C-7-107 Tunable Optical Micro Scanner Driven by Piezoelectric Actuator
T. Kobayashi 1, T. Itoh 2, R. Sawada 3 and R. Maeda 1, 1 AIST, 2 Univ. of Tokyo and 3 Kyushu Univ., Japan

26C-7-108 Fabrication of a MEMS-Based Fine-Pitch Cantilever-Type Probe Unit
J.C. Yang, H. Jung, C.J. Kim, J.E. Kim and S.H. Kong, Kyungpook National Univ., Korea

26C-7-109 Development of Cavity Structure for Field Emission on Si Substrate
D. Noda 1, M. Hatakeyama 2, K. Nishijyou 2, K. Sawada 2,3 and M. Ishida 2,3 , 1 Univ. of Hyogo, 2 Toyohashi Univ. of Technol. and 3 CREST-JST, Japan

26C-7-110 High-k Dielectric Oxide for RF MEMS Capacitive Switch
Y. Zhang, J. Lu and R. Maeda, AIST, Japan

26C-7-111 Two-Step-Driven RF-MEMS Switch with Spiral Springs
N. Nomoto and K. Suzuki, Ritsumeikan Univ., Japan

26C-7-112 Inkjet Printing of Ni Nano-Size-Particles for Metal Induced Crystallization of Amorphous Si
Y. Ishida, G. Nakagawa* and T. Asano*, Yaskawa Electric and *Kyushu Univ., Japan

26C-7-113 Optical-Fiber Matrix-Exposure Using Light-Emitting Diode Sources
T. Horiuchi, N. Mirumachi and Y. Ohshima*, Tokyo Denki Univ. and *NIDEC Sankyo Corp., Japan

26C-7-119 Fabrication and Mechanical Characterization of MEMS Based Vertical Probe Tips for Measurements of Micro Pads
J. Ryu, J.-H. Kim, S.-I. Chu and S. Moon, KIST, Korea

Room B

BANQUET: 17:30-19:30
Most Impressive Poster Award Ceremony

PROGRAM, Friday, October 27

Room A

27A-8: Symposium C: Nanoimprint Technology I

Chairpersons H. Hiroshima (AIST)
A. Yokoo (NTT)

27A-8-1
8:50
Roll to Roll Nanoimprinting on Inherently Conducting Polyanline(Invited)"
Tapio Makela, VTT Micro and Nanoelectronics, Finland

27A-8-2
9:20
Regiflex Imprinting (Invited)
T.-I. Kim, J.-Y. Park and H.H. Lee, Seoul National Univ., Korea

27A-8-3
9:50
High Speed Direct Nanoimprint on Film for DVD and BD Optical Disk Media (Invited)
T. Ohta 1,2 , M. Hennessey 2, D. Strand 2, D. Jablonski 2, B. Walton 2, B. Clark 2, 1 Ovonic Phase Change Inst., and 2 Energy Conversion Devices, Inc. USA

27A-8-4
10:20
Application of Imprint Technique in PCB Industry
S. Ra, M. Hong, H. Lee, J. Lee and J. Kwak, Samsung Electro-Mechanics, Korea

Author's Interview: 11:50-12:00
Coffee Break: 10:40-10:50

Room B

27B-8: DUV, VUV, EUV Lithography

Chairpersons S. Asai (Fujitsu)
K. Ootaki (Nikon)

27B-8-1
8:50
Latest Status of Immersion Exposure Tool for Production (Invited)
T. Fujiwara, T. Yoshikawa, J. Ishikawa, K. Shiraishi, H. Tanizawa and Y. Ishi, Nikon, Japan

27B-8-2
9:20
Critical Pattern Cleaning System Based on DFM rule in Model-based OPC - Application for Metal Layer in CMOS Logic Process -
K. Harazaki, T. Yoshioka, K. Ohmori, M. Satoh and A. Kawamura, Sharp, Japan

27B-8-3
9:40
Study on Mask CD Specification Considering Process Sensitivity of Mask CD Error in EUV Lithography
S. Huh*, H. Kim, I. Jang, S. Cho, D. Kim, J. Lee, S. Choi, and W. Han , Samsung Electronics, Korea

27B-8-4
10:00
Cleaning Characteristics of Contaminated Imaging Optics Using 172 nm Radiation
K. Tanaka 3, K. Hamamoto 3 , N. Sakaya 2,3 , M. Hosoya 2,3, T. Watanabe 1,3 and H. Kinosita 1,3, 1 Univ. of Hyogo, 2 HOYA and 3 CREST-JST, Japan

27B-8-5
10:20
Inhibition of Contamination of Ru-Capped Multilayer Mirrors for EUVL Projection Optics by Ethanol
Y. Kakutani*1, M. Niibe1, Y. Gomei 2, H. Takase 3, S. Terashima 3, Y. Watanabe 3, S. Matsunari 3, T. Aoki 3, K. Murakami 3 and Y. Fukuda 3, 1 Univ. of Hyogo, 2 Canon and 3 EUVA, Japan

Author's Interview: 10:40-10:50
Coffee Break: 10:40-10:50

PROGRAM, Friday, October 27

Room A

27A-9: Symposium C: Nanoimprint Technology II

Chairpersons Y. Hirai (Osaka Pref. Univ.)

27A-9-1
10:50
Effects of Side Wall Roughness of Mold Pattern on High Aspect Imprint
H. Kawata, K. Okuda, K. Sogou, N. Niimi*, M. Yasuda and Y. Hirai, 1 Osaka Pref. Univ. and 2 JST Innovation Plaza Osaka, Japan

27A-9-2
11:10
Control of Bubble Defects in UV-Nanoimprint
H. Hiroshima, AIST, Japan

27A-9-3
11:30
Pattern Size Reduction of Nanoprint-Fabricated Structures on Heat Shrinkable Film
A. Yokoo 1,2, K. Wada 2 and L.C. Kimerling 2, 1 NTT, Japan and 2 Massachusetts Inst. of Technol., USA

Author's Interview: 11:50-12:00

27B-9: Late News Paper Session **(10:50 -11:50)**

Chairpersons T. Itani (Selete)
Y. Ono (NTT)

27B-9-1L
10:50
Design of Monolithically Integrated Ge Photodetectors on Si Waveguides for High Speed Optical Clocking
S. Park 1, Y. Ishikawa 1, T. Tsuchizawa 2, T. Watanabe 2, K. Yamada 2, S. Itabashi 2, C. Manolatou 3 and K. Wada 1, 1 Univ. of Tokyo and 2 NTT, Japan and 3 Cornell Univ., USA

27B-9-2L
11:10
High Performance Non-volatile Memory Cell Based on a Conjugated Polymer (Polyaniline Derivative)
D. Lee, J. Kim, S. Hong, H. Ha, D. Moon, M. Ree and O. Kim, POSTECH, Korea

27B-9-3L
11:30
Development of Mesh-structure Multichannel Flexible Neural Probe
Y. Kato, T. Suzuki, K. Mabuchi, Univ. of Tokyo, Japan

Author's Interview: 11:50-12:00

27A-10: Nanomaterial III

Chairpersons S.W. Hwang(Korea Univ.)
F. Nihey (NEC)

27A-10-1
13:00
Indium Phosphide Nanoneedles on Non-Single Crystalline Semiconductor Surfaces
N.P. Kobayashi, S.-Y. Wang, C.M. Santori and R.S. Williams, Hewlett-Packard Labs., USA

27A-10-2
13:20
Optical Absorption and Ultrafast Carrier Dynamics Characterization of CdSe Quantum Dots Deposited on Inverse Opal TiO_2 Films
L. J. Diguna, Q. Shen, A. Sato, K. Katayama 1, T. Sawada 2 and T. Toyoda, Univ. of Electro-Communications, 1 Chuo Univ., and 2 Tokyo Univ. of Agriculture and Technol., Japan

27A-10-3
13:40
Negligible Pure Dephasing in InAs Self-Assembled Quantum Dots
J. Ishi-Hayase 1, K. Akahane 1, N. Yamamoto 1, M. Kujiraoka 1,2, K. Ema 2 and M. Sasaki 1, 1 National Inst. of Inform. and Communications Technol. (NICT) and 2 Sophia Univ., Japan

Author's Interview: 14:00-14:10
Coffee Break: 14:00-15:10

Room B

27B-10: Nanofabrication II
Chairpersons T. Chikyo (NIMS)
X.W. Zhao（Sci. of Univ. Tokyo）

27B-10-1
13:00
TEM Observations of Nanowires Deposited on a Self-Assembled InAs Quantum-Ring Structure
K. Mitsuishi, T. Noda, T. Mano, M. Tanaka, K. Furuya, and N. Koguchi, AIST, Japan

27B-10-2
13:20
Thermal Agglomeration of Ultrathin (110) Silicon-on-Insulator Layer in Ulltrahigh Vacuum
Y.J. Fan, Z.A. Burhanudin, D. Moraru, R. Nuryadi and M. Tabe, Shizuoka Univ., Japan

27B-10-3
13:40
Micro-Patternable SU-8 Nano Filter Integrated with Micro Structures For Molecule Screening
C.-J. Chang, L.-H. Lan, C.-S. Yang and F.-G. Tseng, National Tsing Hua Univ., Taiwan

27B-10-4
14:00
Nanopatterning of Green Fluorescence Protein on Self-Assembled Monolayer Template
T. Miyake, K. Kato, Y. Kanari, Y. Beppu, T. Tanii and I. Ohdomari, Waseda Univ., Japan

Author's Interview: 14:20-14:30
Coffee Break: 14:20-14:50

Room A

27A-11: Microsystem & MEMS
Chairpersons T. Asano (Kyushu Univ.)
T. Ikehara (AIST)

27A-11-2
15:10
Angled Exposure Method for Patterning 3D Samples with Slant Side Surfaces
V.K. Singh, M. Sasaki, and K. Hane, Tohoku Univ., Japan

27A-11-3
15:30
A Single-Layer Step-Bridge for Out-of-Plane Thermal Actuator
P.-I. Yeh, W.-C. Chen and W. Fang, National Tsing Hua Univ., Taiwan

27A-11-4
15:50
MEMS RF Switch with Fast Switching Speed
Y. Okumura, Y. Takita and K. Suzuki, Ritsumeikan Univ., Japan

27A-11-5
16:10
Analysis of Droplet Ejection Behavior of Electrostatic Inkjet Nozzle
K. Sogabe 1, Y. Ishida 2 and T. Asano 3, 1 Kyushu Inst. of Technol., 2 Yaskawa Electric and 3 Kyushu Univ, Japan

27A-11-6
16:30
Prevention of Release-Related Sticking in MEMS Devices by Electrodeposition of Water-Repellent Film
T. Sakata, K. Kuwabara, T. Shimamura, N. Sato, N. Shimoyama, M. Nagase, K. Kudou*, K. Machida* and H. Ishii, NTT and *NTT-AT, Japan

27A-11-7
16:50
Concept and Demonstration of Individual Probe Actuation in a 2D Parallel AFM System
T. Akiyama 1, L. Aeschimann 1, L. Chantada 2 , N.F. de Rooij 1, H. Heinzelmann 3, H. Herzig 1, O. Manzardo 1, A. Meister 3, J. Polesel-Maris 3, R. Pugin 3, U. Staufer 1 and P. Vettiger 1,3, 1 Univ. of Neuchatel , Switzerland, 2 Univ. of Santiago de Compostela and 3 Swiss Center for Electronics and Microtech., Switzealand.

Author's Interview: 17:10-17:20

Room B

27B-11: Nanodevices
Chairpersons S. Kasai (Hokkaido Univ.)
J.-T. Sheu (National Chiao Tung Univ.)

27B-11-1
14:50
Single-Electron Devices and Circuits Electromagnetically Dual to Superconducting Josephson Electronics (Invited)
Y. Mizugaki, Univ. of Electro-Communications, Japan

27B-11-2
15:20
In-situ Visualization of Local Field Enhancement at an Ultra Sharp Tungsten Emitter under low Voltage Scanning Transmission Electron Microscope
Y. Ikeda 1,2, S. Okada 1,2, K. Higashi 1,2, S. Nakazawa 1,2, M. Ishida 1,3, S. Matsui 1,4 and J. Fujita 1,2, 1 CREST-JST, 2 Univ. of Tsukuba, 3 NEC and 4 Univ. of Hyogo, Japan

27B-11-3
15:40
Photochemical Fabrication of Junction in Molecular Charge Transfer Salts
T. Naito 1, H. Sugawara 1, T. Inabe 1, Y. Kitajima 2, T. Miyamoto 1, H. Niimi 3, K. Asakura 1, 1 Hokkaido Univ., 2 KEK-PF and 3 CREST JST, Japan

27B-11-4
16:00
Memory Characteristics of MOS Capacitors Embedded with Platinum Nanoparticles
B. Park, K. Cho, B.-M. Moon and S. Kim, Korea Univ., Korea

27B-11-5
16:20
Investigation of the Memory Traps in Oxide-Nitride-Oxide of the SONOS Flash Memory
Y.J. Seo, K.C. Kim, J.S. Oh*, H.Y. Cho* and T.G. Kim, Korea Univ. and *Dongguk Univ., Korea

27B-11-6
16:40
Fabrication and Characterization of P-I-P Top-Gate Carbon Nanotube FETs
Y. Nosho1, Y. Ohno 1,2, S. Kishimoto 1 and T. Mizutani 1, 1 Nagoya Univ. and 2 PRESTO-JST, Japan

27B-11-7
17:00
Control of NDR Characteristics of CdF_2/CaF_2 RTDs Using Nano-Area Local Growth on Si(100) Substrates
T. Kanazawa 1, R. Fujii 1, T. Wada 1, Y. Suzuki 1, M. Watanabe 1, 2 and M. Asada 1, 3, 1 Tokyo Inst. of Technol., 2 SORST, 3 CREST-JST, Japan

Author's Interview: 17:20-17:30

HOTEL INFORMATION

HOTEL INFORMATION

ACCOMMODATIONS

JTB Global Marketing & Travel Inc. (JTB GMT) has been appointed as the official registration office for the conference and will handle registration and hotel accommodation.

JTB Global Marketing & Travel Inc.
Convention Center (CD102152-003)
2-3-11 Higashi-Shinagawa, Shinagawa-ku,Tokyo 140-8604 Japan
Fax:+81-3-5495-0685 /TEL:+81-3-5796-5445/ E-mail:mnc2006@jtb.jp

HOTEL ACCOMMODATION

JTB GMT has booked rooms at following hotels in Kamakura for the conference period. Reservations will be made in order of receipt of application form. If the hotel of your first choice is fully booked, you will be assigned to a room at a hotel of the same grade.

No.	Hotel Name (Check-in & out time)		Room Rates		Address Phone Access to the Site or the nearest station
			Single with bath	Twin with bath	
1	Kamakura Prince Hotel(15:00/12:00)	A ($33m^2$)	JPY20,000	JPY20,000	1-2-18 Shichirigahama-Higashi, Kamakura, Kanagawa 248-0025 +81-467-32-1111 7 min. walk to Enoden Shichirigahama Sta.
		B ($27m^2$)	JPY18,000	JPY18,000	
2	Hotel Mets Kamakura Ofuna (15:00/11:00)		JPY8,400	-----	1-2-1 Ofuna, Kamakura, Kanagawa 247-0056 +81-467-40-1192 3 min. walk to JR Ofuna Sta.
3	Hotel Hokke Club Fujisawa (15:00/10:00)		JPY7,500	-----	1-6-1 Ishigami, Kugenuma, Fujisawa, Kanagawa 251-0025 +81-466-27-6101 5 min. walk to JR Fujisawa Sta.

- Room rates include service charge and a 5% tax.
- Room rates include no meals.

REGISTRATION AND PAYMENT

Participants wishing to make registration and reserve hotel accommodation should apply online to reach JTB GMT **no later than September 29, 2006.**
Please ensure that each registrant makes his/her own online registration.
Application should be accompanied by a remittance covering the registration fee and hotel deposit (one night room charge) due JTB GMT. (The hotel deposit will be credited to your bill. All hotel expenses deducting the deposit should be paid directly to the hotel.)
No reservation will be confirmed in the absence of this payment. All payment must be in Japanese yen. If the remittance covers more than one person, please inform us the name of each participant.
Payment should be in the form of:
- One of the following credit cards:
1. VISA 2. MasterCard 3. Diners Club 4. AMEX 5. JCB
- A bank transfer to JTB Global Marketing & Travel Inc. (Message: CD102152-003)
Account at The Bank of Tokyo-Mitsubishi UFJ, Ltd. Shin-Marunouchi Branch (swift code: BOTKJPJT)

1-4-2 Marunouchi, Chiyoda-ku, Tokyo 100-0005 Japan (Account number: 4760343)

CANCELLATION
In the event of cancellation, written notification should be sent to JTB GMT. The following cancellation fees will be deducted before any refund is made.

Registration: If a cancellation notice is received by JTB GMT on or before
September 29, 2006--------------------------------JPY5,000 of processing fee
On and after September 30, 2006 -----------100% of the registration fee
Hotels: If a cancellation notice is received by JTB GMT
Up to 10 days before the first night of stay-------------------------------None
9 to 2 days before-----------------------------------20% of daily room charge
1 day before---80% of daily room charge
On the day of arrival or no notice given ------100% of daily room charge

GENERAL INFORMATION

PASSPORT AND VISA

To visit Japan, you must have a valid passport. A visa is required for citizens of countries that do not have visa-exempt agreements with Japan. Please contact the nearest Japanese Embassy or Consulate for visa requirements.

INSURANCE

The organizer cannot accept responsibility for accidents that might occur. Delegates are encouraged to purchase travel insurance before leaving their home country. Insurance plans typically cover accidental loss of belongings, medical costs in case of injury or illness, and other possible risks of international travel.

CLIMATE

The temperature in Kamakura during the period of the conference ranges between 15-22 degrees Celsius.

ELECTRICITY

Electric current is uniformly 100 volts, AC, throughout Japan, but with two different cycles: 50 in eastern Japan including Tokyo and Kamakura, and 60 in western Japan including Nagoya, Kyoto and Osaka. Leading hotels in major cities have two outlets of 100 and 220 volts but their sockets usually accept a two-leg plug only.

COMMITTEE LIST

COMMITTEE LIST

ORGANIZING COMMITTEE

Chairperson: S. Matsui (Univ. of Hyogo)
Vice-Chair: H. Arimoto (Fujitsu)
Members:

Y. Aoyagi (Tokyo Inst. of Technol.)
R. Ebinuma (Canon)
N. Fukushima (Toshiba)
M. Fukuma (NEC)
N. Hayashi (Dai Nippon Printing)
Y. Horiike (NIMS)
T. Horiuchi (Tokyo Denki Univ.)
A. Ibaraki (Sanyo Electric)
S. Ishihara (Univ. of Tokyo)
A. Ishihama (Sharp)
N. Kawai (Renesas Technol.)
M. Kameyama (Nikon)
K. Kimura (Hitachi)
M. Komuro (AIST)
I. Mori (Selete)
T. Oda (Sony)
M. Ogura (Matsushita Electric)
S. Okazaki (ASET)
Y. Todokoro (Nara Inst. Sci. & Technol.)
H. Takayanagi (Tokyo Univ. of Sci.)
H. Tsuchikawa (Fujitsu Labs.)

ADVISORY

H. Ahmed (Cavendish Labs.)
J. Bausells (CNM-CSIC)
C.Y. Chang (Natl. Chiao Tung Univ.)
K.D. Cumming (ASML)
E.D. Fabrizio (IESS)
W. Fallmann (Vienna Univ. of Technol.)
K. Gamo (CRL)
O. Joubert (CRS-LTM)
H.W.P.Koops (NaWoTec)
D.P. Kern (Univ. of Tubingen)
R.R. Kunz (MIT Lincoln Lab.)
H. Loeschener (IMS Nanofab.)
M. McCord (KLA-Tencor)
S.-K. Min (Kyung Hee Univ.)
F. Perez-Murano(CNM-CSIC)
S. Namba (Nagasaki Inst. Applied Sci.)
Y. Nannichi (New Indus. Organiz.)
A. Neureuther (Univ. of CA)
T. Nishimura (Renesas Technol.)
S. Palmer (Texas Instruments)
R.F. Pease (Stanford Univ.)
M. Peckerar (Univ. of Maryland)
H.C.Pfeiffer (Consultant)
D.J.Resnick (Molecular Imprints)
R. Shimizu (Osaka Inst. of Technol.)
C. Shin (ITRI)
H.I Smith (MIT)
T. Sugano (Toyo Univ.)
M. Takai (Osaka UNiv.)
S. Tedesco (LETI)
T. Tsurushima (Kumamoto Techno -police Foundation)
M. Wang (China Academic Sci.)
J.C.Wiesner (Consultant)
S. Wind (Columbia Univ.)
N. Yokoyama (Fujitsu Labs.)

STEERING COMMITTEE

Chairperson: Y. Ochiai (JST)
Vice-Chairperson: T. Asano (Kyushu Univ.)
Program Chair: J. Fujita (Univ. of Tsukuba)
Program Vice-Chair: T. Itani (Selete)
Y. Ono (NTT)
Secretariat: H. Hiroshima (AIST)
H. Ina (Canon)
H. Yaegashi (Tokyo Electron)
Treasurer: M. Nakase (JEITA)
T. Yamaguchi (NTT)
Publicity: T. Taguchi (Selete.)
T. Meguro (Riken)
N. Yoshioka (Renesas Technol.)
Place: Y. Nakayama(Hitachi)
K. Suzuki (Nikon)
M. Satoh (Sharp)
Overseas J. H. Ahn (Hanyang Univ.)
A. Chen (ASML)
O. H. Kim (POSTEC),
C.K. Sung (National Tsing Hua Univ.)

PROGRAM COMMITTEE

Chairperson: J. Fujita (Univ. of Tsukuba)
Vice-Chairperson: T. Itani (Selete)
Y. Ono (NTT)

1-1: DUV, VUV, EUV Lithography:

Section Head: T. Watanabe (Univ. of Hyogo)
Sub Head: S. Asai (Fujitsu)
M. Hasegawa (Canon)
M. Hosoya (Hoya)
F. Uesawa (Sony)
K. Ootaki (Nikon)
M. Tominaga (NEC Electronics)
H. Watanabe (Matsushita Electric)
J.G. Lee (MagnaChip Semiconductor)

1-2: Electron- and Ion-Beam Lithography

Section Head: H. Yamashita (NEC Electronic)
Sub Head: S. Kawata (Nikon)
I. Amemiya (HOYA)
M. Kotera (Osaka Inst. of Technol.)
M. Miyoshi (Univ. of Tokyo)
M. Ogasawara (Toshiba)
M. Ohsawa (Fujitsu)
A. Yamada (Advantest)
J. Yamamoto (Hitachi)
S. Babin (Abeam Technology)
H.S. Kim (Sunmoon Univ.)

1-3: Resist Materials and Processing

Section Head: M. Toriumi (Lab. Interdisciplinary Sci. Technol.)
Sub Head: K. Nakano (NEC)
K. Asakawa (Toshiba)
T. Hattori (Hitachi)
T. Kozawa (Osaka Univ.)
T. Kumada (Mitsubishi Electric)
K. Nozaki (Fujitsu Labs.)
T. Ogata (Tokyo Ohka),
I. Takemoto (Sumitomo Chemical)
A. Yamaguchi (Hitachi)

2-1: Nanodevice

Section Head: S. Kasai (Hokkaido Univ.)
Sub Head: Y. Ohno (Nagoya Univ.)
K. Ishibashi (Riken)
A. Nakajima (Hiroshima Univ.)
T. Usuki (Univ. of Tokyo/Fujitsu Labs.)
M. Watanabe (Tokyo Inst. of Technol.)
T.-S. Chao (National Chiao Tung Univ.)
C.-K. Hahn (Korea Electronics Technol. Inst.)
J.-T. Sheu (National Chiao Tung Univ.)

2-2: Nanofabrication

Section Head: H. Ikeda (Shizuoka Univ.)
Sub Head: M. Nagase (NTT)
X.W. Chao (Tokyo Sci. of Technol.)
T. Chikyo (NIMS)
Y. Ishikawa (Univ. of Tokyo)
M. Masahara (AIST)
E.K. Kim (Hanyang Univ.)

2-3: Nanomaterials

Section Head: F. Nihey (NEC)
Sub Head: T. Yoshinobu (Tohoku Univ.)
T. Fuyuki (NAIST)
S. Akita (Osaka Univ.)
S. Sato (Fujitsu)
W.-K. Hsu (National Tsing Hua Univ.)
S.W. Hwang (Korea Univ.)

3: Nanoimprint, Nanoprint and Rising Lithography
Section Head: Y. Hirai (Osaka Pref. Univ.)
Sub Head: H. Hiroshima (AIST)
A. Baba (Kyushu Inst. of Technol.)
K. Kuwabara (Hitachi)
N. Sakai (Toyo Gosei)
J. Taniguchi (Tokyo Univ. of Sci.)
A. Yokoo (NTT)
F.-H. Hsiao (National Cheng Kung Univ.)
H. Lee (Korea Univ.)

4: Bio MEMS, Lab on a Chip
Section Head: Y. Miyahara (NIMS)
Sub Head: K. Yasuda (Tokyo Medical and Dental Univ.)
T. Horiuchi (NTT)
T. Sano (NEC)
Y. Takamura (JAIST)
S . Takeuchi (Univ. of Tokyo)
G.-B. Lee (Kung Univ.)
J.K. Shin (Kyungpook Univ.)
F.-G. Tseng (National Tsing Hua Univ.)
J.-W. Shieh (Instrunment Techno. Res. Ctr)

5: Microsystem Technology and MEMS
Section Head: K. Suzuki (Ritsumeikan Univ.)
Sub Head: T. Ikehara (AIST)
H. Kuwano (Tohoku Univ.)
Y. Suzuki (NIkon)
K.J. Chun (Seoul National Univ.)
W. Fang (National Tsing Hua Univ.)

Symposium Committee
Section Head: T. Ueno (Hitachi Chemical)
Sub Head: M. Ishida (NEC)

Secretariat:
Secretariat - MNC 2006
Secretaryart Corporation
1-5-1-710 Akabane-nishi, Kita-ku, Tokyo 115-0055 Japan
TEL: +81-3-3900-6744
FAX: +81-3-3900-6741
E-mail: secretariat@imnc.jp

MNC 2006 技術セミナー
「応用物理学会ナノインプリント技術研究会公開セミナー」
ナノインプリント技術の現状
－光ナノインプリント技術への展開－

2006 年 10 月 24 日（火） 13:00−
参加費 3,000 円（ナノインプリント技術研究会会員および MNC 2006 参加者は無料。定員：120 名）

ナノインプリントはパターンの刻まれたモールドを樹脂等に押し付けてパターンの反転形状を作製する技術であり、単純な原理に基づく加工手法にもかかわらず、ナノメータ領域の加工を低コストで実現可能なことから新しいパターン形成手法として近年注目を集めている。これまで、熱サイクルを利用した熱ナノインプリントが広く行なわれてきたが、加熱冷却に時間が必要であり、熱による膨張収縮がパターンの配置精度が確保するのが困難という問題があった。これに対して、UV 光により樹脂を硬化させる光ナノインプリントではプロセスが室温で行えるため、これらの問題を回避することが可能である。光ナノインプリントは熱ナノインプリントほど利用は進んでいなかったが、最近では、装置、モールド、樹脂の開発も進んでおり、光ナノインプリント技術を容易に利用する環境が整いつつある。

本技術セミナーにおいては、先端を行く各社から、これらの技術の開発状況を紹介していただき、参加者が光ナノインプリント技術の現状を把握していただければと考えている。また、セミナー後半ではMNC2006 への出展企業からナノインプリント等に関する展示内容のショートプレゼンテーションを行う。本技術セミナーにより、さらに広くナノインプリント技術が利用されればと期待している。

■プログラム（講演は日本語です）

13:00−13:30　チュートリアル
　廣島　洋（産総研）

13:30−14:00　モレキュラーインプリンツ社のUVナノインプリントプロセス
　和田　英之（モレキュラー・インプリンツ・インク）

14:00−14:20　DNP のナノインプリントモールド技術
　栗原　正彰（大日本印刷）

14:20−14:40　凸版印刷のナノインプリント用テンプレート開発
　鈴木　学（凸版印刷）

14:40−15:00　光ナノインプリント用テンプレート
　流川　治（HOYA）

15:00−15:15　――― Coffee Break ―――

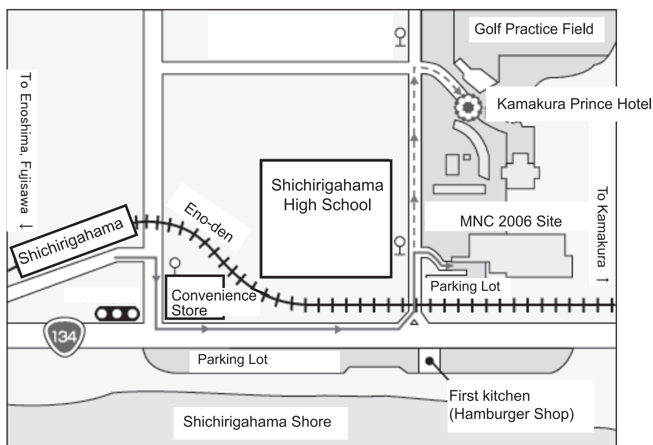
15:15−15:45　光ナノインプリント用フッ素材料
　川口　泰秀（旭硝子）

15:45−16:15　光ナノインプリント用樹脂
　坂井　信支（東洋合成工業）

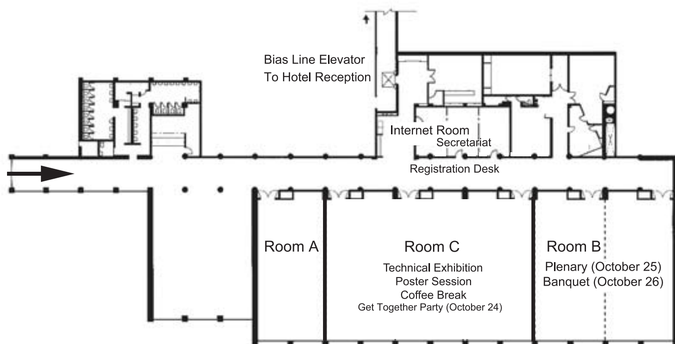
16:15−17:20　展示企業によるショートプレゼンテーション

17:00-18:30　MNC 2006 参加登録受付
17:30-19:30　Get Together Party (MNC 2006 参加者無料)

Map of Kamakura Prince Hotel



MNC 2006 Floor Map



MNC 2006 Technical Exhibition's List (at September 15)

AD Science Co.
OS TECH CO, LTD / micro regist technology GmbH
NTT-AT Nanofabrication Corporation
Hakuto Co., Ltd.
MEISYO HIGHMECHANICAL CORPORATION
MARUBUN CORPORATION
Marubeni Solutions Corporation
Hitachi High-Technologies Corporation/Materials Analysis Technology Inc.
SANMEI Company Inc. / Nanometric Technology Inc.
EV GROUP JAPAN
Canon Marketing Japan Inc.

Access