

***16th International Conference on
Surface Modification of Materials by Ion Beams -SMMIB2009-
September 13-18, 2009
National Institute of Advanced Industrial Science and Technology –AIST-
Tokyo Waterfront***

Program

13th September, Sunday

15:00-19:00 **Registration**

17:00-19:00 **Welcome party**

14th September, Monday

Registration desk will be opened at 8:30.

9:15-9:30 Opening Address

Plenary Lecture

9:30-10:30 PL

“Recent Research Achievements in TIARA”

Hideki Namba

Quantum Beam Science Directorate, Japan Atomic Energy Agency, Japan

Invited Lectures

10:30-11:00 IL-1

“Controlled Formation of Au Nanoparticles in SiO₂ by Ion Beam Processing and Oxidation: the Role of Si Interstitials”

S. Charnvanichborikarn, J. Wong-Leung and J.S. Williams

Dept of Electronic Materials Engineering, The Australian National University, Australia

11:00-11:30 IL-2

“Tribological Coatings for Automotive Products and Manufacturing Processes”

Ahmet T. Alpas

NSERC and GM of Canada Industrial Research Chair on Tribology Mechanical,

Automotive and Materials Engineering Department, University of Windsor, Canada

11:30-12:40 Lunch

12:40-14:10 **Poster A**

Properties

14:10-14:40 I-01

“Charge Generated in 6H-SiC n+p Diodes by MeV Range Heavy Ions”

Takeshi Ohshima, N. Iwamoto, S. Onoda, G. Wagner, H. Itoh, and K. Kawano

Japan Atomic Energy Agency, Japan, The University of Electro-Communications, Japan, and Institute of Crystal Growth, Germany

14:40-15:00 O-01

“Thermally stable polyimide/Cu hybrid membranes using ion track technique”

Hiroshi Koshikawa, Hiroaki Usui, Yasunari Maekawa

Quantum Beam Science Directorate, JAEA, and Department of Organic and Polymer Materials Chemistry, TUAT, Japan

15:00-15:20 O-02

“Irradiation effects on hydrogen absorption rate of metal hydride”

Shun Ohnuki, Hiroshi Abe, Hirohisa Uchida and Yoshihito Matsumura

Graduate School of Engineering, Tokai University, Radiation Effects Group, Japan, Atomic Energy Agency, and School of Engineering, Tokai University, Japan

15:20-15:40 O-03

“Morphological changes of ion implanted polyimide films surfaces after heat treatment”

Yoshikazu TERANISHI, Kazumasa NAKAMURA, Tomohiro KOBAYASHI, Takahiko UEMATU,

Isao NAKAMURA, Kenichi SHIMIZU, Takeshi YASUDA and Atushi MITSUO

Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Chuo University, The Inst. of Phys. and Chem. Res. (RIKEN), Japan

15:40-16:00 Coffee break

DLC & C Materials

16:00-16:20 O-04

“Effect of Bias on DC-RF Hybrid Discharge and Surface Properties of DLC Film Deposited on the Inner Wall of Cylindrical PET Barrel”

Xiubo Tian, Jing Li, Lei Tian, Chunzhi Gong, Shiqin Yang, and Paul K. Chu

State Key Lab. of Advanced Welding Production & Technology, Harbin Institute of Technology, China, and Department of Physics & Materials Science, City University of Hong Kong, Hong Kong

16:20- 16:40 O-05

“Departure Process of Ga from DLC Films Fabricated using Ga Focused Ion Beam Assisted Deposition by Heat Treatment”

Kazuhiro Kanda, Makoto Okada, Yuji Kang, Tsuneo Suzuki, Koichi Niihara, and Shinji Matsui

Graduate School of Science, University of Hyogo, Extreme Energy-Density Research Institute, Nagaoka University of Technology, Japan

16:40-17:00 O-06

“Effects of nitrogen implantation on microstructure of diamond-like carbon films”

Setsuo Nakao, Atsushi Kinomura, Tsutomu Sonoda, and Kazuo Tsugawa

National Institute of Advanced Industrial Science and Technology (AIST) – Chubu and National Institute of Advanced Industrial Science and Technology (AIST) – Tsukuba, Japan

17:00-17:20 O-07

“Fluorine and carbon ion implantation and deposition on metals by plasma source ion implantation”

Koumei Baba, Ruriko Hatada, Stefan Flege, and Wolfgang Ensinger

Industrial Technology Center of Nagasaki, Applied Technology Division, Japan, Technische Universität Darmstadt, Department of Materials Science, Germany

17:20-17:40 O-08

“Formation Nano Diamonds in Surface Layer of Materials at Short Pulse Ion Beam Implantation”

Remnev G.E., Uglov V.V., Naiden E.P., Pushkarev A.I., Saltymakov M.S., and Stepanov A.V.

High-Voltage Research Institute at Tomsk Polytechnic University, Russia, Belarusian State University, Belarus, and Siberian Physic-Technique Institute at Tomsk State University, Russia

17:40-18:00 O-09

“Highly hard and conductive DLC film formation technologies and industrial application”

Yasuo Suzuki, Kenshiro Nakajima, and Masanori Watanabe,

Plasma Ion Assist Co., Ltd., JAPAN

18:00-18:20 Coffee break

18:20-19:40

Dr. Masaya Iwaki Memorial Session

15th September, Tuesday

Registration desk will be opened at 8:30.

Nano Materials

9:00-9:30 I-02

“Ion-implanted Diamond Electrodes for Electrochemical Analysis”

Yasuaki Einaga

Department of Chemistry, Keio University, Japan

9:30-9:50 O-10

“Ion Beam Synthesis of Nano-structured SiC Layers in Crystalline and Porous Silicons”

Hyung-Joo Woo, Han-Woo Choi, Gi-Dong Kim

Ion Beam Application Group, Korea Institute of Geoscience & Mineral Resources, Korea

9:50-10:10 O-11

“Protection of silver surfaces against tarnishing by means of alumina and alumina/titania micro- and nanolayers”

L.Guzman, A.Lanzutti, E.Marin, L. Paussa, A. De Carli, L.Fedrizzi and N. Isomaki

University of Udine, Italy, Beneq Oy, (2) Vantaa, Finland

10:10-10:30 O-12

10:30-10:50 Coffee break

Modification by plasma

10:50-11:10 O-13

“Plasma Ion Implantation of Cylindrical Bore for Enhanced Wear/corrosion Resistance Based on Self-excited Radio-frequency Glow Discharge”

Chunzhi Gong, Zongtao Zhu, Xiubo Tian, Shiqin Yang, and Paul K. Chu

State Key Lab. of Advanced Welding Production & Technology, Harbin Institute of Technology, China, and Department of Physics & Materials Science, City University of Hong Kong, Hong Kong

11:10-11:30 O-14

“Ion Implantation of a Trench-Shaped Target Using Enhanced Glow Discharge Plasma Immersion Ion Implantation”

Jianhui Li, Liuhe Li, Qiuyuan Lu, Zhuo Wang, Ricky K. Y. Fu, Dixon. T. K. Kwok, and Paul. K. Chu

Department 702, Beijing University of Aeronautics and Astronautics, China, and Department of Physics and Materials Science, City University of Hong Kong, Hong Kong

11:30-11:50 O-15

“Investigation of Novel Low Temperature Atmospheric Plasma System for Deposition Photo-catalytic TiO₂ Thin Film”

Wen-Jen Liu and Yong-Long Lai

Department of Material Science and Engineering, I-Shou University, Kaohsiung, Taiwan

11:50-12:10 O-16

“Improvement of high temperature oxidation resistance of stainless steel by incorporation of Ce-La elements using pulsed plasma beams”

J. Piekoszewski, B. Sartowska, L. Walis, M. Barlak, Z. Werner, and C. Pochrybniak

The Andrzej Soltan Institute for Nuclear Studies, Institute of Nuclear Chemistry and Technology, Institute Physical Chemistry, and Institute of Atomic Energy, Poland

12:10-13:20 Lunch

13:20-14:50 **Poster B**

Properties

14:50-15:20 I-03

“Micro Mechanical Testing by Instrumented Indentation Microscope”

T. Miyajima and M. Sakai National Institute of Advanced Industrial Science and Technology (AIST) and Toyohashi, University of Technology, Japan

15:20-15:40 O-17

“Applications of Combined Ion implantation for Improved Tribological Performance”

Konstantin Shalnov, Vladimir Koukhta, Kensuke Uemura and Yoshiro Ito

Thin Films and Surface Modification Division, Nagata Seiki Co, and Nagaoka University of Technology, Japan

15:40-16:00 O-18

“Protective Layers on the Surface of CoCrMo Orthopedic Alloy by Low-Pressure R.F. Plasma Nitriding”

O. Öztürk, S. Okur, J. P. Riviere, and L. Pichon

Department of Physics, Izmir Institute of Technology, Turkey, and Laboratoire de Physique des Materiaux, UMR 6630-CNRS, Universite de Poitiers, SP2MI, France

16:00-16:20 O-19

16:20-16:40 Coffee break

DLC & C Materials

16:40-17:10 I-04

“A High-Power Pulsed Carbon Glow Plasma Source for DLC Film Preparation”

Ken Yukimura, Arutiun Ehasarian, Kingo Azuma, Hirososhi Tamagaki, and Tadao Okimoto

Department of Electrical Engineering, Doshisha University, Japan, Nanotechnology Centre for PVD Research, Sheffield Hallam University, UK, Department of Electrical Engineering and Computer Science, University of Hyogo, Japan, and KOBE STEEL LTD., Japan

17:10-17:30 O-20

“Mechanical Properties of Silicon Doped Diamond-Like Carbon Films Prepared by Pulse-Plasma Chemical Vapor Deposition”

Shinji Fujimoto, Naoto Ohtake, and Osamu Takai

Panasonic Electric Works Co., Ltd., Nagoya University, and Tokyo Institute of Technology, Japan

17:30-17:50 O-21

“Effect of Hydrogen Flow Rate on the Properties of Hydrogenated Amorphous Carbon Films Fabricated by Electron Cyclotron Resonance Plasma Enhanced Chemical Vapor Deposition”

X.R. Deng, Y.X. Leng, X. Dong, H.Sun, Nan Huang

Key Laboratory of Advanced Technologies of Materials, Southwest Jiaotong University, China

17:50-18:10 O-22

“Atmospheric Pressure Plasma Generator for Surface Modification”

Tetsuji Shibata, Seiro Yuge, and Takahiko Hirai

Panasonic Electric Works, Ltd., Japan

16th September, Wednesday

Registration desk will be opened at 8:30.

Nano Materials

9:00-9:30 I-05

“Recent Advances in the Application of Ion Beam/Plasma Processes at SwRI”

Kent Coulter and Ronghua Wei

Southwest Research Institute, USA

9:30-9:50 O-23

“Growth and structure control of HfO₂ films on Si(100) substrates obtained by ion beam assisted deposition method”

Takahiko Hirai, and Hiroaki Kitamura

Panasonic Electric Works, Ltd., Japan

9:50-10:10 O-24

“The effects of the Grain Boundary Scattering on the Electrical Resistivity of the Ni-Si Silicides Films Formed at 850 °C by RTA of the Ni / Si(100) Films”

N. Artunç, G. Utlu, and S. Selvi

Ege University, Turkey³²

10:10-10:30 O-25

“Chemical Erosion and Sputtering of Solid Surfaces with Liquid Cluster Ions”

Gikan H. Takaoka, Hiromichi Ryuto and Yudai Kubo

Photonics and Electronics Science and Engineering Center, Kyoto University, Japan

10:30-10:50 Coffee break

Novel beam technologies

10:50-11:20 I-06

“Glass capillary optics for producing nanometer sized beams and its applications”

Tokihiro Ikeda

Atomic Physics Laboratory, RIKEN, Japan

11:20-11:40 O-26

“Micro-Nano Lithography by MeV Ion Beam Writing”

Katsuyoshi Takano, Takahiro Satoh, Yasuyuki Ishii, Tomihiro Kamiya, Takeru Ohkubo, Masaki Sugimoto, Masashi Koka, Hiroyuki Nishikawa, and Syu Seki

Japan Atomic Energy Agency, Dept. of Electrical Engineering, Shibaura Institute of Technology, and Graduate School of Engineering, Osaka University, Japan

11:40-12:00 O-27

“SWIFT HEAVY ION IRRADIATION EFFECTS ON THE STRUCTURE AND MAGNETIZATION OF ZnO AND TiO₂ DMS”

J.C. Pivin, F. Singh, D. Agarwal, and D.K. Avasthi

CSNSM-IN2P3, France, and IUAC, Aruna Asaf Ali Marg, India

12:00-12:20 O-28

“Ion Induced Bending (IIB) Phenomenon for 3-D structure fabrication”

Tomoya Yoshida, Masayoshi Nagao, Seigo Kanemaru

Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan

12:20-13:30 Lunch

13:30-15:00 **Poster C**

Surface modification and synthesis

15:00-15:20 O-29

“Surface Modification of SiN_x to GaN by Ga Ion Implantation to Form a Matrix for Selective Growth of GaN by MOCVD”

Junichi Yanagisawa, Kazuya Ishiizumi, and Akira Sakai

School of Engineering, The University of Shiga Prefecture, and Graduate School of Engineering Science, Osaka University, Japan

15:20-15:40 O-30

“Single Layer Nanocrystalline Silicide Synthesis from Zr/Si Multilayers”

D. Bhattacharya, G. Principi, A. Gupta, and D.K. Avasthi

Solid State Physics Division, Bhabha Atomic Research Centre, India, DIM, Settore Materiali and INFM, Università di Padova, Italy, UGC-DAE Consortium for Scientific Research, India, and Inter-University Accelerator Centre, India

15:40-16:00 O-31

“Sputtering and morphology of solid surfaces bombarded with size-selected gas cluster ion beams”

K. Ichiki, S. Ninomiya, Y. Nakata, H. Yamada, T. Seki, T. Aoki, and J. Matsuo

Department of Nuclear Engineering, Kyoto University, Quantum Science and Engineering Center, Kyoto University, Department of Electronic Science and Engineering, Kyoto University, and CREST, Japan Science and Technology Agency (JST), Japan

16:00-16:20 O-32

“Influence of HIPIMS plasma ionization on the microstructure of TiN thin films”

A.P. Ehasian, A. Vetushka, Y. Aranda Gonzalvo, G. Safran, and P. Barna,

Nanotechnology Center for PVD Research, Sheffield Hallam University, UK, Plasma & Surface Division, Hiden Analytical Ltd., UK, and Hungarian Academy of Sciences, Research Institute for Technical Physics and Materials Science, Hungary

16:20-16:40 Coffee break

Bio Materials

16:40-17:10 I-07

“Low-energy Ion Beam Biology Research at Chiang Mai University”

L.D. Yu and S. Annutalabhochai

Plasma and Beam Physics Research Facility, Chiang Mai University, and Molecular Biology Laboratory, Chiang Mai University, Thailand

17:10-17:30 O-33

“Application of Ion Beams to Plant Breeding Science”

Atsushi Tanaka

Quantum Beam Science Directorate, Japan Atomic Energy Agency, Japan

17:30-17:50 O-34

“Fabrication of fine micro protrusions on fluoropolymer surface using ion beam irradiation”

Akane KITAMURA, Tomohiro KOBAYASHI, Akihiro Suzuki, and Takayuki Terai

Department of Nuclear Engineering and Management, The University of Tokyo, and Beam Application Team, RIKEN, Japan

17:50-18:10 Coffee Break

Bio Materials

18:10-18:40 I-08

“Recent Activities of Biomaterials Surface Processing of Plasma and Ion Beam in China”

N. Huang*, Y. X. Leng, P. Yang, J.Y. Chen, J. Wang

Key Lab. of Advanced Technology for Materials of China, Southwest Jiaotong University, China

18:40-19:00 O-35

“Improved Biocompatibility of Biodegradable Chitosan/Gelatin Membrane Modified by Ion-beam”

Katsumune Takahashi, Katsumi Uchida, Yoshiaki Suzuki, and Hirofumi Yajima

Department of Applied Chemistry, Tokyo University of Science, Beam Application Team, RIKEN, and Center for Colloid and Interface Science, Tokyo University of Science, Japan

19:00-19:20 O-36

“Effect of plasma cleaning and plasma polymerization on Bioactive Titanium Surface”

Keng-Liang Ou, Chung-Fang Huang, Che-Tong Lin, and Hsin-Chung Cheng

Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, School of Dentistry, Taipei Medical University, and Department of Dentistry, Taipei Medical University Hospital, Taiwan

17th September, Thursday

Registration desk will be opened at 8:30.

Nano Materials

9:00-9:30 I-09

“Formation of Nanochannels for Nanoanalytical Devices from Single Damage Tracks of Heavy Ions in Polymer Foils”

Wolfgang Ensinger

Department of Materials Science, Darmstadt University of Technology, Germany

9:30-9:50 O-37

“Patterned Heavy-Ion Implantation Toward Plasmonic Applications”

N. Kishimoto, B. Zheng, J. Pan, K. Sato and Y. Takeda

Quantum Beam Center, National Institute for Materials Science, Japan, and Futong Group Co. Ltd, Sumitomo Electric Industries, China

9:50-10:10 O-38

“Nano-composite glasses obtained by combination of ion exchange and ion beam treatments”

Ranjana S. Varma, and D. C. Kothari

Department of Physics, University of Mumbai, India

10:10-10:30 O-39

“Synthesis of nanoparticle of various metal elements by microwave plasma in liquid”

Susumu Sato, Kunihiro Mori, Osamu Ariyada, Hyono Atsushi, and Tetsu Yonezawa

ARIOS INC. and Graduate School of Engineering, Hokkaido University, JAPAN

10:30-10:50 Coffee break

Invited Lecture

10:50-11:20 IL-3

“Covered Stent in Future”

Hiroshi Ujiie, Yoshiaki Suzuki, Rena Ujiie, Hiroshi Toita, and Toshiyuki Tanaka

Department of Neurosurgery, Neurological Institute, Tokyo Women's Medical University, and Beam Technology Team, RIKEN, Japan

Bio Materials

11:20-11:50 I-10

“A New Anti-Thrombogenic Stent Using Ion-Beam Surface Modification”

Yoichi Sugita,

Baylor College of Medicine, USA

11:50-12:10 O-40

“ION BEAM PROCESSING OF POLYMERS AS BIOMATERIAL”

R. L. Zimmerman, B. Chhay, A. L. Evelyn and D. ILA

Center for Irradiation of Materials, Alabama A&M University, USA

In the afternoon :**Excursion**

In the evening :**Conference Banquet**

18th September, Friday

Registration desk will be opened at 8:30.

Nano Materials

9:00-9:30 I-11

“Formation of pseudo-crystal consisting of nano-crystals using MeV Ion Beam Track1,2”

D. ILA, R. L. Zimmerman, and C. I. Muntele

Center for Irradiation of Materials, Alabama A&M University, USA

9:30-9:50 O-41

“Inner stress of lithium niobate (LiNbO₃) induced by MeV ion implantations and nano-cluster formations”

Hisato Ogiso and Shizuka Nakano

National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:50-10:10 O-42

“Irradiation Effects of Swift Heavy Ions on Zinc and Zinc-Oxide Nanoparticles”

H. Amekura, N. Ishikawa, Ch. Buchal, S. Mantl, and N. Kishimoto

National Institute for Materials Science (NIMS), Japan, Japan Atomic Energy Agency (JAEA), Tokai, Japan, and Forschungszentrum Juelich GmbH, Germany

10:10-10:30 O-43

“Thermal Evolution of Co Nanoparticles in Co-Implanted and Annealed Sapphire”

Z. Werner, W. Starosta, J. Piekoszewski, R. Groetschel, M. Pisarek, M. Barlak, C. Pochrybniak, and K. Bochenska

The Andrzej Soltan Institute for Nuclear Studies, Poland, Institute of Physical Chemistry, Poland, Institute of Nuclear Chemistry and Technology, Poland, Forschungszentrum Rossendorf e.V. (FZR) Institute für Ionenstrahlphysik und Materialforschung, Germany, Faculty of Material Science and Engineering, Warsaw University of Technology, Poland, and Institute of Atomic Energy, Poland

10:30-10:50 Coffee break

Applications

10:50-11:20 I-12

“Studies of Plasma Based Surface Modification of Materials for Industrial Applications in Turkey”

A. Oztarhan, E.S. Urkac, E. Kocabas, I.S. Gurhan, A. Akpek, S. Selvi, P. Kes, F. Kurt, S. Iz, I. Cireli, A. Cireli, N. Isik, Z. Tek, A. Nikolaev, E. Oks. and G. Brown

Bio Engineering Department, Ege University, Turkey, Physics Department, Ege University, Turkey, Department of Biology, Celal Bayar University, Turkey, Department of Leather, Celal Bayar University, Turkey, Department of Textile, Dokuz Eylul University, Turkey, Department of Leather, Ege University, Turkey, Physics Department, Celal Bayar University, Turkey, High Current Electronics Institute, Russia, and Lawrence Berkeley National Laboratory, USA

Characterization of microstructures and defects

11:20-11:40 O-44

“Electron Diffraction Radial Distribution Function Analysis of Irradiation-Induced Amorphous and Nano-Polycrystalline phases”

Manabu Ishimaru

Institute of Scientific and Industrial research, Osaka University, Japan

11:40-12:00 O-45

“A Molecular Dynamic Simulation to study the formation of NV-N center by N₂ Beam Implantation into Diamond”

S. T. Nakagawa, H. Kanda, M. Ohishi, H. Saito, S. Nakagawa, Y. Banden, and G. Betz

Graduate School of Science, Okayama Univ. of Science, Japan, National Institute for Materials Science, Japan, and Inst. f. Allgemeine Physik, Technische Universität Wien, Austria

12:00-12:20 O-46

“Depth Profiling of Defects in Ion-Implanted Fe and Ni by Positron Annihilation Measurements”

A. Kinomura, R. Suzuki, T. Ohdaira, N. Oshima, K. Ito and Y. Kobayashi

National Institute of Advanced Industrial Science and Technology (AIST), Japan

12:20-12:30

Closing remarks

D. IIA

Alabama A&M University, USA

***16th International Conference on
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September 13-18, 2009

***National Institute of Advanced Industrial Science and Technology –AIST-
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Poster sessions

14th September, Monday

Bio Materials

PA-01

“In Vitro Evaluation of Reagents Applied for Surface Treatment on Post Power Teeth Bleaching”

Keng-Liang Ou, Hsin-Chung Cheng, Che-Tong Lin, and Chung-Fang Huang

Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, School of Dentistry, Taipei Medical University, Department of Dentistry, Taipei Medical University Hospital, Taiwan

PA-02

“The roles of Metal-Gas ion implantation on Thermal Properties of Lactide Polymers”

Emel Sokullu Urkac, Ahmet Oztarhan, Funda Tihminlioglu, and Bercin Isikli

Bioengineering Department, Ege University, Chemical Eng. Department, Izmir Institute of High Technology, Turkey

PA-03

“Neural Cell Attachment Studies on Metal-Gas Hybrid Ion Implanted Biodegradable Polymers”

Emel Sokullu Urkac, Ahmet Oztarhan, Ismet D. Gurhan, Sultan Gulce Iz, Feyzan Odal Kurt, Funda Tihminlioglu, and Bercin Isikli

Bioengineering Department, Ege University, Biology Department, Celal Bayar University, Chemical Eng. Department, Izmir Institute of High Technology, Turkey

PA-04

“Cell Attachment and Platelet Adhesion Control of Recombinant Type-I Collagen Modified by Ion Beam”

Hitomi Hiruma, Hiroshi Toida, Takao Hanawa, and Yoshiaki Suzuki

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, RIKEN, Japan

PA-05

“Ion Beam Modification of ePTFE for Improving the Blood Compatibility”

Hitomi Hiruma, Hiroshi Toida, Takao Hanawa, and Yoshiaki Suzuki

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, RIKEN, Japan

PA-06

“Preparation and biocompatible characteristic of bone scaffold with calcium phosphate/collagen nanocomposite by electrodeposition”

Keng-Liang Ou, Yung-Hsun Shih, Chung-Fang Huang, Chang-Chih Chen, and Hsin-Chung Cheng

Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, School of Dentistry, Taipei Medical University, Dental Department of Wan-Fang Hospital, Taipei Medical University, Department of Dentistry, Taipei Medical University Hospital, Department of Emergency Medicine, Mackay Memorial Hospital, Taiwan

PA-08

“Fabrication of Interconnective Nanoporous Surface on Titanium Implant by Hydrofluoric Immersion and Anodization”

Chung-Ming Liu, Hsin-Chung Cheng, Yih-Chuen Shyng, Che-Tong Lin, and Keng-Liang Ou, Department of Chemical and Material Engineering, LungHwa University of Science and Technology, Graduate School of Engineering, LungHwa University of Science and Technology, Research Center for Biomedical Implant and Microsurgery Device, Taipei Medical University, School of Dentistry, Taipei Medical University, Department of Dentistry, Taipei Medical Hospital, Taipei Medical University, Division of Oral and Maxillofacial Surgery, Kaohsiung Military General Hospital, Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Taiwan

PA-09

“Glow Discharge Plasma Treatment Enhances Hemocompatibility onto Nanoporous Titanium Oxide Film”

Chung-Ming Liu, Hsin-Chung Cheng, Chin-Sung Chen, Che-Tong Lin, and Keng-Liang Ou, Department of Chemical and Material Engineering, LungHwa University of Science and Technology, Graduate School of Engineering, LungHwa University of Science and Technology, Research Center for Biomedical Implant and Microsurgery Device, Taipei Medical University, Department of Dentistry, Taipei Medical Hospital, Taipei Medical University, School of Dentistry, Taipei Medical University, Department of Dentistry, Cathay General Hospital, Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Taiwan

PA-10

“Charge Effect on Membrane Modification of Ion Bombarded Plant Cell Envelope Materials”

K. Prakrajang, P. Wanichapichart, D. Suwannakachorn, and L.D. Yu
Plasma and Beam Physics Research Facility, Chiang Mai University, Nanotechnology Center of Excellence and Membrane Science and Technology Research Center, Prince of Songkla University, Thailand

PA-11

“Surface Modification of Chitosan Membranes by Energetic Ions for Human Cell Attachment”

N. Saranwong, K. Inthanon, W. Wongkham, K. Prakrajang, D. Boonyawan, P. Wanichapichart, and L.D. Yu
Plasma and Beam Physics Research Facility, Chiang Mai University, Human and Animal Cell Technology Research Laboratory, Chiang Mai University, Nanotechnology Center of Excellence and Membrane Science and Technology Research Center, Prince of Songkla University, Thailand

PA-12

“Modification of Cellulose Membrane by Oxygen Plasma”

P. Wanichapichart, S. Sirijarukul W. Taweepreeda, P. Choomgan, and B. Paosawatyanong
Membrane Science and Technology Research Center, Prince of Songkla University, and ThEP Center, CHE, Bangkok, Department of Physics, Chulalongkorn University, Thailand

PA-13

“Effects of Nanostructural Titania Film on Formation of Bioactive Nano-hydroxyapatite on Titanium”

Ming-Hong Lin, Hsin-Chung Cheng, Mao-Jume Hung, Sung-Long Chen, and Keng-Liang Ou
Department of Mechanical Engineering, National Kaohsiung University of Applied Sciences, School of Dentistry, Taipei Medical University, Department of Dentistry, Taipei Medical University Hospital, Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, Taiwan

PA-14

“Mechanical and morphological property of the ion implanted hydroxyapatite ceramics after soaking in simulated body fluid”

Satoshi KOBAYASHI, Yoshikazu TERANISHI, and Takehiro MURAMATSU
Tokyo Metropolitan University, Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Japan

PA-54

“Surface modification of polymers for biomolecule patterning by using ion implantation”

In-Tae Hwang, Chan-Hee Jung, Dong-Ki Kim, Mi-Young An, Young-Chang Nho, Jae-Hak Choi, Dong-Hack Suh, and Kang-Moo Huh
Radiation Research Division for Industry and Environment, Korea Atomic Energy Research Institute, Department of Chemical Engineering, Hanyang University, Department of Polymer Science and Engineering, Chungnam National University, Korea

DLC and C Materials

PA-15

“Gold ion beam activation of CNT-modified glassy carbon electrode for electro-analytical analyses”

B. Chhay, L. Bowman, C. Muntele, and D. Ila

Alabama A&M University, USA

PA-16

“Metal-fullerene composite stress relaxation by energy beam irradiation”

J. Vacik, V. Lavrentiev, V. Vorlicek, and H. Naramoto

Nuclear Physics Institute of AS CR, Czech Republic, Institute of Physics of AS CR, Na, Japan Atomic Energy Agency, Japan

PA-18

“Growth and Characterization of Hard Cubic Boron Nitride Films by Plasma-Assisted Deposition Using Fluorine Chemistry”

K. Teii, and S. Matsumoto

Kyushu University, National Institute for Materials Science, Japan

PA-19

“Structural Evolution of Cubic Boron Nitride Islands in a High-Density Fluorine-Containing Plasma”

T. Hori, Y. Mizusako, R. Yamao, K. Teii, and S. Matsumoto

Kyushu University, National Institute for Materials Science, Japan

PA-20

“Protection ability of DLC films in NaCl solution”

Masahiro Kawaguchi, Aya Shimizu, Tetsuto Kajiyama, Sadayuki Watanabe, Kazuo Morikawa, and Yasuyuki Yukawa

Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Japan

PA-21

“Diamond-like Carbon Thin Films Prepared from Organic Polymers Using Atmospheric Pressure Microwave Discharge between Carbon Felts”

Tatsuhiko Yajima, Takuma Matsuhashi, Kenichi Kuwahata, Toshiyuki Koyama, Yoshio Okabe, Kazuo Sugiyama, and Hideki Kurihara

Saitama Institute of Technology, Hachinohe National College of Technology, Saitama Industrial Technology Center, Japan

PA-22

“Coating of Die Steel Substrates with DLC/Ti Bilayered Films by Magnetron DC Sputtering”

Tsutomu Sonoda, Setsuo Nakao, and Masami Ikeyama

National Institute of Advanced Industrial Science and Technology (AIST), Japan

PA-23

“Methane Plasma-Based Ion Implantation of Metallic and Galvanically Oxidized Tantalum”

Stefan Flege, Koumei Baba, Ruriko Hatada, and Wolfgang Ensinger

Department of Materials Science, Darmstadt University of Technology, Germany, Applied Technology Division, Industrial Technology Center of Nagasaki, Japan

Nano Materials

PA-24

“UV and visible light emitting fused-silica substrates fabricated by Si-ion implantation”

A. Umenyi, M. Honmi, K. Miura, O. Hanaizumi, S. Yamamoto, A. Inouye, and M. Yoshikawa

Gunma University, Japan Atomic Energy Agency, Japan

PA-25

“Evaluation of physico-chemical properties of plasma treated PS/TiO₂ nanocomposite film”

B. Jaleh, P. Wanichapichart, M. Shayegani madd, and F. Karimi

Physics Department, Bu- Ali Sina University, Iran, Membrane Science and Technology Research Center, Prince of Songkla University, Thailand

PA-26

“Tailored Iron Nanostructures from Low Energy Ion Beam Irradiation of Organometallic Thin Films”

D. Bhattacharya, T.V.Chandrasekhar Rao, R. Chitra, A.K. Debnath, and S. Basu

Solid State Physics Division, Technical Physics and Prototype Engineering Division, Bhabha Atomic Research Centre, India

PA-27

“Nanocrystallization of Cu-based Metallic Glass Alloy Induced by Ion or Electron Irradiation”

Guoqiang Xie, Lin Shao, Dmitri V. Louzguine-Luzgin, Qingsheng Zhang, and Akihisa Inoue

Institute for Materials Research, Tohoku University, Japan, Department of Nuclear Engineering, Texas A&M University, USA, WPI Advanced Institute for Materials Research, Tohoku University, Japan

PA-28

“Micropatterning of metal nanoparticles on a solid substrate by using ion implantation”

Chan-Hee Jung, In-Tae Hwang, Jae-Hak Choi, and Young-Chang Nho

Radiation Research Division for Industry and Environment, Korea Atomic Energy Research Institute, Korea

PA-29

“Au and Pt Nanoclusters Formed by Sputter Deposition on Graphite with and without Ion Irradiation”

K. Morimoto, M. Saito, S. Yasuda, S. Nagata, and K. Takahiro

Kyoto Institute of Technology, Tohoku University, Japan

PA-30

“SEM contrast of solid surfaces irradiated with highly charged ions”

Makoto Sakurai, Hiroyuki Onishi, Ken Asakura, Naoyuki Iida, Masahide Tona, Toshifumi Terui, and Shinro Mashiko

Department of Physics, Kobe University, Department of Chemistry, Kobe University, National Institute of Information and Communications Technology, Japan

PA-32

“MeV Si Ion Bombardment Effects on the Thermoelectric Generators from AgBiTe and AgSbTe Thin Films”

S. Budak, S. Guner, C. Smith, C. Muntele, and D. Ila

Department of Electrical Engineering, Alabama A&M University, USA, Department of Physics, Fatih University, Turkey, Center for Irradiation of Materials, Alabama A&M University, USA

PA-33

“MeV Si Ions Bombardment Effects on Thermoelectric Properties of Thermoelectric Generator from Si/Si+Ge multi-layer superlattice Nanolayered Films”

S. Budak, C. Smith, M. Pugh, H. Martin, R.Hill, B. James, K. Heidary, C. Muntele, D. Ila

Department of Electrical Engineering, Alabama A&M University, Normal, Center for Irradiation of Materials, Alabama A&M University, USA

PA-34

“Direct Formation of Hybrid Nanowires using Single Nano-Fabrication Technique”

Satoshi Tsukuda, Shu Seki, Masaki Sugimoto, Akira Idesaki, Masahito Yoshikawa and Shun-Ichiro Tanaka

Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Division of Applied Chemistry, Osaka University, Quantum Beam Science Directorate, Japan Atomic Energy Agency, Japan

PA-35

“Photocatalytic TiO₂ films deposited by rf reactive magnetron sputtering with nitrogen addition”

C. Y. Hsu, W. P. Li, and T. L. Sung

Department of Mechanical Engineering, Lunghwa University of Science and Technology, Taiwan

PA-36

“Influence of Excimer UV-Lamp Irradiation and RTA Process on Optical Properties of Si Implanted SiO₂”

T.S. Iwayama, H. Watanabe, S. Fukaya, T. Iwata, H. Unuma, T. Hama and D.E. Hole

Aichi University of Education, Kanazawa University, Japan, University of Sussex, UK

PA-37

“Nanocluster Formation in Metals by the Low-Energy Ion Irradiation”

I.V. Tereshko, V.V. Abidzina, V.V. Glushchenko, I. E. Elkin, V.M. Shemenkov, and A.F. Korotkevich

Belarusian-Russian University, Belarus, "NANTES - Systemy Nanotechnologii" Plc., Poland

Properties

PA-39

“Surface Structure and Bonding Mode of Stainless Steel Film Deposited on ABS Resin by DC Magnetron Sputtering”

M. Z. Xu, C. Z. Gong, X. B. Tian, S. Q. Yang, and Paul K. Chu

State Key Lab. of Advanced Welding Production & Technology, Harbin Institute of Technology, China, Department of Physics & Materials Science, City University of Hong Kong, Hong Kong

PA-40

“Effects of Metal-Gas Ion Implantation on Poly-L-Lactide and Poly-DL-Lactide Glycolide Co-polymers”

Ahmet Oztarhan, Emel Sokullu Urkac, Funda Tihminlioglu, and Bercin Isikli

Bioengineering Department, Ege University, Chemical Eng.Department, Izmir Institute of High Technology, Turkey

PA-42

“Silicon orientation effects on the surface blistering characteristics due to hydrogen ion implantation”

J.H. Liang, C.H. Hu, and C.M. Lin

Department of Engineering and System Science, National Tsing Hua University, Institute of Nuclear Engineering and Science, National Tsing Hua University, Department of Applied Science, National Hsinchu University of Education, Taiwan

PA-43

“Ion irradiation influence on ZnO(0001) polar surface investigated by STM and STS”

J. H. Lai, S. H. Su, C. L. Wu, and J. C. A. Huang

Department of Physics, National Cheng Kung University, Taiwan

PA-44

“Design Simulation and Fabrication Process of Polyimide and Polyimide/Silica Hybrid Materials for Rib-type Arrayed Waveguide Grating”

Wen-Jen Liu, Meng-Chia Tsai and I-Tsen Lai

Department of Material Science and Engineering, I-Shou University, Taiwan

PA-45

“Hydrophobic Thin Films Synthesis by Low Temperature Atmospheric Pressure Plasma Method”

Wen-Jen Liu, Meng-Chia Tsai and Jhih-Hao Lu

Department of Material Science and Engineering, I-Shou University, Taiwan

PA-46

“Structure differences between TiO₂ and phosphorus implanted TiO₂ films caused by thermal treatment”

Jinbiao Wang, Ping Yang, Hongbin Su, Guicai Li, and Nan Huang

Key Lab. of Advanced Technology for Materials of China, Southwest Jiaotong University, China

PA-47

“Computational Study and Sputter-deposition of M-TiO₂ (M=Nb, Ta) Transparent Conducting Oxide Films”

De-ming Chen, Gang Xu, Setsuo Nakao, and Ping Jin

National Institute of Advanced Industrial Science and Technology (AIST-Chubu), Japan

PA-48

“Modification of optical and electrical properties of gallium antimonide irradiated with swift iron ions”

Vidya Jadhav, S.K. Dubey, A. D. Yadav and D. Kanjilal

Department of Physics, University of Mumbai, India, Inter University Accelerator Centre, India

PA-49

“Luminescence and Electrical Properties of Metal-Gas Hybrid Ion Implanted Biodegradable Polymers”

Rana Kibar, Ahmet Oztarhan, Saim Selvi, Emel Sokullu Urkac, Funda Tihminlioglu, and Bercin Isikli

Physics Department, Celal Bayar University, Bioengineering Department, Ege University, Chemical Eng.Department, Izmir Institute of High Technology, Turkey

PA-50

“Texture modification of wurtzite piezoelectric films by ion beam irradiation”

Takahiko Yanagitani and Masato Kiuchi

Department of Applied Physics, Nagoya Institute of Technology, National Institute of Advanced Industrial Science and Technology, Japan

PA-51

“The effect on the surface feature of Ti-based compressor blade by intense pulsed ion beam”

Cuihua RONG, Xiaoyun LE, Gaolong ZHANG, Liying WANG, Yuchao ZHANG, Ying WANG, and Xiao YU

School of Physics and Nuclear Energy Engineering, Beihang University, P.R. China

PA-52

“High Frequency and Low Voltage Plasma Immersion Ion Implantation of Nitrogen on Industrial Pure Iron at Different RF Power”

J.J. Bao, Y.X. Leng, J.Y. Chen, W.Y. Su, X. Gui, P.C. Zhang, Bin Bai, and Nan Huang

Key Laboratory of Advanced Technologies of Materials, Southwest Jiaotong University, State Key Laboratory of Physical Chemistry of Surfaces, China

PA-55

“Surface Patterning of Poly(dimethylsiloxane) Films through Ion Implantation for the Formation of TiO₂ Patterns”

Ho-Je Kwon, Dong Soo Kim, Don Sun Im, Jae Ho Kim, Tai-Jin Kang, Byoung Hun Lee, Jae-Hak Choi, and Young-Chang Nho

Advanced Radiation Technology Institute, Korea Atomic Energy Research Institute, Korea

PC-44

“Nano-cell Fabrication on Semiconductor Surface Utilizing Point Defects Behavior Induced by Focused Ion Beam”

M. Taniwaki and N. Nitta

Dept. of Environmental Systems Engineering, Kochi University of Technology, Dept. of Mechanical Engineering, Kobe University, Japan

15th September, Tuesday

DLC and C Materials

PB-01

“MECHANICAL PROPERTIES OF HIGH DENSITY NANO CARBON(HDNC) FILMS PREPARED BY FILTERED ARC DEPOSITION”

H. Yasui, M. Taki, H. Hasegawa, and S. Takago

Industrial Research Institute of Ishikawa, Onward Ceramic Coating Co. Ltd., Japan

PB-02

“Low Temperature DLC Coatings on Silicone Rubber by a Bipolar Pulse Type PBII System”

Ikeyama Masami, Masuda Haruho, Miyajima Tatsuya and Choi Junho

National Institute of Advanced Industrial Science and Technology (AIST), The University of Tokyo, Japan

PB-03

“Deposition of SiBCN Films by Ion Beam Sputtering Using a Gas Mixture of Ar and CH₄”

Junho Choi, Noritaka Takuda, Tomohisa Kumagai, Takahisa Kato, Masahiro Kawaguchi, Setsuo Nakao, and Masami Ikeyama

The University of Tokyo, Tokyo Metropolitan Industrial Technology Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan

PB-04

“Formation of carbon mixing layer on silicon surface by PBII&D”

Masahiro Kawaguchi, Aya Shimizu, Shoichi Nakanisi, Akira Monkawa, Junho Choi, and Takahisa Kato
Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Department of Mechanical Engineering, The University of Tokyo, Japan

PB-05

“Residual stress of DLC films and its evaluation by Raman spectroscopy”

Masahiro Kawaguchi, Takatoshi Kitagawa, Kiyoshi Murata, Masato Murakami

Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Sibaura Institute of Technology, Japan

PB-06

“Antibacterial property of diamond-like carbon thin films deposited using colloidal solutions”

Masahito Ban, Hiroaki Shimizu, and Fusako Sasaki

Department of Systems Engineering, Nippon Institute of Technology, Japan

PB-07

“Fabrication and characterization of a-C:H coatings on polyoxymethylene substrate by PIII&D”

Peng Li, Lanxin Xu, Nan Huang, Jin Wang, Hong Sun, Yongxing Leng, and Ping Yang

Key Lab. of Advanced Technology for Materials of China, Southwest Jiaotong University, China

PB-08

“Synthesis of conducting carbon nanowires by irradiation of fullerene C70 thin film”

R. Singhal, A. Tripathi, J. C. Pivin and D. K. Avasthi

Inter University Accelerator Centre, India, CSNSM, IN2P3-CNRS, France

PB-09

“Co Nanoparticles in Amorphous Carbon Matrix: Synthesis and Effects of Ion Irradiation”

R. Singhal, J. C. Pivin, R. Chandra and D. K. Avasthi

Inter University Accelerator Centre, India, CSNSM, IN2P3-CNRS, France, Institute Instrumentation Centre, Indian Institute of Technology Roorkee, India

PB-10

“Microstructure of diamond-like carbon films prepared by high power pulse magnetron sputtering (HPPS)”

Setsuo Nakao, Ken Yukimura, Hiroshi Tamagaki, Tadao Okimoto, and Tsutomu Sonoda

National Institute of Advanced Industrial Science and Technology (AIST) - Chubu, Doshisha University, Japan, Kobe Steel, Ltd, Japan

PB-11

“Fabrication of fluorinated carbon nanoparticles and its composition control by atmospheric-pressure plasma”

Tomohiro KOBAYASHI and Katsunori SUZUKI

RIKEN, Japan

PB-13

“The Structure and Adhesion of Hydrogenated Amorphous Carbon (a-C:H) films Synthesized on CoCrMo Alloy”

Xuejing Zhou, Y.X. Leng, H.Sun, Xingrui Deng, Juanjuan Bao, and Nan Huang

Key Laboratory for Advanced Technologies of Materials, Southwest Jiaotong University, China

PB-14

“SiC and nanocrystalline diamond coating on Si substrates fabricated by microwave plasma CVD”

Yoshimine Kato, Tomohiko Horikawa, Tomohiro Ikeda, and Kungen Tei

Department of Materials Science and Engineering, Kyushu University, Department of Applied Science for Electronics and Materials, Kyushu University, Japan

PB-15

“Synthesize of DLC Films by Low Energy Ion Beam Irradiations Following Ion-Beam Induced CVD Process”

Y. Okabe, K. Ishiguro, M. Takano, T. Furuichi, S. Shimazaki, H. Nakamura, Y. Nobusawa, T. Yajima, D. Ju, S. Sato, O. Ariyata, K. Harada and I. Takano

Saitama Institute of Technology, ARIOS Inc., Kogakuin University, Japan

PB-57

“Ion Beam Effects on Graphene’s Electronic Properties”

Tomeka Colon, Ryan Givens, Marcus Pugh, Claudiu Muntele, and Daryush ILA

Center for Irradiation of Materials, Alabama A&M University Research Institute, USA

PB-58

“Alignment properties of liquid crystal on DLC film using ion beam”

Jae-Sang Lee, Chan-Young Lee, and Bom-Sok Kim

PEFP, Korea Atomic Energy Research Institute, Korea

Nano Materials**PB-16**

“Fabrication of Ge nanoneedles by ion-irradiation method”

A. Miyawaki, M. Zamri, T. Hayashi, Y. Hayashi, M. Tanemura, T. Tokunaga

Department of Frontier Materials, Nagoya Institute of Technology, Department of Quantum Engineering, Nagoya University, Japan

PB-17

“Development and Irradiation Performance of Stencil Masks for Heavy-Ion Patterned Implantation”

B. Zheng, Jin Pan, Naoki Iketa, K.Sato, M. Song, Y. Takeda and N. Kishimoto

Quantum Beam Center, Nat. Inst. for Mater. Sci. National Inst. for Mater. Sc., Japan

PB-18

“Laser Interference Patterning of Nanoparticles in Metal Ion-implanted SiO₂”

B. Zheng, Y. Takeda M. Song, and N. Kishimoto

Quantum Beam Center, Nat. Inst. for Mater. Sci., Japan

PB-19

“Germanium Negative-Ion Implantation into SiO₂ Layer on Si: Photoluminescence Properties and Oxidation State of Ge atoms in Subsequent Heat Treatment”

Hiroshi Tsuji, Nobutoshi Arai, Masashi Hattori, Masayuki Ohsaki, Yasuhito Gotoh, and Junzo Ishikawa

Department of Electronic Science and Engineering, Kyoto University, Advanced Technology Research Laboratories, Sharp Corporation, Department of Electronic Engineering, Chubu University, Japan

PB-20

“Fabrication of Stacked SOI Layers for Digital Imaging Devices by Multiple Ion-cut Transfer Process”

Hyung-Joo Woo, Han-Woo Choi, and Joon-Kon Kim

Korea Institute of Geoscience & Mineral Resources, Korea

PB-22

“Luminescence properties of Ge-implanted SiO₂/Si and GeO₂/Ge”

Nobutoshi Arai, Hiroshi Tsuji, Masatomi Harada, Masashi Hattori, Masayuki Ohsaki, Hiroshi Kotaki, Akira Takahashi, Yasuhito Gotoh, and Junzo Ishikawa

Department of Electronic Science and Engineering, Kyoto University, Advanced Technology Research Laboratories, Sharp Corporation, Department of Electronic Engineering, Chubu University, Japan

PB-23

“Temperature and thickness dependence of the grain boundary scattering of the Ni-Si Silicide Films Formed at 500C by Rapid Thermal Annealing of the Ni/Si Films”

N. Artunc, G. Utlü, and S. Selvi

Ege University, Faculty of Science, Department of Physics, Turkey

PB-24

“Structural Investigation of the Nickel Silicide Films Formed at 500C and 850C by Rapid Thermal Annealing of the Ni Films on Si(100)”

G. Utlü, N. Artunc, S. Budak, S. Tari, and A. Oztarhan

Department of Physics, Ege University, Turkey, Center for Irradiation of Materials, Alabama A&M University, USA, Department of Physics, Izmir Institute of Technology, Turkey, Department of Bioengineering, Ege University, Turkey

PB-26

“Thermoelectric Properties of Thermoelectric Generator from SiO₂/SiO₂+Au Nanolayered Multilayer films Effected by MeV Si Ions Modification”

S. Budak, C. Smith, M. Pugh, H. Martin, R.Hill, B. James, K. Heidary, C. Muntele, and D.Ila

Department of Electrical Engineering, Alabama A&M University, Center for Irradiation of Materials, Alabama A&M University, USA

PB-27

“Swift heavy ion irradiation effects at the interface of Zirconium/Silicon”

Veenu Sisodia, K.B. Sapnar, S.D. Dhole and I.P. Jain

Centre for non conventional energy resources 14 Vigyan Bhavan University of Rajasthan Jaipur, Microtron Accelerator Laboratory, University of Pune Pune, India

Novel Technologies**PB-29**

“Plasma Immersion Ion Implantation of AISI 304 Stainless Steels Using a Small Radio Frequency Plasma Source”

H. F. Jiang, C. Z. Gong, X. B.Tian, S. Q. Yang, Ricky K. Y. Fu, and Paul K. Chu

State Key Lab. of Advanced Welding Production & Technology, Harbin Institute of Technology, Department of Physics & Materials Science, City University of Hong Kong, Hong Kong, China

PB-30

“Preparation and characterization of GaN photonic crystal arrays by focused ion beam technology”

G. M. Wu, B. H. Tsai, H. W. Chien, J. C. Wang, T. W. Chang, T. E. Nee, and H. C. Lu

Chang Gung University, Taiwan

PB-31

“Surface modification of polyimide alignment films by ion beams for liquid crystal displays”

H. W. Chien, J. W. Chueh, J. C. Huang, and G. M. Wu

Chang Gung University, Taiwan

PB-32

“Ion-Assisted Vapor Deposition of Acryl Polymer Thin Films”

Kazuo Senda, Syunsuke Sotowa, Kuniaki Tanaka and Hiroaki Usui

Tokyo University of Agriculture and Technology, Japan

PB-33

“Development of Dielectrophoretic Devices with High-Aspect Ratio Microstructures Using Proton Beam Writing”

Yasuharu Shiine, Hiroyuki Nishikawa, Yusuke Furuta, T. Sato, Yasuyuki Ishii, Tomihiro Kamiya, Ryota Nakao, and Satoshi Uchida

Dept. of Electrical Engineering, Shibaura Institute of Technology, Japan Atomic Energy Agency, Dept. of Electrical and Electronic Engineering, Tokyo Metropolitan University, Japan

PB-34

“Magnetic field strength effect of a high power pulsed sputtering (HPPS) glow plasma”

Kingo Azuma, Ryosuke Mieda, Ken Yukimura, Hiroshi Tamagaki, and Tadao Okimoto

University of Hyogo, Doshisha University, and KOBE STEEL, LTD., Japan

PB-35

“Modes of the use of high intensity plasma beams for ceramic surface modification”

M. Barlak, J. Piekoszewski, Z. Werner, B. Sartowska, M. Pisarek, L. Walis, W. Starosta, R. Gröetzchel, K. Bochenska, and C. Pochrybniak

The Andrzej Soltan Institute for Nuclear Studies, Poland, Institute of Nuclear Chemistry and Technology, Poland, Institute of Physical Chemistry, Poland, Faculty of Materials Science and Engineering, Warsaw University of Technology, Poland, Forschungszentrum Dresden-Rossendorf, Institute of Ion Beam Physics and Materials Research, Germany, Institute of Atomic Energy, Poland

PB-36

“CF₄ Fluorination onto Cu surface Using Atmospheric Pressure Non- Equilibrium Plasma for Flux-Less Soldering with Lead Free Solder”

Masato Ueshima, Yusuke Nakamura, Shingo Horii, and Kazuo Sugiyama

Department of Chemical and Biological Engineering, Hachinohe National Institute of Technology, Advanced Science Research Laboratory, Saitama Institute of Technology, Department of Applied Chemistry, Saitama University, Japan

PB-37

“Dual-Plasma Ion Process for Surface Treatment of Insulators”

Akito Kantani, Hiroki Sato, Yuya Nonaka, Naoyuki Sato, and Takashi Ikehata

Institute of Applied Beam Science, Ibaraki University, Japan

PB-38

“Preparation of Ti/C Nano-Composite Thin Films by Magnetron DC Sputtering Using Dual Targets”

Tsutomu Sonoda, Setsuo Nakao, and Masami Ikeyama

National Institute of Advanced Industrial Science and Technology (AIST), Japan

PB-39

“Hybrid effect of Coupled DC/pulsed High Power Magnetron Sputtering”

Jingwei Shi, Chunzhi Gong, Xiubo Tian, Shiqin Yang, and Paul K. Chu

State Key Lab. of Advanced Welding Production & Technology, Harbin Institute of Technology, China, Department of Physics & Materials Science, City University of Hong Kong, Hong Kong

PB-40

“Effect of Moving Auxiliary Electrode Inside the Tube for Inner Surface Plasma Immersion Ion Implantation”

P. Wang, X. B. Tian, C. Z. Gong, S. Q. Yang, and Paul K. Chu

State Key Lab. of Advanced Welding Production & Technology, Harbin Institute of Technology, China, Department of Physics & Materials Science, City University of Hong Kong, Hong Kong

Materials & Processing**PB-41**

“8 and 10 MeV electron beam dosimetric parameters measured through the Fricke Xylenol Gel”

Francisco G. A. Sampaio, Lucas N. de Oliveira, Marcos V. Moreira, Carmen S. G. Calcina, Carlos E. de Almeida, and Adelaide de Almeida

FFCLRP-USP, Ribeirao Preto,SP, IRMEV, Ribeirao Preto,SP, Laboratorio de Ciencias Radiologicas, UERJ, Instituto Federal de Educacao, Ciencia e Tecnologia do Tocantins, Brazil

PB-42

“Depth Absorbed Dose Distribution Between Electron Beams Adjacent Fields in Radiotherapy”

Paulo C. D. Petchevist, Marcos V. Moreira, and Adelaide de Almeida

Departamento de Física e Matemática, FFCLRP/USP, Instituto de Radioterapia e Megavoltagem de Ribeirão Preto, Brazil

PB-43

“Electrochemical gas sensor using a novel gas permeable electrode modified by ion implantation”

Hiroshi IMA YA, Kei OKAMURA, Nobuo NAKANO, Kunio NAGASHIMA, Yoshiaki SUZUKI and Katsuo TAKAHASHI

Riken Keiki Co., Ltd., KOGAKUIN UNIVERSITY, and RIKEN (The Institute of Physical and Chemical Research), Japan

PB-44

“High-energy Heavy Ion Beam Annealing Effect on Ion Beam Synthesis of Silicon Carbide”

J. Khamsuwan, S. Intarasiri, K. Kirkby, P.K. Chu, T. Kamwanna and L.D. Yu

Particle-beam and Plasma Physics Center, Chiang Mai University, Thailand, Institute for Science and Technology Research and Development, Chiang Mai University, Thailand, Surrey Ion Beam Center, University of Surrey, UK, Department of Physics and Materials Science, City University of Hong Kong, Hong Kong, China

PB-45

“The development of the multipoint langmuir probe system”

Susumu Sato, Sachiko Ebisawa, Hitoshi Irio, and Osamu Ariyada

ARIOS INC., JAPAN

Properties**PB-46**

“Electrochemical Behaviour of Fe+O Ion Implanted Disposable Graphite Electrodes”

Arzum Erdem, Emel Sokullu Urkac, H. Karadeniz, A. Caliskan, E. Oks, A. Nikolayev, and Ahmet Oztarhan

Analytical Chemistry Department, Ege University, Turkey, Bioengineering Department, Ege University, Turkey, High Current Electronics Institute, Russia

PB-47

“Titanium Nitride Thin Film Synthesized by Electron Cyclotron Resonance (ECR) Enhanced Filtered Arc Deposition (FAD) Hybrid Process: Mechanical Properties and Corrosion Resistance”

G. J. Wan, N. Huang, Y. X. Leng, and H. Sun

Key Lab. of Advanced Technology for Materials of China Education Ministry, Southwest Jiaotong University, China

PB-48

“Electrochemical properties of microarc oxidation films on a magnesium alloy modified by high-intensity pulsed ion beam”

X.P. Zhu, X.G. Han, J.P. Xin, and M.K. Lei

Surface Engineering Laboratory, Dalian University of Technology, China

PB-49

“Relation of the polymeric ion species in plasma to the hardness of a-C:H film made by PSII&D”

Noriaki Ikenaga, Kouhei Miyamoto, Shintaro Hayashi and Noriyuki Sakudo

Research Laboratory for Integrated Technological Systems, Kanazawa Institute of Technology, Japan

PB-50

“Tribological Properties of Steel Modified by Sulfur Ion Implantation”

Saiko Aoki, Kazuyoshi Teranishi, Masahiro Kawaguchi, Atsushi Mitsuo

Tokyo Institute of Technology, Tokyo Metropolitan Industrial Institute Technology Research Institute, Japan

PB-51

“Twin-targets Sputtering method of Fe-Pt thin film and evaluation of the mechanical properties”

Satoshi Ishiguro, Dong Ying Ju, Ryou Ogatu, and Tomofumi Nakano

Department of Material Science and Engineering, Saitama Institute of Technology, Japan

PB-52

“Modification of hard alloy by treatment of high intensity pulse ion beam”

V.V. Uglov, G.E. Remnev, A.K. Kuleshov, M.S. Saltymakov

Belarusian State University, Belarus, High Voltage Research Institute at Tomsk Polytechnic University, Russia

PB-53

“Ion-induced Modification of Ti-based Ternary Nitride Thin Films Grown by Cathodic Arc Vapor Deposition and Magnetron Sputtering”

V.V. Uglov, A.V. Sevriuk, D.P. Rusalski, G. Abadias, S.B. Kislitsin, K.K. Kadyrzhanov, I.D. Gorlachev, S.N.Dub, and G.E. Remnev

Belarussian State University, Belarus, Laboratoire PHYMAT, Universite de Poitiers, France, Institute of Nuclear Physics of National Nuclear Center of Republic of Kazakhstan, Kazakhstan, Institute of Superhard Materials, Ukraine, High Voltage Research Institute at Tomsk Polytechnic University, Russia

PB-54

“Modification and Alloying of Titanium by Hybrid Methods”

V.V. Uglov, V.I. Shymanski, N.N. Cherenda, N.N. Koval, Y. F.Ivanov, A.D. Teresov, V.M. Astashinski, and G.E. Remnev

Belarusian State University, Belarus, Institute of High Current Electronics, Russia, Institute of Physics, National Academy of Sciences of Belarus, Belarus, High Voltage Research Institute at Tomsk Polytechnic University, Russia

PB-55

“Novel Low Temperature Atmospheric Pressure Plasma Jet Systems for Silicon Dioxide and Poly-ethylene Thin Films Deposition”

Wen-Jen Liu and Ruei-Chen Wang

Department of Material Science and Engineering, I-Shou University, Taiwan

PB-56

“Surface Treatment of PMMA by RF Plasma”

B.Jaleh, B.Sajad, S.Jamali, and M.Farshchi-Tabrizi

Physics Department, Bu- Ali Sina University, Iran, Physics Department, Azzahra University, Iran, Max-Plank Institute for polymer Research, Germany

16th September, Wednesday

Bio Materials

PC-01

“Effect of Membrane Processing Conditions on the Properties of Asymmetric Chitosan Membranes”

Berçin Işıklı, Emel Sokullu Urkaç, Efim Oks, Alexey Nikolaev, Ahmet Öztarhan, and Funda Tihminlioglu

Biotechnology and Bioengineering Department, İzmir Institute of Technology, Turkey, Bioengineering Department, Ege University, Turkey, High Current Electronics Institute, Russia, Chemical Engineering Department, İzmir Institute of Technology, Turkey

PC-02

“Characterization and in Vitro Degradation of Ion Implanted Chitosan Membranes”

Berçin Işıklı, Emel Sokullu Urkaç, Efim Oks, Alexey Nikolaev, Ahmet Öztarhan, and Funda Tihminlioglu

Biotechnology and Bioengineering Department, İzmir Institute of Technology, Turkey, Bioengineering Department, Ege University, Turkey, High Current Electronics Institute, Russia, Chemical Engineering Department, Izmir Institute of Technology, Turkey

PC-03

“Enhancement Anti-Bacterial Properties on Nitriding Modified Stainless Steel”

Keng-Liang Ou, Hsin-Chung Cheng, Chung-Fang Huang, and Chung-Ming Liu

Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, School of Dentistry, Taipei Medical University, Department of Dentistry, Taipei Medical University Hospital, Department of Chemical and Material Engineering, Lung Hwa University of Science and Technology, Taiwan

PC-04

“Research of Biocompatibility and Mircostructural Variation on Nano-diamond by Microwave Plasma CVD”

Keng-Liang Ou, Chung-Fang Huang, Hsin-Chung Cheng, and Chung-Ming Liu

Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, School of Dentistry, Taipei Medical University, Department of Dentistry, Taipei Medical University Hospital, Department of Chemical and Material Engineering, Lung Hwa University of Science and Technology, Taiwan

PC-05

“Cell Attachment Studies on Metal Gas Ion Implanted Phenolic-based Composites Reinforced with Nanopowders”

Emel Sokullu Urkaç, Ahmet Oztarhan, I. Gurhan, S. Iz, B. Chhay, R. Minamisawa, Daryush Ila, R. Zimmerman, E.Oks, and A. Nikolaev

H.J.Foster Center for Irradiation of Materials, Alabama A&M University, USA, Bio-engineering Department, Ege University, Turkey, High Current Electronics Institute, Russia

PC-06

“Surface Modification of Silica Glass by CHF₃ Plasma Treatment and Carbon Negative-Ion Implantation for Cell Pattern Adhesion”

Hiroshi Tsuji, Piyanuch Sommani, Yuichiro Hayashi, Hiroyuki Kojima, Hiroko Sato, Yasuhito Gotoh, Gikan Takaoka, and Junzo Ishikawa

Department of Electronic Science and Engineering, Kyoto University, Photonics and Electronics Science and Engineering Center, Kyoto University, Department of Electronic Engineering, Chubu University, Japan

PC-07

“Cell Patterning on the PDMS Surface by using Proton Irradiation”

Ho-Je Kwon, Chan-Hee Jung, In-Tae Hwang, Jae-Hak Choi, Young-Chang Nho, and Sung Oh Cho

Korea Atomic Energy Research Institute, Korea Advanced Institute of Science and Technology, Korea

PC-08

“The Behavior of Titanium Oxide Films Prepared by High Power Pulsed Magnetron Sputtering”

F.J.Jing, K. Yukimura, H.Katoh, Y.F.Lei, T.X. You, Y.X. Leng, N. Huang, H. Tamagaki, and T. Okimoto

Key Lab. of Advanced Materials Technology, Southwest Jiaotong University, China, Department of Electrical Engineering, Doshisha University, Japan, KOBE STEEL LTD., Japan

PC-09

“Enhancement of Biocompatible and Physicochemical Characterization on Orthodontic Mini-Implant with Nanostructural Oxide Layer by Electro-Discharging”

Hsin-Chung Cheng, Che-Tong Lin, Chung-Fang Huang, and Keng-Liang Ou

School of Dentistry, Taipei Medical University, Department of Dentistry, Taipei Medical University Hospital, Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, Taiwan

PC-10

“Enhanced Intrinsic Biomechanical Properties of Osteoblastic Mineralized Tissue on Chemically Modified TiNb Alloy”

Keng-Liang Ou, Pei-Wen Peng, Yung-Ning Pan, Chung-Fang Huang, and Hsin-Chung Cheng

Graduate Institute of Biomedical Materials and Engineering, Taipei Medical University, Research Center for Biomedical Implants and Microsurgery Devices, Taipei Medical University, Department of Mechanical Engineering, National Taiwan University, School of Dentistry, Taipei Medical University, Department of Dentistry, Taipei Medical University Hospital, Taiwan

PC-11

“The fabrication and characterization of Fe-O film prepared by plasma ion immersion implantation and deposition”

Yu Zhang, Nan Huang, Shengfa Zhu, Yongxiang Leng, and Hong Sun

Key Lab. of Advanced Technology for Materials of China Education Ministry, Southwest Jiaotong University, China

PC-12

“Sterilization of Polymeric Object by Plasma-Based Ion Implantation”

N. Sakudo, N. Ikenaga, F. Ikeda, Y. Nakayama, Y. Kishi, Z. Yajima

Kanazawa Institute of Technology, Japan

PC-13

“Line-Width of Ion Beam-Modified Polystyrene by Negative Carbon Ions for Fine Adhesion Pattern of Mesenchymal Stem Cells”

Piyanuch Sommani, Hiroshi Tsuji, Hiroyuki Kojima, Hiroko Sato, Yasuhito Gotoh, Junzo Ishikawa and Gikan Takaoka

Photonics and Electronics Science and Engineering Center, Kyoto University, Department of Electronic Science and Engineering, Kyoto University, Chubu University, Japan

PC-14

“Cloning of thioredoxin reductase gene in antagonistic bacteria using a low-energy ion beam”

S. Mahadtanapuk, M. Sanguanserm Sri, L. D. Yu and S. Anuntalabhochai

School of Agriculture Natural Resources and Environment, Naresuan University Phayao, Faculty of Pharmaceutical Sciences, Naresuan University Phayao, Fast Neutron Research Facility, Chiang Mai University, Department of Biology, Chiang Mai University, Thailand

PC-15

“Cloning and Transformation of Gene Involving in Flower Senescence-Association from *Curcuma alismatifolia* Gagnep. by Application of Low-Energy Ion Beam”

W. Teraarusriri, S. Mahadtanapuk, M. Sanguanserm Sri, L. D. Yu and S. Anuntalabhochai

School of Agriculture Natural Resources and Environment, Naresuan University Phayao, Faculty of Pharmaceutical Sciences, Naresuan University, Fast Neutron Research Facility, Chiang Mai University, Department of Biology, Chiang Mai University, Thailand

PC-16

“Corrosion Resistance Investigation of Ti-O film modified L-605 vascular”

H Q.Liu, Y X.Leng, N.Huang, and G J.Wan

Key Laboratory of Advanced Technology of Materials, Southwest Jiaotong University, China

PC-17

“Ion beam irradiation into PLLA nanofibrous scaffolds for tissue engineering”

Toshiyuki Tanaka, Rena Ujiie, Yoshiaki Suzuki, and Hirofumi Yajima

Artificial Organ Materials Laboratory, RIKEN, Tokyo University of Science, Japan

PC-18

“ENHANCED OSSEOINTEGRATION OF STRONTIUM-INCORPORATED NANOSTRUCTURED TI-6AL-4V ALLOY IMPLANTS”

Jin-Woo Park

Kyungpook National University, Republic of Korea

Fundamental and Theory

PC-19

“Transition from uniform to gaussian function through electron beam field sizes variation”

Lucas Del Lama, Alexandre S. Martinez, and Adelaide de Almeida

Departamento de Física e Matemática, FFCLRP-USP, Brazil

PC-20

“A SIMULATION MODEL OF SURFACE WAVE PLASMA SOURCE FOR PLASMA-IONIC LIQUID INTERACTION EXPERIMENT”

H. Tanaka, H. Himura, T. Akita, A. Irie, A. Sanpei, and S. Masamune

Kyoto Institute of Technology, Japan

PC-21

“Characteristics of Atmospheric Pressure Plasma Jet Generated by Compact and Inexpensive High Voltage Modulator”

Hiroshi Akamatsu and Kazunori Ichikawa

Department of Electrical Engineering, Kobe City College of Technology, JAPAN

PC-22

“Structural Transformations in Ni Films at the Irradiation C⁺, N⁺ Ions and Post-Irradiation Heating”

I.M. Neklyudov, O.M. Morozov, and V.G. Kulish

National Science Center “Kharkov Institute of Physics and Technology”, Ukraine

PC-23

“Synergy Effect of Xenon Plasma Ions and Ultraviolet Lights on GaN Etch Surface Damage and Modification”

Retsuo Kawakami, Takeshi Inaoka, Kikuo Tominaga, Atsushi Takeichi, Toshiaki Fukudome, Masahito Niibe, and Takashi Mukai

The University of Tokushima, University of Hyogo, Nichia Corporation, Japan

PC-24

“Nonlinear Effects and Nanostructure Formation in Solids by Low-Energy Ion Irradiation”

I.V. Tereshko, V.V. Abidzina, V.V. Glushchenko, I. E. Elkin, V.M. Shemenkov, and A.F. Korotkevich

Belarusian-Russian University, Belarus, "NANTES - Systemy Nanotechnologii" Plc., Poland

Nano Materials

PC-25

“Synthesis of ZnO nanorod on Al cathode for plasma intensity enhancement”

A. Deachana, K. F. Huo, Q. X. Qian, T.HU, D. Boonyawan, T. Viliathong, and Paul K. Chu

Chiang Mai University, Thailand, City University of Hong Kong, Hong Kong SAR, China, Songkhla Rajabhat University, Thailand

PC-26

“MeV Si Ions Bombardment Effects on Thermoelectric Properties of SiO₂/SiO₂+Ge Nanolayers”

C. Smith, S. Budak, M. Pugh, H. Martin, R.Hill, B. James, K. Heidary, C. Muntele, and D.Ila

Center for Irradiation of Materials, Alabama A&M University, Department of Electrical Engineering, Alabama A&M University, USA

PC-27

“Photoluminescence studies of silver and silver oxide nano-particles formed using swift heavy ions”

Dhanajay M. Bagul, Santosh K. Haram, D. C. Kothari, Ranjana S. Varma, Tanuja Mohanty, and D. Kanjilal

Department of Chemistry, University of Pune, Department of Physics, University of Mumbai, Nuclear Science Centre, India

PC-28

“Improvement of Hydrogen Absorption Characteristics of Pd using Irradiation of Heavy Ions”

Hiroshi Abe, Shigeo Aone, Ryo Morimoto, Hirohisa Uchida and Takeshi Ohshima

Quantum Beam Science Directorate, Japan Atomic Energy Agency (JAEA), Course of Applied Science, Tokai University, Department of Energy Science and Engineering, Tokai University, JAPAN

PC-29

“Ion beam assisted deposition of TiN-Ni nanocomposite coatings”

J. P. Riviere, A.Akbari, and C. Templier

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PC-30

“Characterization of Changes in Properties and Microstructure of Glassy Polymeric Carbon Following Au Ion Irradiation”

M. Abunaemeh, M. Seif, I. Ojo, C. Muntele, and D. ILA

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PC-31

“Microstructure Characterization of Silicon Carbide Ceramics”

M. Abunaemeh, M. Seif, I. Ojo, C. Muntele, and D. ILA

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PC-32

“Surface properties of thermoplastic polymers by ion implantation”

Rashi Nathawat, and Y.K.Vijay

School of Applied Physics & Mathematics, Shri Mata Vaishno Devi University, Thin Film & Membrane Science Lab, University of Rajasthan, India

PC-33

“Effects of MeV Si ions Bombardment on the Thermoelectric Properties of $Zn_4Sb_3/CeFe_{(4-x)}Co_xSb_{12}$ Nano-layered Superlattices”

S. Budak, S.Guner, R. Amaral Minamisawa, C. I. Muntele, and D. ILA

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PC-34

“Effects of MeV Ion-Beam Bombardments on the Thermoelectric Figures of Merit of Zn_4Sb_3 and $ZrNiSn$ -Based Half-Heusler Compounds”

S. Budak, S. Guner, C. Muntele, and D. Ila

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PC-35

“Focused Ion Beam Assisted Deposition of Nanostructures at Elevated Substrate Temperatures”

Sarvesh K. Tripathi, Neeraj Shukla, Nitul S. Rajput, S. Dhamodaran and Vishwas N. Kulkarni

Department of Physics, Indian Institute of Technology, India

PC-36

”Detection and Study of Thermal Radiation Emitted by Focused Ion Beam Fabricated Tungsten Nano Filament”

Nitul S. Rajput, Mihir Sarkar, Amit Banerjee, Neeraj Shukla and Vishwas N. Kulkarni

Department of Physics, Indian Institute of Technology Kanpur , India

PC-37

“Damage Evaluation of Polymer Materials Irradiated with Ar Cluster Ion Beams”

Y. Yamamoto, K. Ichiki, S. Ninomiya, T. Seki, and J. Matsuo

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PC-38

“Effects of boron and phosphorous ion implantation on the electrical property of single-walled carbon nanotubes”

Z. Xiao, T. Pearson, L. Robinson, C. Muntele, R. Zimmerman, and D. Ila

Alabama A&M University, USA

Novel Technologies**PC-39**

“Research and Education at the Center for Irradiation of Materials of Alabama A&M University”

D. ILA, R. L. Zimmerman, C. Muntele, L. R. Holland, B. Chhay, S. Budak, Z. Xiao, A. Sharma, and L. Bowman

Center for Irradiation of Materials, Alabama A&M University, USA

PC-40

“Micro-Patterning of Si(100) Surfaces by Ethanol Cluster Ion Beams”

Gikan H. Takaoka, Hiromichi Ryuto, Ryosuke Ozaki and Hiroshi Mukai

Photonics and Electronics Science and Engineering Center, Kyoto University, Japan

PC-41

“Electrical and Optical Characteristics of the Hybrid Plasma of 195 kHz-Burst RF Plasma with HPPS Glow Plasma”

Yuuki Sakuma, Ken Yukimura, Kingo Azuma, Hiroshi Tamagaki, and Tadao Okimoto

Department of Electrical Engineering, Doshisha University, Japan, Electrical Engineering and Computer Science, University of Hyogo, Japan, KOBE STEEL, LTD., Japan

PC-42

“Investigation of Enhanced Glow Discharge Plasma Immersion Ion Implantation into Rod Target”

Jianhui Li, Liuhe Li, Qiuyuan Lu, Ricky K. Y. Fu, Dixon. T. K. Kwok, Zhuo Wang, and Paul. K. Chu

School of Mechanical and Automation Engineering, Beijing University of Aeronautics and Astronautics, China, Department of Physics and Materials Science, City University of Hong Kong, Hong Kong

PC-43

“On energy deposition of high-intensity pulsed ion beam irradiation into solid state materials”

J.P. Xin, X.P. Zhu, and M.K. Lei

Surface Engineering Laboratory, Dalian University of Technology, China

PC-45

“Etching of Metallic Materials with Cl₂ Gas Cluster Ion Beam”

T. Seki, T. Aoki and J. Matsuo

Department of Nuclear Engineering, Kyoto University, Department of Electronic Science and Engineering, Kyoto University, Quantum Science and Engineering Center, Kyoto University, Japan

Materials & Processing**PC-46**

“Effect of Ion Irradiation on Ionic Liquids Using 2.45 GHz Microwave Discharges”

A. Irie, H. Himura, H. Tanaka, A. Sanpei, S. Masamune

Kyoto Institute of Technology, Japan

PC-47

“Ripple formation mechanism in silicon under medium energy argon bombardment”

D. P. Datta, T. K. Chini, A. Dasgupta, S. Saroja, M. Vijayalakshmi and N. Kishimoto

Quantum Beam Center, National Institute for Materials Science, Japan, Surface Physics Division, Saha Institute of Nuclear Physics, India, Physical Metallurgy Division, India Gandhi Centre for Atomic Research, India

PC-48

“Self diffusion of Mn in icosahedral Al-Pd-Mn quasicrystals”

Feridoun Samavat, Bruce V. King, and D. John O'Connor

Department of Physics, Bu-Ali Sina University, Iran, School of Mathematical and Physical Sciences, University of Newcastle, Australia

PC-49

“Damaged Depth Distribution in Ion Irradiated PEEK”

J. Vacik, V. Hnatowicz, and J. Cervena

Nuclear Physics Institute Academy of Sciences of the Czech Republic & Research Centre, Czech Republic

PC-50

“Surface structural characterization of O⁺, F⁺ and Cl⁺ ion implanted glass-like carbon”

Kazumasa Nakamura, Yoshikazu Teranishi, Yukako Wada, Yasuhiro Tanabe, Takashi Akatsu, Eiichi Yasuda and Hitoshi Shindo

Department of Applied Chemistry, Chuo University, Tokyo Metropolitan Industrial Technology Research Institute (TIRI), Department of Chemical Engineering, Nagoya University, Materials and Structures Laboratory, Tokyo Institute of Technology, Japan

PC-51

“The Effects of Low Dose Charged-Particle Microbeam on the Human Bladder Carcinoma Cell Line RT112”

K. Prakrajang, C. J. Jeynes, M. A. Barry, L. Barazzuol, D. Guest, K.J. Kirkby and L.D. Yu

Fast Neutron Research Facility, Chiang Mai University, Thailand, Surrey Ion Beam Centre, University of Surrey, UK

PC-52

“Parametric interactions in ion-implanted piezoelectric semiconductor plasmas”

S. Ghosh, Preeti Thakur, Nishchal Yadav, M. Jamil and M. Salimullah

Vikram University, India, GC University, Pakistan

PC-54

“Surface Damage of Gold Ion Implantation for Co-WC Micro-Punch Tools in Processing”

Shizuka Nakano, Ming Yang, and Hisato Ogiso

National Institute of Advanced Industrial Science and Technology (AIST), Tokyo Metropolitan University, Japan

PC-55

“Chromium Nitride Formed by Ion Beam Assisted Deposition at Low and High Nitrogen Ion Energies”

Wolfgang Ensinger, Masato Kiuchi, Kuniaki Honjo, Stefan Flege, and Joachim Broetz

Darmstadt University of Technology, Department of Materials Science, Germany, National Institute of Advanced Industrial Science and Technology, Japan

PC-56

“Preparation of Water-Repellent Thin Film with Inductive Plasma using C₂H₂F₂/Ar gases and Investigation of Its Adhesion by Positively Pulse-Biasing”

Y. Ohtsu, N. Wada, T. Misawa and H. Fujita

Department of Electrical and Electrical Eng., Saga University, Japan

PC-57

“Production of Dual Frequency Sputtering Plasma for Preparation of Aluminum Nitride Thin Films”

Y. Ohtsu, K. Hino, T. Misawa, H. Fujita, M. Akiyama and K. Yukimura

Department of Electrical and Electronic Eng., Saga University, Measurement Solution Research Center, AIST, Department of Electrical Eng., Doshisya University, Japan

PC-58

“Study on surface modification of polyethylene terephthalate by N and O ion bombardment”

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