

ICMR 2005 AKITA

The Final Circular

The Fifth International Conference on Materials Engineering for Resources

Conference Program

October 20 Thu. — 22 Sat., 2005

Akita View Hotel, Akita City, Japan



Organized by
The Society of Materials Engineering for Resources of Japan,
Faculty of Engineering and Resource Science, Akita University
and Akita Prefecture

ICMR 2005 AKITA



Public transport:

It takes 1 hour from Haneda (Tokyo international airport) with 7 flights a day (All Nippon Airways 4 flights, Japan Airline 3 flights). Flight service is also available from Osaka, Nagoya, and Sapporo. The limousine runs between the Akita airport and the buss terminal in front of the JR Akita station. You can also enjoy a 4 hour bullet train trip from Tokyo (Akita Shinkansen).

Time Schedule of ICMR2005

October 20 (Thursday) Plenary Session

Main Room

8:00- Registration

9:10- 9:25 Opening Ceremony

9:30-11:45 Session 1

9:30-10:05 PL-1. **Sung-Kee Chung**, Pohang University of Science and Technology (Korea)

10:05-10:40 PL-2. **Robert M. Corn**, University of California (U.S.A.)

10:40-11:15 PL-3. **Tomokazu Matsue**, Tohoku University (Japan)

11:15-11:45 PL-4. **Yoshinobu Baba**, Nagoya University (Japan)

Lunch Break (11:45-13:00)

13:00-14:45 Session 2

13:00-13:35 PL-5. **Akira Harada**, Osaka University (Japan)

13:35-14:10 PL-6. **Kwan-Young Lee**, Korea University (Korea)

14:10-14:45 PL-7. **Reiner Kirchheim**, Universitat Gottingen (Germany)

15:00-16:45 Session 3

15:00-15:35 PL-8. **Satoshi Matsumoto**, Akita Prefectural University (Japan)

15:35-16:10 PL-9. **Antonio Rubio**, Technical University of Catalonia (Spain)

16:10-16:45 PL-10. **Akira Tonomura**, Hitachi, Ltd. (Japan)

17:30-19:30 Conference Party

October 21(Friday) Keynote Session

Room A

8:00- Registration

9:10-10:30 Session A1

New Materials for Life Science

A1-1, A1-2, A1-3, A1-4

10:40-12:00 Session A2

Construction Materials for Sustainable Development

A2-1, A2-2, A2-3, A2-4

13:00-14:20 Session A3

Processing and Characterization of Functional Materials

A3-1, A3-2, A3-3, A3-4

14:30-16:10 Session A4

Topics in The 21st Century

A4-1, A4-2, A4-3, A4-4, A4-5

Room B

8:00- Registration

9:10-10:30 Session B1

New Recycling System and Environmental Science and Technology-I

B1-1, B1-2, B1-3, B1-4

10:40-12:00 Session B2

New Recycling System and Environmental Science and Technology-II

B2-1, B2-2, B2-3, B2-4

13:00-14:20 Session B3

Advanced Materials for Sensors and Technology

B3-1, B3-2, B3-3, B3-4

14:30-15:50 Session B4

Computer Engineering and Materials Engineering for Resource

B4-1, B4-2, B4-3, B4-4

October 22(Saturday) Poster Session

Room A

10:00-12:00 Session A

(3-Minute Lecture) PA1-PA29

13:00-15:00 Session A

(Poster Site Discussion) PA1-PA30

Room B

10:00-12:00 Session B

(3-Minute Lecture) PB1-PB32

13:00-15:00 Session B

(Poster Site Discussion) PB1-PB32

Main Room

15:10-15:30 Closing Ceremony

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October 20 (Thursday) Plenary Session

Main Room

8:00- Registration (Conference Lobby)

9:10-9:25 Opening Ceremony Chairperson; Makoto Nishida

9:30-11:45 Session 1

Chairpersons: **Fumio Hamada, Nobuaki Ogawa, Tomokazu Matsue, Kazuhiko Fujiwara, Yoshinobu Baba**

9:30--10:05

PL-1. Construction of Sphingolipids Libraries and their Utilities.
Sung-Kee Chung, Pohang University of Science and Technology (Korea)

10:05--10:40

PL-2. SPR Imaging Measurements of DNA, Peptide and Protein Microarrays.
Robert M. Corn, University of California (U.S.A.)

10:40--11:15

PL-3. Fabrication and Characterization of Biomaterial-Based Micro- and Nanostructures.
Tomokazu Matsue, Tohoku University (Japan)

11:15--11:45

PL-4. Nanomaterials and Nanostructures for Biomedical Applications.
Yoshinobu Baba, Nagoya University (Japan)

Lunch Break (11:45-13:00)

13:00-14:45 Session 2

Chairpersons: **Yoichi Akagami, Shinnichi Nakata, Shoji Goto**

13:00--13:35

PL-5. Cyclodextrin-based Supramolecular Polymers.
Akira Harada, Osaka University (Japan)

13:35--14:10

PL-6. Utilization of Low Temperature Plasma for Chemical Reaction and Preparation of Functional Materials.
Kwan-Young Lee, Korea University (Korea)

14:10--14:45

PL-7. Chemical Composition of Advanced Materials as Obtained by the 3-Dimensional Atom Probe.
Reiner Kirchheim, Universität Göttingen (Germany)

Coffee Break (14:45-15:00)

15:00-16:45 Session 3

Chairpersons: **Osamu Kamiya, Hideo Tamamoto, Hiroshi Sato**

15:00--15:35

PL-8. Development of Water Treatment System Using Only Natural Materials.
Satoshi Matsumoto, Akita Prefectural University (Japan)

15:35--16:10

PL-9. Designing Circuits from Imperfect Components in VLSI Gigascale Technologies.
Antonio Rubio, Ferran Martorell and Francesc Moll, Technical University of Catalonia (Spain)

16:10--16:45

PL-10. Quantum Phenomena Observed Using Electrons.
Akira Tonomura, Hitachi, Ltd. (Japan)

17:30-19:30 Conference Party

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October 21 (Friday) Keynote Session

Room A

Session A1: *New Materials for Life Science*

9:10-10:30

Chairpersons: **Yoichi Akagami, Kazuhiko Fujiwara, Nobuhiko Iki**

A1-1. Continuous-Flow PCR Amplification/Analysis System, **Shinae Suk, Nokyoung Park, Dong-Wook Kim, and Jong Hoon Hahn**, Pohang University of Science and Technology and St. Mary's Hospital (Korea)

A1-2. In vivo and In vitro Investigation of Photosensitizer-adsorbed Superparamagnetic Nanoparticles for Photodynamic Therapy, **C. O. Kim, S. I. Park, J. H. Lim, J. H. Kim and H. I. Yun**, Chungnam National University (Korea)

A1-3. Thiocalixarene -A Versatile Functional Material for Separation and Sensing-, **Nobuhiko Iki**, Tohoku University (Japan)

A1-4. Involvement of *rpoZ*, a Gene Encoding RNA Polymerase Omega Subunit, in the Biosynthesis of Kasugamycin, an Antibiotic against Rice Blast Disease. **Ikuo Kojima, Kano Kasuga, Masayuki Kobayashi, Kayoko S. Tsuchiya and Souich Ikeno** Akita Prefectural University (Japan)

Coffee Break (10:30-10:40)

Session A2: *Construction Materials for Sustainable Development*

10:40-12:00

Chairpersons: **Makoto Kagaya, Hiroshi Takahashi**

A2-1. Concrete-Polymer Composites: Trends Shaping the Future, **Lech Czarnecki**, Warsaw University of Technology (Poland)

A2-2. Frost Damage of Concrete Structures in Tohoku District of Japan, **Masami Shoya**, Hachinohe Institute of Technology (Japan)

A2-3. Challenge for Improving Durability of Concrete -Development of Cement Suitable for Durable Concrete Structure-, **Takahisa Okamoto and Shunsuke Hanehara**, Taiheiyo Cement Corporation and Iwate University (Japan)

A2-4. Study on Durability of Fiber-Cement-Stabilized Mud Produced from Construction Sludge in Freezing and Thawing Tests, **Hiroshi Takahashi, Yousuke Miura, Masato Mori and Koji Kumakura**, Tohoku University, Mori Institute for Environmental Technology, Yachio Engineering Co., Ltd (Japan)

Lunch Break (12:00-13:00)

Session A3: *Processing and Characterization of Functional Materials*

13:00-14:20

Chairpersons: **Motoi Hara, Shoji Goto, Tadashi Oyoshi**

A3-1. The Current Fluctuations and Corrosion Damages at the Early Stage of Pitting on Mild Steel and Pure Iron, **Yu Zuo, Yuming Tang and Hu Wang**, Beijing University of Chemical Technology (China)

A3-2. Research of Microstructure, Mechanical Properties and Deformation Behavior on ZK60 Magnesium Alloy, **Danqinig Yi**, Central South University (China)

A3-3. A Linearly Conforming Radial Point Interpolation Method (RPIM), **G. R. Liu, Y. Li, M. T. Luan, K. Y. Dai, and W. Xue**, National University of Singapore (Singapore) and Dalian University of Technology (China)

A3-4. Development of Re-based Diffusion Barrier Coatings on Nickel-based Superalloys, **Toshio Narita**, Hokkaido University (Japan)

Coffee Break (14:20-14:30)

Session A4: *Topics in The 21st Century*

14:30-16:10

Chairpersons: **Timotius Pasang, Kenji Murata**

A4-1. Study of the Aerial Shell Case made by Biodegradable Plastics, **Kenji Murata, Yukio Kato, Makoto Kudo, Satoru Kamata, Tokuo Kon, Tadanobu Komatsu**, NOF Corporation, Akita Prefectural R&D Center, Sekon Co., Ltd, Komatsu Fireworks Co., Ltd (Japan)

A4-2. Japanese Lime Industry in the World, **Tetsushi Iwashita**, Yabashi Industries Co. Ltd., (Japan)

A4-3. Challenges in Developing High Performance Al-Li Alloys, **Timotius Pasang, Stan P. Lynch, Alex Shekhter, Stavroula Moutsos, and Graham B. Winkelman**, Auckland University of Technology (New Zealand), Defence Science and Technology Organisation and Monash University (Australia)

A4-4. Formation of Supramolecular Assembly and Gas Sorption-Desorption Based on Thiocalix[n]arene, **Fumio Hamada**, Akita University (Japan)

A4-5. Current and Future Development of Geothermal Energy in Sabah, Malaysia, **M. Noh Dalimin, A. Haris A. Tuah, Sanudin Tahir and Sahat Sadikun**, University Malaysia Sabah (Malaysia)

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October 21 (Friday) Keynote Session

Room B

Session B1: *New Recycling System and Environmental Science and Technology-I*

9:10-10:30

Chairpersons: **Osamu Kamiya, Ji-Whan Ahn**

- B1-1. A Pretreatment for Cl Removal and Stabilization of Soluble Heavy Metal to Recycle Municipal Solid Waste Incineration Bottom Ash, **Ji-Whan Ahn**, Korea Institute of Geoscience and Mineral Resources (Korea)
- B1-2. Shear Layer and Material Flow in the Upper Weld Zone during Friction Stir Welding of Aluminium Alloys, **Z. W. Chen, R. Peris, R. Maginness and Z. Xu**, Auckland University of Technology (N. Z.)
- B1-3. Environmental State of Sfax City-Tunisia. Case Study: Hydrocarbon Pollution of the City Coastline, **Kallel Monem, Zaghdien Hatem, Louati Afifa, Aloulou Fatma, Khadhraoui Moncef, Elleuch Boubaker, Oudot Jean and Salot Alain**, Université de Sfax (Tunisie), Muséum National d'Histoire Naturelle (France), l'Université Pierre et Marie Curie (France)
- B1-4. Sn-whisker Formation in Micro Bonding, **Osamu Kamiya, Shigehiro Morikawa and Tatsuro Kubouchi**, Akita University (Japan)

Coffee Break (10:30-10:40)

Session B2: *New Recycling System and Environmental Science and Technology-II*

10:40-12:00

Chairpersons: **Shinichi Nakata, Nobuaki Ogawa, Atsushi Shibayama**

- B2-1. TiO₂ as an Environmental Photocatalyst: Properties and Applications, **Wonyong Choi**, Pohang University of Science and Technology (Korea)
- B2-2. Environmentally Benign Hydrogenation System using Supported Metal Catalysts and Supercritical Carbon Dioxide Solvent, **Masayuki Shirai**, National Institute of Advanced Industrial Science and Technology (Japan)
- B2-3. Metal Recovery of Fly Ash from Automobile Shredder Residue Incineration by Wet Process, **Atsushi Shibayama, Takaho Otomo, Yasushi Takasaki, Takaki Murakami, Kenji Watanabe and Hiroshi Inoue**, Akita University, Kosaka Smelting & Refining Co., Dowa Mining Co. (Japan)
- B2-4. Monitoring of Pollution in Atmospheric and Aquatic Environments of Japan Brought by Contaminated Precipitation and their Statistical Evaluation, **Toru Ozeki**, Hyogo University of Teacher Education (Japan)

Lunch Break (12:00-13:00)

Session B3: *Advanced Materials for Sensors and Technology*

13:00-14:20

Chairpersons: **Kazuhiko Imano, Masafumi Suzuki**

- B3-1. Preparation and Characterization of Organic Thin Films for Humidity Sensor Application with Interdigital Transducer: Plasma Polymerized and Spin-Coated Polymers, **Paik-Kyun Shin**, INHA University (Korea)
- B3-2. Material Characterization Using Impulsive Ultrasound. **Kang-Lyeol Ha, Moo-Joon Kim and Sang-Yoon Kim**, Pukyong National University (Korea)
- B3-3. Nano-interface Surface Dielectric Polarization Phenomena: Detection and Application, **Mitsumasa Iwamoto and Takaaki Manaka**, Tokyo Institute of Technology (Japan)
- B3-4. Progress in Study of Solid Dielectric Breakdown Based on Space Charge Phenomena. **Yuanxiang Zhou, Ninghua Wang, Hongbin Liu, Xidong Liang, Zhicheng Guan**, Tsinghua University (China)

Coffee Break (14:20-14:30)

Session B4: *Computer Engineering and Materials Engineering for Resource*

14:30-15:50

Chairpersons: **Makoto Nishida, Hideo Tamamoto**

- B4-1. Fundamental Algorithms of Computer Graphics and the Needs for New Display Materials. **Yong-Kui Liu, Heng-Bo Zhang**, Dalian Nationalities University (China)
- B4-2. Reliability of Electric Power Network, **Radomir Gono**, VSB-Technical University of Ostrava (Czech)
- B4-3. Superconductivity, Metamagnetism and Non-Fermi Liquid: the Kaleidoscope of Quantum Critical Point - a Topic of Condensed Matter Physics, **Haruyoshi Aoki, Noriaki Kimura and Taichi Terashima**, Tohoku University (Japan)
- B4-4. Influence of Non-uniform Distribution of Grains on Noise Absorption Characteristics of ZnO Varistors, **Mahmudul Kabir, Masafumi Suzuki and Noboru Yoshimura**, Akita University (Japan)

October 22 (Saturday) Poster Session

Room A

10:00-12:00 (3-Minute-Lecture) Chairpersons: **Motoi Hara, Takayoshi Shindo**

13:00-15:00 (Poster Site Discussion)

- AP-1 NIR Analysis of Rice Bran Depending on Different Percentages of Rice Polishing, **Masanori Kumagai, Toru Takahashi, Hitoshi Takahashi, Nobuaki Ogawa, and Kazuki Toeda**, Akita Research Institute of Food and Brewing, Akita University
- AP-2 Evaluation of Taste Properties of Marketed Salts, **Kyoko Ishikawa, Maho Sugimoto, Masanori Kumagai, Ryuji Matsunaga**, Akita Prefectural University, Akita Research Institute of Food and Brewing
- AP-3 Discrimination of Various Inorganic Elements Content Levels in Unpolished Rice Using a Portable Near Infrared Spectrometer, **Hua Li, Masanori Kumagai, Toshio Amano, Ryohei Kikuchi, Kazuhiko Fujiwara and Nobuaki Ogawa**, Akita University, Akita Research Institute of Food and Brewing, OPT Research, Inc.
- AP-4 Spectroscopically Studies on Molecular Binding Ability and Chaperone Activity Based on Indole Modified Cyclodextrins, **Masaya Toda and Fumio Hamada**, Akita University
- AP-5 Biomolecular Interaction Measurement with Gold Nanoparticle Immobilized on Glass Substrate, **Kazuhiko Fujiwara, Erika Nakahama, Fumio Hamada, Hideaki Itoh, Hitoshi Watanabe, Nobuaki Ogawa**, Akita University
- AP-6 Improvement of Water Resistance in Porous Carbon-material Made from Rice Bran, **Satoshi Kubo, Hiroshi Iizuka, Yoshihiro Shibata and Syujun Shikano**, Yamagata University
- AP-7 Water Resistance of Porous Carbon Materials made from Rice Hull, **Keigo Yoshida, Hiroshi Iizuka, Yoshihiro Shibata, Hidero Unuma, Toru Nakamura, Shujun Shikano**, Yamagata University, Yamamoto Co. Ltd., Sanwa Yushi Co. Ltd.
- AP-8 Studies on Environmental Load Reduction and Surface Protection Effects of Porous Concrete used Lapilli Measured under Outdoor Exposure Condition, **Yoshitsugu Shirokada and Makoto Kagaya**, Akita University
- AP-9 The Use of Microporous Siliceous Shale and Zeolite for High-Performance Radiation Shielding Materials, **Hideki Murakami, Naoteru Odano, Kenichi Sawada, Seiki Ohnishi, Akiko Konnai, Yuuki Kobayashi, Hiroki Ohshima, Hiroaki Okuta**, Akita University, National Maritime Research Institute, Chuo Silika Co. Ltd
- AP-10 Magnetic Separation of Cermet Chips and WC Scraps for Tungsten Recycling, **Seung Woo Baik, Eiichi Kuzuno, Atsushi Shibayama**, Akita University
- AP-11 An Investigation Effective Use of Fly Ash -Fine Grinding of Limestone with Fly Ash as a Grinding Aid- **Naoya Kotake, Kenichi Okazaki, Takanori Ujihara and Yoshiteru Kanda**, Yamagata University
- AP-12 Removal of Chloride from Bottom Ash in the Municipal Solid Waste Incinerator by Using Microbubbles, **Ryoji Ito, Masashi Nagura, Jun Sadaki, Toyohisa Fijita and Ji-Whan Ahn**, The University of Tokyo, Korea Institute of Geoscience Mineral Resources
- AP-13 Supramolecular Assembly Based on 9,10-bis (3,5-dihydroxy-1-phenyl) Anthracene-tetrakis -cyclodextrin with Guest Molecules, **Natsumi Sakuraba, Yoshihiko Kondo and Fumio Hamada**, Akita University
- AP-14 Photo-electrochemical Characteristics of Hydrogen-reduced TiO₂ Films Containing Rare Earth Elements, **Takuma Kotsuka, Michihisa Fukumoto, Motoi Hara and Toshio Narita**, Akita University, Hokkaido University
- AP-15 Formation of Ni Aluminide Surface Layer Containing La by Molten-Salt Electrodeposition and Cyclic-Oxidation Resistance, **Michihisa Fukumoto and Motoi Hara and Toshio Narita**, Akita University, Hokkaido University
- AP-16 Chiral Crystal Structure of Thiacalix[6]arene with Potassium Complex in the Presence of Ethanol Molecules, **Yoshihiko Kondo, Tetsu Yahata, Ken Endo and Fumio Hamada**, Akita University

October 22 (Saturday) Poster Session

Room B

10:00-12:00 (3-Minute-Lecture) Chairpersons: **Yotsugi Shibuya, Ryuji Igarashi**

13:00-15:00 (Poster Site Discussion)

- BP-1 Alicyclic Pseudo-Ladder Polyimides Based on Ru-catalyzed[2+2] Cycloadducts of Norbornenes with Dimethyl Acetylenedicarboxylate, **Hideo Suzuki, Hideyuki Nawata, Koutatsu Matsubara and Toshihiko Matsumoto**, Nissan Chemical Industries Ltd, Tokyo Polytechnic University
- BP-2 Preparation of Silica/Glass-like Carbon Composites with High Mechanical Strength from Rice Hull and Phenolic Resin, **Hidero Unuma, Katsuyuki Niino, Katsuaki Sasaki, Shujun Shikano, Tohru Nakamura, Keiji Asai, Takeshi Endo, and Hiroshi Iizuka**, Yamagata University, Sanwa Yushi Co. Ltd, Yamamoto Co. Ltd, Asahi Organic Chemicals Industry Co. Ltd
- BP-3 Ammonia Gas Adsorbent Produced by Carbonization on Rice Husk, **Seiji Kumagai, Kaoru Ikawa and Koichi Takeda**, Akita Prefectural University
- BP-4 Characterization and Reuse of Carbonized Sewage Sludge, **Shota Takemura, Katsushige Kan, Shigeaki Sugiyama, Fumio Sugimoto, Tadao Imai, Isamu Sato and Hiroshi Sato**, Akita Prefectural Industrial Technology Center, Akita University
- BP-5 Strengthening Mechanism of Directionally Solidified 25 mass % Chromium Fully-eutectic White Cast Iron, **Shoji Goto, Chugming Liu, Setsuo Aso, Yoshinari Komatsu and Youn-Che Kim**, Akita University, Lunghwa University of Science and Technology (Taiwan), Samcheok National University (Korea)
- BP-6 Dimensional Change of Iron-Copper Sintered Alloys made from Elemental and Pre-alloyed Powders, **Youn-Che Kim, Shoji Goto, Setsuo Aso and Yoshinari Komatsu**, Samcheok National University (Taiwan), Akita University
- BP-7 Microstructure of Electroplated Cu Thin Film, **T. Masai, K. Takasugi, K. K. Choi, and S. Sato**, TDK Corporation
- BP-8 UV Absorption Spectra of Stearic Acid in Chloroform Solution at Temperatures between 0 and 40 °C, **Yukinobu Makino and Yutaka Tsujiuchi**, Akita University
- BP-9 Preparation and Characteristics of several Transmission Thin Films, **Jin Li and Shigetaka Fujita**, Hachinohe Institute of Technology
- BP-10 Synthesis of Mesostructured Materials Using Nb-containing Layered Perovskites and Cationic Surfactants, **Takahiro Akaogi, Kazunori Marutsugi, Masataka Ogasawara, Sumio Kato, Yoshio Moriya and Shinichi Nakata**, Akita University
- BP-11 Synthesis and Characterization of Mesostructured Inorganic-Organic Complexes Using Layered Perovskite K_2NbO_5F and the Surfactants, **Masataka Ogasawara, Atsunori Ono, Sumio Kato, Yoshio Moriya and Shinichi Nakata**, Akita University
- BP-12 Temperature Rise by Absorption of Ultrasound in Soft Tissue, **Chiaki Yamaya and Hiroshi Inoue**, Akita University
- BP-13 Thermal and Photoinduced Effect on Coercivity of Single-Crystalline YIG, **K. Hisatake, C. O. Kim, D. J. Kim, T. S. Yoon, I. Matsubara, K. Maeda, T. Fujiwara, C. Torres, S. Abe**, Chungnam National University (Korea), Kanagawa Dental College, Universidad de Valladolid (Spain), Kanagawa University
- BP-14 Experimental Study of the Huge Electromagnetic Force Acting on Metallic Pipes in Pulse High Magnetic Fields, **Takuo Sakon, Yasushi Kodama, Toshitaka Sakamoto and Osamu Kamiya**, Akita University
- BP-15 Orientational Ordering Process of Liquid Crystalline Molecules Evaporated on Azobenzene Monolayer: Optical Polarized Absorption Measurements and Adsorption Kinetics, **Dai Taguchi, Takaaki Manaka and Mitsumasa Iwamoto**, Tokyo Institute of Technology

- BP-16 An Individual Discernment Method Using the Movement Features of Lip in Speech and the Speech Sound with Noise, **Yoshiyuki Sato and Makoto Nishida**, Akita University
- BP-17 Estimation of Lip Position Robust Against Zoom and Face Direction, **Yoichi Shirasawa, Makoto Nishida**, Akita University
- BP-18 Some Features of Network Traffic Depending on Protocols, **Ryuji Igarashi, Satoko Ono, Hirokatsu Inoue, Akinori Takahashi, Yukio Iwaya and Masato Sakata**, Akita University, Tohoku University
- BP-19 Strength and Noise Life of Injection Molded Plastic Gear - Case of Hybridized Material Addition Plastics -, **Mikio Takahashi, Hideo Takahashi, Hiroshi Iizuka, Yusuke Takamatsu**, Kisarazu National College of Technology, Yamagata University
- BP-20 The Interference Response of Reflected Transient Waves from Several Micro Plane Cracks, **Kimihisa Miura, Naoto Shouji and Tadashi Ohyoshi**, Akita University, Hitachi Unisia Ltd
- BP-21 Numerical Study of Ballistic Limits of Spacecraft Pressure Walls Protected by a Debris Shield, **Ryo Ito and Hideki Sekine**, Tohoku University
- BP-22 3D Field Simulation of Magnetic Thin Film Inductor, **Toshiyasu Fujiwara, Kyung-Ku Choi and Shigeki Sato**, TDK Corporation
- BP-23 Development of New Analytical Method of Fracture Surface Geometry in Materials Using Fractal Dimension and Surface Roughness Maps, **Manabu Tanaka, Michihiro Tagami, Naohide Oyama, Junji Ono, Hiroaki Akiyama and Ryuichi Kato**, Akita University
- BP-24 Digital Image Analysis for Deformation and Damage of Composite Materials with Textile Structure, **Yotsugi Shibuya**, Akita University
- BP-25 An Implementation Method of Web Service Integration Framework, **Katsuya Fujiwara, Takechi Chusho and Hideo Tamamoto**, Akita University, Meiji University
- BP-26 Correlation of Isoprene-Maleic Anhydride Reaction Rate Constants in Mixed Solvents, **Haruo Kato, Yu Ito, Setsuko Yonezawa, Katsumi Honda and Yasuhiko Arai**, Ichinoseki National College of Technology, Kyushu University
- BP-27 Measurement and Prediction of Mutual Diffusion Coefficients for Poly (n-Butyl Methacrylate)+Acetate Ester Systems, **Shigetoshi Kobuchi, Yuji Yamashiro, Yoshihiro Terada and Yasuhiko Arai**, Yamaguchi University, Kyushu University
- BP-28 Synthesis of *cis*-Cinnamic Acids and Coumarins Using Ag^+ exchanged Zeolite Catalysts, **Kanji Sato, Takashi Takahashi, Kodai Narita, Ryoji, Yoshida, Takashi Yamashiro, Masayuki Nomura, Sumio Kato, Yoshio Moriya and Shinichi Nakata**, Akita University
- BP-29 Study of Vanadate Anodizing Bath of AZ61 Magnesium Alloy for Corrosion Resistance, **C. M. Liu, W. K. Chen, K. H. Yang, M. D. Ger**, Lungwha University of Science and Technology and National Defense University (Taiwan)
- BP-30 Mechanisms of the Undesired EM Radiation from a PCB with a Feed Cable, **Yoshiki Kayano, Motoshi Tanaka and Hiroshi Inoue**, Akita University
- BP-31 Study of the Aerial Shell Case made by Biodegradable Plastics (Part 1) -Relation between Composition of Biodegradable Plastics and Fragmentation of Aerial Shell Case- **Makoto Kudo, Satoru Kamata, Kenji Murata, Yukio Kato**, Akita Prefectural R&D Center, NOF Corporation
- BP-32 Study of the Aerial Shell Case made by Biodegradable Plastics (Part 2)-Photographic Observation of Aerial Shell Case Fragmentation by High Speed VTR Camera- **Kenji Murata, Yukio Kato, Makoto Kudo, Satoru Kamata**, NOF Corporation, Akita Prefectural R&D Center

ORGANIZING COMMITTEE

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August, 2005