

# **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



# 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*  
Al-1, Al-2, Al-3, Al-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**

## NOTE

# ICMR 2005 AKITA

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

# ICMR 2005 AKITA

## 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. Winkelmann**, Auckland University of Technology (New Zealand), Defence Science and Technology Organisation and Monash University (Australia)

A4-4. Formation of Supramolecular Assembly and Gas Sorption-Disorption 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)

# ICMR 2005 AKITA

## 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. Maginniss 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, Zaghdene Hatem, Louati Afifa, Aloulou Fatma, Khadhraoui Moncef, Elleuch Boubaker, Oudot Jean and Saliot 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. TiO<sub>2</sub> 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, Ryoei 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, Hideto 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 TiO<sub>2</sub> 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 Thiocalix[6]arene with Potassium Complex in the Presence of Ethanol Molecules, **Yoshihiko Kondo, Tetsu Yahata, Ken Endo and Fumio Hamada**, Akita University

AP-17 Mechanical and Electrical Properties of Eco-Friendly Dielectric Materials, **K. Shinya, S. Fujita**, Hachinohe Institute of Technology

AP-18 Observation of Aggregate Structure of Fluorescent Powders by Surface Force Measurement, **Akira Otsuki, Kunihiko Yamaguchi, Mitsuaki Matsuda, Atsushi Shibayama, Jun Sadaki and Toyohisa Fujita**, The University of Tokyo

AP-19 Assessing Different Treatment Options for Plastic Wastes from Discarded Television Sets in the Context of LCA, **Gjergj Dodbiba, Jun Sadaki and Toyohisa Fujita**, The University of Tokyo

AP-20 Inorganic Insoluble and Soluble Pollutants in Acid Fog at Akita, Northern Japan, **Ryoji Kikuchi, Keiji Yoshimura, Satomi Shoji, Makoto Takada, Toru Ozeki, Masahiro Kajikawa and Nobuaki Ogawa**, Akita University, Hyogo University of Teacher Education

AP-21 Effects of Extraction Solvents on the Extraction Efficiency of Polychlorinated Dibenz-p-dioxins and Dibenzofurans, and Polychlorinated Biphenyls in Reference Materials, **Osamu Kiguchi, Takashi Kobayashi, Katsumi Saitoh and Nobuaki Ogawa**, Akita University, Environmental Research and Information Center of Akita Prefecture

AP-22 The CO<sub>2</sub> Sequestration Project in Coal Seams in Japan, **Shinji Yamaguchi, Masaji Fujioka and Masao Nako**, Akita University, Japan Coal Energy Center, General Environmental Technos Co., Ltd.

AP-23 System for Suppressing Lateral Vibration of an Offshore Structure, **Katsuhige Kan, Hiroshi Sato and Goro Obinata**, Akita University, Nagoya University

AP-24 Phosphate Removal from High-concentrated Phosphate Solution by Using Ca-based Adsorbents Prepared from a Natural Oyster Shell, **Tomoaki Kameyama, Hiroshi Takahashi and Ken-ichi Kikuchi**, Akita University

AP-25 Environmental Monitoring of Industrial Waste Using Satellites and Ground Observation Apparatus, **Wenhui Zhao, Takanori Sasaki and Shigetaka Fujita**, Hachinohe Institute of Technology

AP-26 Analysis of Three-dimensional Detailed Geographical Features by Satellite Images, **Takanori Sasaki, Wenhui Zhao and Shigetaka Fujita**, Hachinohe Institute of Technology

AP-27 Characterization of Titanium Dioxide Prepared by Multi-gelation for Ultra-deep Hydrodesulfurization Catalysts, **Sumio Kato, Toshiki Akazawa, Toshiyuki Watanabe, Yoshio Moriya, Sinichi Nakata, Shinichi Inoue, Akihiro Muto, Yukitaka Wada, Takeo Ono and Yoshimi Shiroti**, Akita University, Chiyoda Corporation

AP-28 Effect of pH in Hydrothermal Treatment of As-synthesized MCM-41 on Wetting Stability in Aqueous Solution, **Takayoshi Shindo, Yuta Nakazawa, Shigeaki Kitabayashi and Sentaro Ozawa**, Akita University

AP-29 Specification of Malignancy Region and Blood Vessel Region by Heating Process using FIR Heater, **Jonghyun Yoon, Kazutaka Mitobe, Yoshihisa Katayose, Junichi Ogawa and Noboru Yoshimura**, Akita University

AP-30 Economical Potential in Sabah, Malaysia, **James Alin, Takahi Sachiko and Sanudin Tahir**, University Malaysia Sabah, 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<sup>+</sup> exchanged Zeolite Catalysts, **Kanji Sato, Takashi Takahashi, Kodai Narita, Ryyoji, 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

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