

FINAL CIRCULAR

SECOND INTERNATIONAL CONFERENCE
ON MATERIALS ENGINEERING
FOR RESOURCES



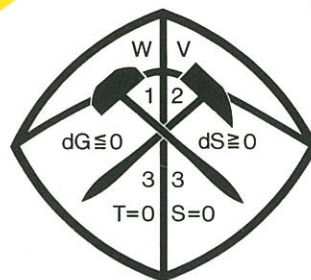
ICMR'94 AKITA

AKITA VIEW HOTEL
AKITA CITY, AKITA PREF., JAPAN

ICMR '94, AKITA
Mining College, Akita University
AKITA, 010 JAPAN

FINAL CIRCULAR

SECOND
INTERNATIONAL CONFERENCE
ON MATERIALS ENGINEERING
FOR RESOURCES



ICMR'94 AKITA

October 20-22, 1994

AKITA VIEW HOTEL

AKITA CITY, AKITA PREF., JAPAN

Organized by:
The Society of Materials Engineering
for Resources of Japan,
Mining College,
and
Research Institute of Natural Resources
attached to Mining College,
Akita University, Japan

ICMR'94 AKITA

This international conference is organized by the Society of Materials Engineering for Resources of Japan, Mining College, and Research Institute of Natural Resources attached to Mining College, Akita University; and is cosponsored by the Ministry of Education, Science and Culture, Japan, Akita Prefecture, Akita City, and the Association for the Progress of New Chemistry.

In 1991, the heritage of resource-research community enabled Akita to be the place for the first international conference on materials engineering for resources (ICMR'91 Akita), which aimed at re-examination of the separate ideas in traditional engineering fields from resource to electronics engineering, and directed our efforts to integration into the new concepts which would give a perspective view from electronic and molecular to electrical and mechanical properties.

The second international conference on materials engineering for resources (ICMR'94 AKITA) inherits the idea of the first conference, ICMR'91. The second conference will also extend the issues of earth science, from resources development to environmental conservation, in relation to materials engineering.

The organizing committee extends a cordial invitation to you to participate in the Second International Conference on Materials Engineering for Resources to be held at the Akita View Hotel, October 20-22, 1994.

The technical program consists of the following session groups :

- plenary session, 30 minute lecture with five minute discussion each ;
- keynote session, 15 minute lecture with five minute discussion each ;
- poster session.

The full texts of plenary papers and the extended abstracts of keynote papers will be distributed at the conference desk. All the posters discussed are encouraged to be published as original full papers in (a) special issue(s) of International Journal of the Society of Materials Engineering for Resources. The deadline for submission will be noticed later.

TIME SCHEDULE

Date/Time		Room	Main Room	Room A	Room B
Oct. 19. Wed	15:00-			Registration	
	18:00-20:00		Reception		
Oct. 20, Thu	8:00-			Registration	
	9:00- 9:30		Opening Ceremony		
	9:30-11:50		Plenary Session		
	13:20-15:05		Plenary Session		
				Coffee Break	
	15:35-17:35			Keynote Session (A-1)	Keynote Session (B-1)
18:30-20:30		Banquet			
Oct. 21, Fri	8:00-			Registration	
	9:00-10:40			Keynote Session (A-2)	Keynote Session (B-2)
	11:00-12:20			Keynote Session (A-3)	Keynote Session (B-3)
	13:50-14:50			Keynote Session (A-4)	Keynote Session (B-4)
				Coffee Break	
	15:20-16:20			Keynote Session (A-5)	Keynote Session (B-5)
Oct. 22, Sat	9:00-12:00			Poster Session (A-P)	Poster Session (B-P)
	12:00-12:30		Closing Ceremony		

PLENARY SESSION

Main Room

Oct. 20 9:00~ 9:30

Chairperson
T. Sugawara

Opening Ceremony

Oct. 20 9:30~11:50, 13:20~15:05

Chairpersons
K. Makino, T. Matsunaga, G. Obinata
T. Sugawara, N. Yoshimura, K. Ouchi
T. Ohyoshi

Ceramics Manufacturing-from Science to Practice-

Professor Michael J. Cima
Ceramics Processing Research Laboratory, Materials
Processing Center, Massachusetts Institute of Tech-
nology, Cambridge, MA 02139, U. S. A.

Electron Phase Microscopy for Superconductors

Dr. Akira Tonomura
Advanced Research Laboratory, Hitachi, Ltd.
Tonomura Electron Wavefront Project, ERATO,
JRDC
Akanuma, Hatoyama-cho, Saitama 350-03, Japan

Digital Control : What Do We Want and What Can We Now Achieve ?

Professor Brian D. O. Anderson
Department of Systems Engineering, Research School
of Physical Sciences, Australian National University,
GPO Box 4, Canberra ACT 2601, Australia

Technology Policy of Japan (Tentative)

Mr. Naotoshi Osada
Counsellor for Technology Affairs, Minister's Secreta-
riat, Ministry of International Trade and Industry,
1-3-1 Kasumigaseki, Chiyoda-ku, Tokyo 100, Japan

Carbon Dioxide As a Chemical Feed Stock

Professor. Hiroo Tominaga
Saitama Institute of Technology, Husaiji 1690, Okabe,
Osato County, Saitama 369, Japan

Mining and the Environment Mining-Related Environmental Problems and Solu- tions--The North American Experience

Professor Jerry M. Whiting
Department of Mining, Metallurgical and Petroleum
Engineering, University of Alberta, Edmonton, AB
T6G 2G6, Canada

Japan's Environmental Initiatives after UNCED

Mr. Kazuhiko Takemoto
Director, Research and Information Office, Global
Environment Department, Japan Environment Agency,
1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100, Japan

KEYNOTE SESSIONS

ROOM A

Oct. 20 15:35~17:35

Chairpersons:

J. He, H. P. Rossmanith, A. Wiewiora
T. Sugawara, H. Komiyama, K. Arai

A-1

- 1 **Decontamination of Metals by Melt Refining Slagging**
Professor Samuel W. Worcester
Department of Metallurgical Engineering, Montana
College of Mineral Science and Technology, Butte,
Montana 59701, U. S. A.
- 2 **Process Technology for Minerals and Materials**
Dr. Iwao Iwasaki
Central Research Institute, Mitsubishi Materials
Corp., 1-297 Kitabukuro-cho, Omiya 330, Japan
- 3 **Copper Refinery Anode Slimes and Their Reactions**
Dr. J. E. Dutrizac
Mineral Sciences Laboratories, Department of Energy,
Mines and Resources, CANMET, 555 Booth Street,
Ottawa, K1A0G1, Canada
- 4 **Factual Data Bases in Materials Science**
Professor F. A. Kuznetsov
Director, Institute of Inorganic Chemistry, Novosi-
birsk, 630090, Russia
- 5 **Disposal of Mine Waste**
Dr. Paul N. Gaskin
Department of Civil Engineering, Queen's University,
Kingston, Ontario K7L 3N6, Canada
- 6 **Recent Applications of Ion Exchange to Resource
Recovery and Conservation**
Professor Joshua S. Dranoff

Department of Chemical Engineering, Northwestern
University, 2145 Sheridan Road, Evanston, Illinois
60208-3120, U. S. A.

Oct. 21 9:00~10:40

Chairpersons

S. W. Worcester, J. E. Dutrizac, Y. Ishikawa
Y. Takahashi, M. Kobayashi, M. Sadakata

A-2

- 1 **The Geoelectromagnetic Research on Resources of
Non-Ferrous Metals in China**
President He Jishan
Central South University of Technology, Changsha,
Hunan 410083, People's Republic of China
- 2 **Towards Smart Mining Machinery: Mechanics in the
Service of Mining**
Professor H. P. Rossmanith
Institute of Mechanics, Technical University Vienna,
Wiedner Hauptstr. 8-10/325, A-1040 Vienna, Austria
- 3 **Effect of Grinding on the Structure, Particle Size and
Shape of Pyrophyllite and Talc.**
Professor dr hab. Andrzej Wiewióra
Director, Institute of Geological Sciences, Polish Acad-
emy of Sciences, ul. Zwirki i Wigury 93, 02-089,
Warszawa, Poland
- 4 **Developments Towards the Ecological and Recycling
Building Materials Technology**
Professor Asko Sarja
Technical Research Centre of Finland, P. O. Box 26,
02151 Espoo, Finland
- 5 **Ways of Harnessing Waste Banks in China**
Professor Yi Gong You
Shandong Institute of Mining and Technology, Tai'an,
Shandong 271019, People's Republic of China

Oct. 21 11:00~12:20

Chairpersons

P. N. Gaskin, J. S. Dranoff, N. Noda
S. Tsutsumi

A-3

1 Nanophase Materials

Professor Hiroshi Komiyama

Department of Chemical Engineering, The University
of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan

**2 Development and Preparation Processes of Barium
Ferrite Particles for Magnetic Information Storage**

Professor Zheng Yang

Research Institute of Magnetic Materials, Lanzhou
University, Lanzhou 790000, Peoples Republic of China

3 Recent Development of Soft Magnetic Materials

Professor Ken Ichi Arai

Research Institute of Electrical Communication, To-
hoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980,
Japan

**4 Multilayer Ceramic Technologies in Microwave Appli-
cation**

Dr. Makoto Kobayashi

Materials Research Center, TDK Corp., 570-2 Aza-
Matsugashita, Minami-Hatori, Narita 286, Japan

Oct. 21 13:50~14:50

Chairpersons

F. A. Kuznetsov, A. Sarja, M. Goto, Y. Kanda

A-4

**1 Synthesis of Fine Ceramics Particles by High Temper-
ature Flame**

Professor Masayoshi Sadakata

Department of Chemical Engineering, The University
of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan

**2 Processing Parameter and Microstructure-PTCR Pro-
perty Relations in Semiconducting BaTiO₃ Ceramics**

Professor Sang-Hee Cho

Department of Inorganic Materials Engineering, Kyung-
pook National University, Taegu, 702-701, Korea

**3 CVD Epitaxial Growth of SiC for Power Device Appli-
cations**

Professor Bo Monemar

Materials Science Division, Department of Physics
and Measurement Technology, Biology and Chemistry,
Linkoping University, Linkoping, Sweden

Oct. 21 15:20~16:20

Chairpersons

G. Yi, T. Ohyoshi, Y. Kanda

A-5

1 Thermal Stresses in Functionally Gradient Materials

Professor Naotake Noda

Department of Mechanical Engineering, Shizuoka
University, 3-5-1 Johoku, Hamamatsu 532, Japan

2 Biomaterials and Their Biomechanical Compatibilities

Dr. Sadami Tsutsumi

Research Center for Biomedical Engineering, Kyoto
University, Shogoin, Sakyo-ku, Kyoto 606-01, Japan

**3 High Temperature Corrosion of Metals with Molten
Carbonate**

Professor Ken-ichiro Ota

Department of Energy Engineering, Yokohama Natio-
nal University, 156 Tokiwadai, Hodogaya-ku, Yoko-
hama 240, Japan

ROOM B

Oct. 20 15:35~17:35

Chairpersons

Z. Yang, S. H. Cho, B. Monemar
K. Ota, M. Kurashige, H. Sekine

B-1

1 **Natural Tannins in the Anticorrosive Protection of Steels**

Professor Guillermo Matamala

Departamento Ingenieria Metalurgica, Facultad de Ingenieria, Universidad de Concepcion, Casilla 53-C, Concepcion, Chile

2 **Microemulsions as Liquid Media for Material Separations**

Professor Makoto Harada

Institute of Atomic Energy, Kyoto University, Gokanoshio, Uji, Kyoto 611, Japan

3 **Solute Clustering and Ammonium Nitrate, A Less Polluting Oxidizer**

Professor Cheong-Song Choi

Department of Chemical Engineering, Mapoku, C.P. O. Box 1142, Seoul 121-742, Korea

4 **Maxwell Displacement Current across Organic Monolayers with Azobenzene Induced by Photoisomerization**

Dr. Mitsumasa Iwamoto

Department of Physical Electronics, Tokyo Institute of Technology, 2-12-1 O-okayama, Maguro-ku, Tokyo 152, Japan

5 **Phase Equilibria for Polymer Systems**

Professor Yasuhiko Arai

Department of Chemical Engineering, Kyushu University, 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812, Japan

6 **New Materials Based on Calixarenes**

Professor Jerry L. Atwood

Department of Chemistry, University of Alabama, Tuscaloosa, AL 35487, U. S. A.

Oct. 21 9:00~10:40

Chairpersons

G. Matamala, C. S. Choi, M. Harada
K. Urabe, Y. Fukushima

B-2

1 **Developments in Prediction of Service Performance of Materials in Power Generating Plant**

Professor Malcolm Mclean

Department of Materials, Imperial College, Prince Consort Road, London SW7 2BP, United Kingdom

2 **An Application of the Mechanics of Fluid-Filled Poroelastic Solids-Ink Flow Mechanism in Mimeographing-**

Professor Michio Kurashige

Department of Mechanical Engineering, Iwate University, 4-3-5 Ueda, Morioka 020, Japan

3 **Modeling on Computational Simulations of Fracture Behavior of Notched Fiber Reinforced Composites**

Professor Hideki Sekine

Department of Aeronautics and Space Engineering, Tohoku University, Aramaki, Aoba-ku, Sendai 980, Japan

4 **Air Entrainment and Dynamic Wettability in Coating Flows**

Professor Kitaro Adachi

Department of Applied Chemistry, Kyushu Institute of Technology, 1-1 Sensui-machi, Tobata-ku, Kitakyushu 804, Japan

5 Photoelastic Experiment for Composite Material under the Static or the Dynamic Load

Professor Dr. Jai-Sug Hawong

Department of Mech. Engineering., Yeungnam University., Gyung-San, Korea

Oct. 21 11:00~12:00

Chairpersons

J. L. Atwood, M. Mclean, N, Yoshimura,
S. Tomura

B - 3

1 Development of Insulating Materials for High Voltage Cables

Dr. Toshio Niwa

Material Research Laboratory, Fujikura Ltd.
1-5-1 Kiba, Koto-ku, Tokyo 135, Japan

2 Electric Conduction in Insulating Materials-the Basis for Electronic and Electrical Applications

Dr. Werner F. Schmidt

Hahn-Meitner-Institute, Abteilung Strahlenchemie,
D1000, Berlin 39, Germany

3 On Environmental Effects of Polymer Insulators

Professor Shawky Hammam

Department of Electrical and Computer Engineering,
Clarkson University, Clarkson Hall, Potsdam, NY
13699-5720, U. S. A.

Oct. 21 13:50~14:50

Chairpersons

H. Jai-Sug, W. F. Schmidt, M. Iwamoto,
K. Adachi, H. Hayashi

B - 4

1 Occurrence and Biological Effects of Sepiolite and Palygorskite

Professor Hisato Hayashi

Director, Research Institute of National Resources,
Mining College, Akita University, 1-1 Gakuen-machi,
Tegata, Akita City 010, Japan

2 Crystallochemical and Structural Classification of Layer Silicates and Sepiolite

Professor dr hab. Andrzej Wiewióra

Director, Division of Mineralogy and Petrology,
Institute of Geological Sciences, Polish Academy of
Sciences, ul. Zwirki i Wigury 93, 02-089, Warszawa,
Poland

3 Purification of Sepiolite

Dr. Shinji Tomura

National Industrial Research Institute of Nagoya, 1-1
Hirate-machi, Kita-ku, Nagoya 462, Japan

Oct. 21 15:20~16:00

Chairpersons

S. Hammam, T. Niwa

B - 5

1 Adsorption Properties of Sepiolite and Their Applications

Dr. Yoshiaki Fukushima

Toyota Central Research and Development Labs., Inc.
41-1 Yokomichi, Nagakute-machi, Aichi-ken, 480-11,
Japan

2 Catalytic Materials Made of Sepiolite

Dr. Kazuo Urabe

Department of Applied Chemistry, Nagoya University,
Furo-cho, Chikusa-ku, Nagoya 464-01, Japan

POSTER SESSIONS

Oct. 22 9:00~12:00

Advisory Board

ROOM A (A-P)

S. W. Worcester, J. E. Dutrizac, F. A. Kuznetsov,
P. N. Gaskin, J. S. Dranoff, J. He,
H. P. Rossmanith, A. Wiewiora, A. Sarja, G. Yi,
T. Fujita[†], H. Sekine, K. Makino, T. Sugawara,
Y. Takahashi, K. Sugawara

ROOM B (B-P)

Z. Yang, S. H. Cho, B. Monemar, G. Matamala,
C. S. Choi, J. L. Atwood, M. Mclean
J. Hawong, W. F. Schmidt, S. Hammam
Y. Arai, M. Harada, Y. Ishikawa, M. Iwamoto,
T. Matsunaga, T. Mizutani, M. Nishida[†],
K. Ota, K. Ouchi, N. Yoshimura, M. Hara,
F. Hamada

* Chief commentators

- 1 Sol-gel Preparation of TiO₂ Soluble to Organic Solvents and Its Application to Photocatalyst by T. Murata, R. Yamamoto, Y. Yoshida and S. Sato (Yamagata Univ.)
- 2 Photochromic Molecular Recognition of Spiropyrene-appended γ -Cyclodextrin by F. Hamada (Akita Univ.), R. Ito (Akita Univ.) and T. Osa (Tohoku Univ.)
- 3 Photoregulated-Metal Binding with Azobenzene-capped Calix [4] arenes by F. Hamada (Akita Univ.), T. Masuda (Akita Univ.), Y. Kondo (Akita Univ.) and Jerry L. Atwood (Univ. of Alabama)

4 Influence of Particle Shape on Ball Mill Grindability by Y. Kanda, E. Kimura and H. Murata (Yamagata Univ.)

5 AC Electrical Conduction Properties of Polyimide Thin Films by Y. Muramoto, Y. Mizuno, M. Nagao and M. Kosaki (Toyohashi Univ. of Tech.)

6 Electrical Properties of Electron Beam Irradiated Polypyrrole by S. Fujita, M. Baba, T. Suzuki and F. Noto (Hachinohe Inst. of Tech.)

7 The Influence of Crystalline Morphology on the Growth of Water Trees in Polyethylene by Fan Zong-huai, N. Yoshimura (Akita Univ.) and M. Yanagiwara (Akita National College of Tech.)

8 Crystallographic Dissolution of Potentiostatic Etching of Stainless Steel with Coarse Columnar Crystals by A. Sato, K. Kon, S. Tsujikawa and Y. Hisamatsu. (Ichinoseki National College of Tech.)

9 Measurement of Three-Dimensional Non-uniform Electric Field Distribution in Dielectric Liquids Using Kerr Effect by K. Arai, T. Takechi, H. Tatsubo, Y. Nagata, S. Nishimoto and I. Kitani. (Ehime Univ.)

10 An Illustrative Comparison of Pipeline Designs for Settling Slurry Flow with a Stationary Bed by H. Sato (Akita Univ.) and Y. Cui (Fuxin Inst. of Mining and Tech. China)

11 Electrodeposition of Niobium Carbide in Molten Potassium Fluoride-Sodium Fluoride-Lithium Fluoride Containing Potassium Heptafluoroniobate and Potassium Carbonate by Y. Sato, M. Hara and Y. Shinata (Akita Univ.)

- 12 The Measurement of Friction Coefficient Among Silicon Wafer, SiO₂ and Al Thin Films by M. Suzuki (Akita Univ.), S. Watanabe (Akita Univ.), N. Yoshimura (Akita Univ.) and H. Fujita (Tokyo Univ.)
- 13 Relationship between Interface Effects on Treeing Deterioration and Partial Discharge by Yuan Gangmin, E. Hirade, N. Yoshimura (Akita Univ.), H. Miyata and T. Niwa (Fujikura)
- 14 The Corrosion Surface Examination by Using Laser Contour Technique by T. Kawamura (NKK)
- 15 Layup Optimization of Laminated Composites for Stiffness, Vibration and Buckling by H. Fukunaga, M. Satoh and H. Sekine (Tohoku Univ.)
- 16 Size Distribution Control of Potassium Alum Product Crystals by Changing Cooling Profile in a 10-L Batch Crystallizer by M. Yokota, A. Sato and N. Kubota. (Iwate Univ.)
- 17 Mechanical Behavior of Metal Matrix Fiber Composites with Fiber-Matrix Interfacial Failure and Slide under Longitudinal Shear Loading by Y. Shibuya (Akita Univ.)
- 18 A Computer-Based Random Pulser in order to Simulate the Breakdown of Insulating Materials by R. Igarashi (Akita Univ.), H. Funaki (Akita Denshi Co.) T. Yukawa, M. Sakata, Y. Iwaya and Y. Narita (Akita Univ.)
- 19 Utilization of Slag Fibers as Ecomaterial-Dissolution and Interfacial Properties in Aqueous Media by IBAN EZ Juan Patricio, M. Murakami and H. Sasaki. (Inst. for Advanced Materials Processing, Tohoku Univ.)

- 20 Fuzzy Regression Analysis for Water Quality of Lake Hachirou with Satellite Remote Sensing Image by M. Nishida, K. Otsuka and N. Yoshimura (Akita Univ.)
- 21 Effects of a Small Cavity on the Flashover Phenomenon by M. Nishida (Akita Univ.), M. S. A. A. Hammam (Clarkson Univ.) and N. Yoshimura (Akita Univ.)
- 22 Transient Thermal Stress Analysis of a Nonhomogeneous Plate with Temperature-Dependent Material Properties by Y. Ootao and Y. Tanigawa. (Osaka Prefectural Industrial Tech. Research Inst.)
- 23 Silicon Oil Based Electrorheological Fluid Dispersing Smectite by T. Fujita, K. Yoshino (Akita Univ.), H. Saiki (Co-op Chemical Co.) and G. Obinata (Akita Univ.)
- 24 New Technique for the Solid/Solid Separation of Ultrafine Particles in Aqueous Suspension-Effect of Particle Size and Particle Number Concentration Ratio by H. D. Mendoza and H. Sasaki (Tohoku Univ.)
- 25 Synthesis of Cordierite Ceramic with an Aid of Mixed Grinding and its Dielectric Properties by James M. Filio, K. Sugiyama, E. Kasai and F. Saito. (Tohoku Univ.)
- 26 Recovery of Lanthanum and Nickel from Rare Metal-EDTA Complex Solution by use of Electrodialysis Accompanied with Metal-Substitution Reaction by H. Takahashi, S. Hirawatari and K. Kikuchi (Akita Univ.)
- 27 Development of New Data Base System for Earth Deposit Minerals Resources by Y. Narita (Akita Univ.)

- 28 The Electrical Characteristics of Perovskite Type by Changing both A-site and B-site by Kim, Tae-Seoung and Hong, Kyung-Jin. (Chonnam National Univ.)
- 29 The Characteristics of Tracking Degradation under DC Voltage Application Using Platinum Electrode by T. Kamosawa. (Fukushima National College of Tech.)
- 30 Preparation of Amorphous Ni-P Spherical Powder by Non-electrolytic Reduction Method by E. Yuze. (Akita Pref. Resources Tech. Develop. Org.)
- 31 Development of Leakage Current Outdoor Insulators under Pollution Conditions by M. Sato, M. Ookawado and Y. Mishima (Akita Univ.)
- 32 Criterion of Plastic Instability by H. Moritoki and E. Okuyama (Akita Univ.)
- 33 Wave Focusing by a Spherical Concave Transducer by K. Watanabe. (Yamagata Univ.)
- 34 An Application of Magnetic Fluid into the Ultrasonic Nondestructive Evaluation by K. Imano and H. Inoue (Akita Univ.)
- 35 Thermo-elasto-plastic Constitutive Equations of Particle Reinforced Composite by A. Asakawa, N. Noda, K. Tohgo and T. Tsuji. (Suzuki Co.)
- 36 Transient Thermoelasticity in a Transversely Isotropic Infinite Cylinder Containing a Flat Circular Rigid Inclusion by F. Ashida (Tsuyama National College of Tech.) and N. Noda (Shizuoka Univ.)
- 37 Thermal Bending Problem of Nonhomogeneous Beam, Inverse Analysis of Heat Transfer for Beam in Order to Prescribe the Out-plane Deformation by R. Kawamura and Y. Tanigawa (Univ. of Osaka Pref.)

- 38 Evaluation of Contamination of Hydraulic Fluid by Using Ultrasonic Sensor by Y. Sasaki, T. Kohno and Y. Takahashi (Akita Univ.)
- 39 Fracture Properties of Type 316LN and 316L Stainless Steels at Low Temperature by O. Kamiya, Chaoting Wang and K. Kumagai (Akita Univ.)
- 40 Monte Carlo Simulation of Electron Swarm in a Gas by T. Miura and T. Taniguchi (Akita Univ.)
- 41 Loss Characteristics of MnMgZn Ferrite by K. Igarashi, T. Murase and T. Nomura. (TDK Corp.)
- 42 Performance Evaluation of Far-UV Lamp-immersed Non-ideal Flow Photoreactor Accompanied by Decomposition of Trace Amount of Organic Compounds in Ultra-pure Water by Y. Yamakoshi (Photoscience Japan Corp.) and T. Sugawara (Akita Univ.)
- 43 Preparation of Barium Titanate by a Coprecipitation Method by K. Sugawara, T. Fukushima, T. Nishino and T. Sugawara (Akita Univ.)
- 44 Desulfurization of High Sulfur Coals by Rapid Pyrolysis with Alkali Leaching by K. Sugawara, K. Abe and T. Sugawara (Akita Univ.)
- 45 Sand-Erosion Resistance of Some High-Chromium White Cast Irons by S. Goto, M. Tagami, A. Aso, A. Muto and K. Sasaki (Akita Univ.)
- 46 Effect of Microstructure on Sand-erosion Resistance of Lamellar-eutectic Metal-matrix Composites by G. L. Mascardo, S. Goto, M. Tagami, S. Aso, A. Muto and K. Sasaki (Akita Univ.)

- 47 **2-Dimensional Elasto-Dynamic Theory of Inhomogeneous Layers for Reflection and Transmission Analysis** by T. Ohyoshi and K. Miura (Akita Univ.)
- 48 **Computation of Reflectance of Elastic Waves to a Gradient Inhomogeneous Layer** by K. Miura and T. Ohyoshi (Akita Univ.)
- 49 **New Possibilities of Solid-State NMR in Mechanistic Studies of Catalysis and Molecular Design of Solid Catalysts** by S. Nakata. (Chiyoda Corp.)
- 50 **Capacitance Degradation under DC Electrical Field of Ni-Electrode Multilayer Ceramic Capacitors of Temperature Stable Dielectrics** by A. Sato, T. Arashi, Y. Nakano and T. Nomura (TDK Corp.)
- 51 **Correlation between Microstructure and Magnetic Properties in Co-Cr Films** by N. Honda, K. Harada, S. Okamoto and K. Ouchi. (Akita Research Inst. of Advanced Tech.)
- 52 **Soft Magnetic Properties in Patterned Thin Films for Recording Head** by K. Ise, K. Yamakawa, N. Honda and K. Ouchi. (Akita Research Inst. of Advanced Tech.)
- 53 **Perpendicular Recording Performance of Co-Cr Films Prepared by Newly Developed Sputter-deposition** by N. Honda, A. Yanase, A. Kikawada and K. Ouchi (Akita Research Inst. of Advanced Tech.)
- 54 **A Hybrid Support System for Immobilization of Multi-Enzymes : Proteoliposomes of Kidney Brush Border Membrane Entrapped in Agarose Gel Beads** by T. Gotoh, M. Watanabe, T. Iwanaga and K. Kikuchi (Akita Univ.)

- 55 **Estimating Source Contribution of Suspended Particulate Matter** by S. Oishi (National Inst. for Resources and Environment)
- 56 **Production Technique of Ultrafine Particles by Laser** by S. Hioki (Hitachi Powdered Metals Co.)
- 57 **Preparation of LiNiO_2 , Cathode Material of High Voltage Li-battery, by Thermal Decomposition of Basic Nitrate Mixed Salts** by H. Yazaki, K. Fuda and T. Matsunaga (Akita Univ.)
- 58 **Details Analysis of de Haas-van Alphen Effect in Free Electron System** by A. Narita (Akita National College of Tech.)
- 59 **Production of Thin Silicon Steel Sheets by Tertiary Recrystallization** by M. Nakano, K. Ishiyama and K. I. Arai (Tohoku Univ.)

LANGUAGE

The official language of the conference is English.

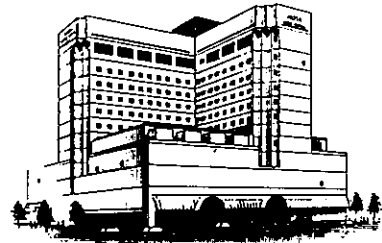


REGISTRATION

All participants are requested to register with payment in Japanese Yen by direct bank transfer.

Registration ¥30,000
(including reception on Oct. 19)

Banquet ¥10,000



SECOND INTERNATIONAL CONFERENCE ON MATERIALS ENGINEERING FOR RESOURCES (ICMR'94, AKITA)

PLACE : AKITA VIEW HOTEL

DATE : Oct. 20~22, 1994

RECEPTION : Oct. 19, 1994

BANQUET : Oct. 20, 1994

LODGING : Oct. 19~22, 1994

single, twin,

or double

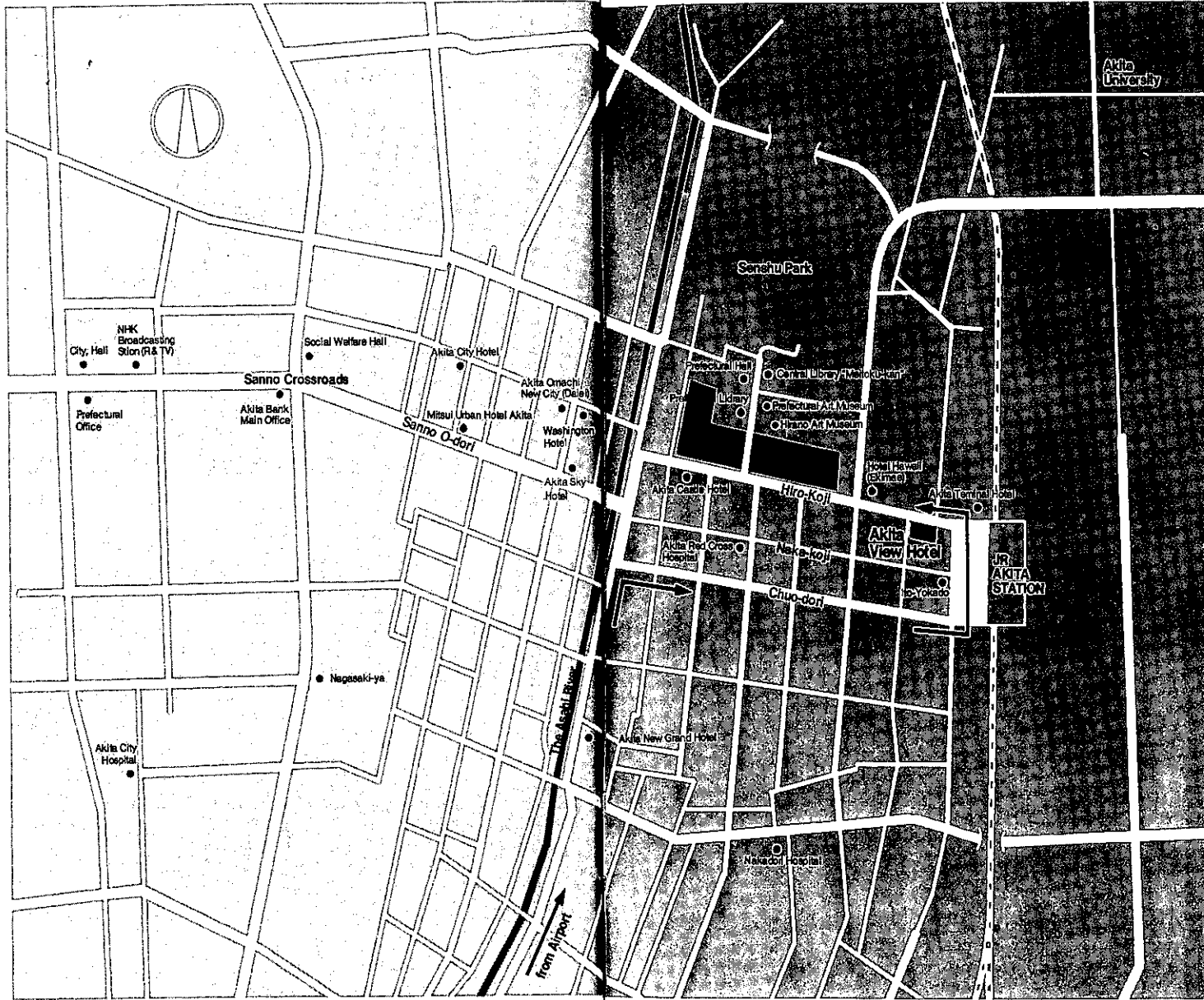
TOUR : Oct. 23, 1994

(OPTIONAL)

EXHIBITION

There will be an exhibition of advanced materials, catalogues, and VTR's on new technological development in the local as well as global areas.

MAP OF CONFERENCE SITE



ACCOMMODATIONS

The Executive Committee has appointed Nippon Travel Agency as the official travel agent in charge of travel and hotel arrangement.

Please contact :

<overseas>

Shinya Yamada

ICMR'94 Desk

Nippon Travel Agency Co. Ltd.

Sendai Branch

fax. 81-22-222-7570

phone. 81-22-224-0158

<domestic>

Torn Sasaki

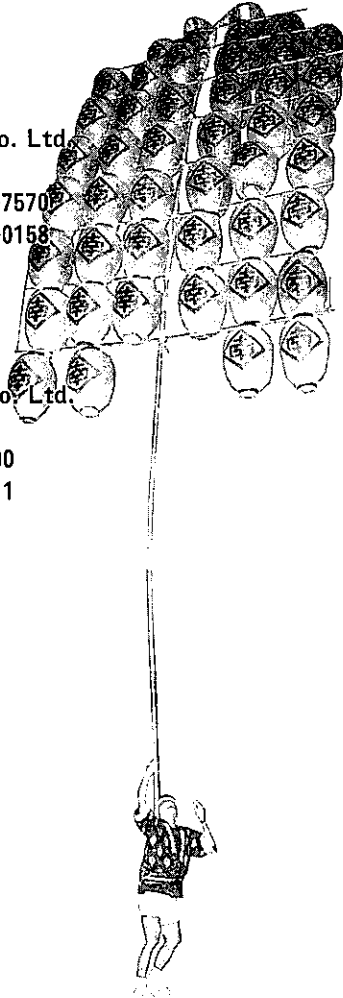
ICMR'94 Akita Desk

Nippon Travel Agency Co. Ltd.

Akita Branch

fax. 0188-66-0100

phone. 0188-66-0111



SHORT INTRODUCTION OF AKITA

Located in the northwestern part of the main island Honshu (around 40° north latitude and 140° east longitude), AKITA has been famous for its abundant underground resources including gold, copper and oil since ancient times, and is now attracting high technological industries for the diligent and sincere attitude of its residents.

At the same time, AKITA is known as the base of rice, cedar and electricity, with nice resorts facing the Sea of Japan on the west and hotsprings especially in the mountain area on the eastern border. Each distinct season offers its own scenic charm : special 'golden autumn' in October. Temperature is around 13°C (average, 18°C (day time) ~ 8°C (night time)) in late October with mild and fair weather.

It takes 1 hr from Haneda (Tokyo) with 6 flights daily (All Nippon Airways 4 flights, Japan Airline 2 flights). Flight service is also available from Osaka, Nagoya, and Sapporo. You can also enjoy a 5 hr train trip from Tokyo by bullet (Tokyo-Morioka, Tohoku Shinkansen, 3 h) and limited express (Morioka Akita, 2 h).

TIMETABLE

August 31, 1994
Deadline for pre-registration for overseas

September 20, 1994
Deadline for pre-registration for domestic

MAILING ADDRESS

ICMR '94, AKITA
Mining College, Akita University
AKITA, 010 JAPAN

CORRESPONDENCE

Facsimile 81-188-37-0404 (Overseas)
0188-37-0404 (Domestic)

Please contact the Executive Committee through
facsimile if you have questions.

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General Chairpersons :

N. Yoshimura (Chairman of SMER of Japan, Akita Univ.)

H. Tokuda (Dean of Mining College, Akita Univ.)

H. Hayashi (Director of RINR, Mining College, Akita Univ.)

Chairpersons of

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Finance Committee, **Y. Takahashi** (Akita Univ.) ;

Programming Committee, **K. Makino** (Akita Univ.) ;

Steering Committee, **T. Ohyoshi** (Akita Univ.).

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(Akita Univ.), **K. Shinohara** (Hokkaido Univ.), **T.**

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Denko), **A. Tanada** (Ueda Sekkai), **T. Yamada** (Akita

Zinc), **K. Yoshino** (Osaka Univ.), **S. Watanabe**

(Mitsubishi Materials)