

PMP

2000 ADVANCE PROGRAM

Second International Conference on Processing Materials for Properties

November 5-8, 2000
San Francisco, California



The Mining and Materials Processing
Institute of Japan
Tokyo, 107-0052
Japan

TMS

Minerals • Metals • Materials

The Minerals, Metals & Materials Society
Warrendale, PA 15086-7528
USA

<http://www.tms.org/Meetings/Specialty.html>

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Dr. Chikabumi Yamauchi, Nagoya University (MMIJ)

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Dr. Koichi Sudo, Sumitomo Metal Mining Co., Ltd. (MMIJ)
Dr. Takahide Wakamatsu, Meijo University (MMIJ)

Topic Chairmen:

Copper, Nickel, Zinc, Lead and Tin

Dr. M. Hino (MMIJ)
Tohoku University

Dr. V. Lakshmanan (TMS)
Ortech, Inc.

Rare Metals

Dr. T. Oishi (MMIJ)
Kansai University

Dr. R.G. Bautista (TMS)
University of Nevada-Reno

Nonferrous Alloys and Light Metals

Dr. T. Nakamura (MMIJ)
Tohoku University

Dr. J. N. Hryn (TMS)
Argonne National Lab

High-Technology Materials: Electronic, Magnetic and Photonic Materials

Dr. K. Morinaga (MMIJ)
Kyushu University

Dr. R. D. Shull (TMS)
NIST

High Temperature Materials

Dr. K. Uematsu (MMIJ)
Nagaoka University of Technology

Dr. W. Hunt (TMS)
AC Group, Inc.

Composite Materials

Dr. H. Nakae (MMIJ)
Waseda University

Dr. C. Suryanarayana (TMS)
Colorado School of Mines

Thin Films and Coatings

Dr. O. Takai (MMIJ)
Nagoya University

Dr. S. Govindarajan (TMS)
Motorola, Inc.

Powder Preparation and Processing

Dr. F. Saito (MMIJ)
Tohoku University

J. Klansky (TMS)
Buehler, Inc.

Solidification Processing

Dr. H. Nomura (MMIJ)

Dr. B. G. Thomas (TMS)
University of Illinois

Electrolytic Processing

Dr. H. Fukushima (MMIJ)
Kyushu University

Dr. G. Kipouros (TMS)
Dalhousie University

Novel Materials Developments in Aqueous Processing

Dr. Y. Awakura (MMIJ)
Kyoto University

Dr. F. Doyle (TMS)
University of California – Berkeley

Control and Analysis in Materials Processing

Dr. S. Otsuka-Yao-Matsuo (MMIJ)

Dr. B.Q. Li (TMS)
Washington State University

Resources and its Related Environment

Dr. T. Shoji (MMIJ)
University of Tokyo

Dr. Y. Umetsu (MMIJ)
Tohoku University

Control and Analysis in Materials Processing

Dr. K. Axler (TMS)
Los Alamos National Lab

Waste Management

Dr. M. Suzuki (MMIJ)
Aiteku Gijitsu-Kaihatsu Co.

Iron and Steelmaking

Dr. P. R. Taylor (TMS)
University of Idaho

Iron and Steelmaking

Dr. M. Sano (MMIJ)
Nagoya University

Dr. B. Mishra (TMS)

Colorado School of Mines

PRELIMINARY CALENDAR OF EVENTS

Second International Conference on Processing Materials for Properties

RENAISSANCE PARC FIFTY-FIVE HOTEL
SAN FRANCISCO, CALIFORNIA

NOVEMBER 5–8, 2000

SUNDAY, NOVEMBER 5, 2000

Registration 12:00pm–6:00pm / Coat Check
Welcoming Reception 6:00pm–8:00pm / Parc Ballroom 2&3

MONDAY, NOVEMBER 6, 2000

Registration 7:00am–5:00pm / Coat Check
Authors Coffee 7:15am–8:15am / Fourth Floor Atrium
Slide Preview 7:00am–5:00pm / Medici
Plenary Session 8:30am–12:00pm / Parc Ballroom 1

Technical Sessions 2:00pm–5:20pm

Non-ferrous Alloys and Light Metals / Cervantes
Composite Materials-I / DaVinci 2&3
Resources and its Related Environment / DaVinci 1
Waste Management-I / Michaelangelo
Iron & Steelmaking-I / Raphael
Electronic, Magnetic & Photonic Materials-I / Dante
Control & Analysis in Materials Processing-I / Rubens
AM Break 10:15am–10:30am / Atrium
Conference Luncheon 12:20pm–2:00pm /
Parc Ballroom 2&3
PM Break 3:45pm–4:00pm / Atrium

TUESDAY, NOVEMBER 7, 2000:

Registration 7:00am–5:00pm / Coat Check
Authors Coffee 7:15am–8:15am / Parc Ballroom I
Slide Preview 7:00am–5:00pm / Medici

Technical Sessions 8:30am–12:15pm

High Temperature Materials / Cervantes
Composite Materials-II / DaVinci 2&3
Thin Films and Coatings-I / DaVinci 1
Electrolytic Processing-I / Michaelangelo
Rare Metals / Raphael
Electronic, Magnetic & Photonic Materials-II / Dante
Copper, Nickel, Zinc, Lead and Tin-I / Rubens
Aqueous Processing-I / Parc Ballroom 3
AM Break 10:15am–10:30am / Atrium
Lunch 12:15pm–2:00pm / On own

Technical Sessions 2:00pm–5:15pm

Non-ferrous Alloys & Light Metals-II / Cervantes
Composite Materials-III / DaVinci 2&3
Thin Films and Coatings-II / DaVinci 1
Waste Management-II / Michaelangelo
Solidification Processing-I / Raphael
Powder Preparation and Processing-I / Dante
Control & Analysis in Materials Processing-II / Rubens
Iron & Steelmaking-II / Parc Ballroom 3
PM Break 3:45pm–4:00pm / Atrium
Reception 6:00pm–7:00pm / Atrium
Conference Banquet 7:00pm–9:30pm / Parc Ballroom

WEDNESDAY, NOVEMBER 8, 2000:

Registration 7:00am–10:00am / Coat Check
Authors Coffee 7:15am–8:15am / Parc Ballroom I
Slide Preview 7:00am–5:00pm / Medici

Technical Sessions 8:30am–12:10pm

Non-ferrous Alloys & Light Metals-III / Cervantes
Composite Materials-IV / DaVinci 2&3
Thin Films and Coatings-III / DaVinci 1
Electrolytic Processing-II / Michaelangelo
Solidification Processing-II / Raphael
Powder Preparation and Processing-II / Dante
Copper, Nickel, Zinc, Lead and Tin-II / Rubens
Aqueous Processing-II / Parc Ballroom 3
AM Break 10:15am–10:30am / Atrium
Lunch 12:10pm–2:00pm / On own

Technical Sessions 2:00pm–5:15pm

Waste Management-III / Michaelangelo
Powder Preparation and Processing-III / Dante
Iron & Steelmaking-III / Parc Ballroom 3
PM Break 3:45pm–4:00pm / Atrium



General Information:

The Second International Conference on Processing Materials for Properties (PMP 2000) is planned under the joint organization of The Mining and Materials Processing Institute of Japan (MMIJ) and The Minerals, Metals & Materials Society (TMS). PMP 2000 will provide a forum for the world's materials community to address the continuing globalization of materials production and the creation of new technologies and materials which are broadening the horizons of materials in associated processing routes.

PMP emphasizes the processing aspects in materials research, development and production. Materials characterization and properties, and major processing science and technology will be included and presented at this conference so as to stimulate mutual interaction among processing in different materials fields, rather than confined in the small number of particular technology, aiming for the Olympics in "materials processing for properties."

PMP 2000 will take place over the dates of November 5-8, 2000 in San Francisco, California. The headquarters hotel hosting this prestigious conference will be at the Renaissance Parc Fifty-Five Hotel

Advance Registration:

Take advantage of the discounted advance registration fees. Complete the Advance Registration form in this mailer and return it by Monday, October 2, 2000 to receive the discounted advance registration fee to:

TMS
Meeting Services
184 Thorn Hill Road
Warrendale, PA 10586, USA
Phone: 724-776-9000, ext. 243
Fax: 724-776-3770
E-mail: mtgserv@tms.org

Registration Fee:

Advance Member:	\$480
On-Site Member:	\$580
Advance Non-Member:	\$550
On-Site Non-Member:	\$625
Advance Student:	\$125
On-Site Student:	\$200

You may now register any time, day or night, The Second International Conference on Processing Materials for Properties (PMP 2000) Home Page on the World Wide Web at <http://www.tms.org/Meetings/Specialty/PMP2000/PMP2000.html>. TMS OnLine also provides detailed information on this and all TMS-sponsored conferences.

Full Payment in US dollars must accompany the completed Advance Registration form. Register by Monday, October 2, 2000 and receive the advance registration discount from the on-site registration fee.

On-site Conference Registration hours:

Sunday, November 5, 2000	12:00pm-6:00pm
Monday, November 6, 2000	7:00am-5:00pm
Tuesday, November 7, 2000	7:00am-5:00pm
Wednesday, November 8, 2000	7:00am-10:00am

The **main registration** fee includes the welcoming reception, coffee breaks, conference luncheon, conference banquet, access to the technical sessions and a copy of the proceedings.

The **student registration** fee includes the welcoming reception, coffee breaks and access to the technical sessions only.

ALL ATTENDEES OF THE SECOND INTERNATIONAL CONFERENCE ON PROCESSING MATERIALS FOR PROPERTIES (PMP 2000), INCLUDING AUTHORS AND SESSION CHAIRS, ARE REQUIRED TO REGISTER.

Badges must be worn at all times to gain access to the technical sessions and the social functions.

Refund Policy:

Written requests must be sent to TMS Meeting Services, 184 Thorn Hill Road, Warrendale, PA 15086. No refunds will be issued after October 1, 2000. A \$50 processing fee will be charged on all cancellations.

Social Functions:

Sunday, November 5, 2000

Welcoming Reception 6:00pm-8:00pm

Monday, November 6, 2000

Conference Luncheon..... 12:20pm-2:00pm

Tuesday, November 7, 2000

Conference Dinner 6:00pm-9:30pm



Accommodations:

The Headquarters Hotel and site for PMP 2000 is the Renaissance Parc Fifty-Five Hotel, San Francisco, California, USA.

An important component of PMP 2000 is the opportunity to meet with representatives of the university, the industry, etc. from all over the globe. In this respect, the conference venue at Renaissance Parc Fifty-Five Hotel will provide excellent opportunities for networking and discussions with colleagues and associates.

Participants should fax or mail their conference housing form, which is located in this mailer, as early as possible to the Renaissance Parc Fifty-Five Hotel. The housing cut-off is October 4, 2000. After October 4, 2000, the conference rate and availability at the Renaissance Parc Fifty-Five Hotel may not be available.

Fax, mail or call your housing reservation form to:

Renaissance Parc Fifty-Five Hotel
55 Cyril Magnin Street
Market at Fifth
San Francisco, California 94102, USA
Fax: 415-421-5993
Phone: 415-403-6634 or
800-621-1187



Conference Proceedings Publication:

All papers presented at the PMP 2000 Conference will be printed in their proceedings.

A hardbound, proceedings book that contains both the papers from oral presentations and abstracts from poster presentations made during the Second International Conference on Processing Materials for Properties is planned to be published and available at the conference. A copy of the proceedings book is included with the registration fee for members and non-members.

Additional copies of the conference proceedings book are available for purchase, in advance, on the registration form included with this brochure. The price per copy is \$85, plus shipping and handling.

(NOTE: The student registration fee does not include a copy of the proceedings book).

Poster Session:

A poster session will be held in conjunction with the PMP 2000 Conference. Presentations will be displayed on 4'x8' poster boards, no formal oral presentation is required. The poster session will begin on Monday, November 6 and remain in place through Wednesday, November 8, 2000. Abstracts of 150 words or less must be submitted to TMS by October 8, 2000. Poster abstracts will be included in the rear of the proceedings. Abstracts may be submitted through the TMS Conference Management System (CMS) via the World Wide Web at <http://cms.tms.org> or E-mail abstracts to weissp@tms.org, or send to Peggy Weiss, TMS, 184 Thorn Hill Road, Warrendale, PA 15086, Fax: 724-776-3770.

Authors Coffee:

The TMS Authors' Coffee will be held each morning for authors, chairs and organizers. Authors are asked to attend the authors' coffee only on the morning of their presentation. The coffee will run from 7:15 am–8:15 am in the Fourth Floor Atrium on Monday and in the Parc Ballroom I room on Tuesday and Wednesday.

For More Information on the PMP 2000 Conference:

Dr. Brajendra Mishra
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Nagoya 464-8603, Japan
Phone: 81-052-789-3360; Fax: 81-052-789-3228
E-mail: yamauchi@numse.nagoya-u.ac.jp

SPEAKERS

MONDAY, NOVEMBER 6, 2000

Plenary Speaker

Barry Welch

Barry Welch has been a Professor (including Department Head) in the Department of Chemical and Materials Engineering at The University of Auckland for the last 20 years. Prior to that, he was at The University of New South Wales, serving as Head of the School of Chemical Technology. He has also spent periods working in the aluminum industry. Much of his research has focused on materials performance and process dynamics in high temperature metallurgical processing with a special emphasis on the aluminum smelting industry. He has published more than 200 Papers and authored or co-authored several books and Conference Proceedings. His research contributions have been recognized, by his being awarded the TMS Light Metals 2000 Award for meritorious technical contributions to the light metals industry. Other awards include the R H Stokes Medal for Applied Electrochemistry and the R K Murphy Medal for contributions to Industrial Chemistry. Currently he consults widely to aluminum smelting companies as well as being a research leader in the High Temperature Materials and Processing Group at the University of Auckland.

MONDAY, NOVEMBER 6, 2000

Plenary Speaker

John J. Moore

John Moore is a Professor and Head of the Department of Metallurgical and Materials Engineering and a Director of Interdisciplinary Materials Science Graduate Program at Colorado School of Mines. Prior to coming to Colorado School of Mines, Professor Moore was the Head of the Department of Chemical and Materials Engineering for the University of Auckland, New Zealand. Professor Moore's research interests are physical (PVD) and chemical (PVD) vapor deposition of thin films and coatings; synthesis and processing of advanced ceramic, intermetallic and composite materials using plasma and reactive synthesis techniques; liquid metal processing and powder metallurgy processing of advanced materials.

MONDAY, NOVEMBER 6, 2000

Plenary Speaker

H. Y. Sohn

H. Y. Sohn received his Ph.D. in 1970 from the University of California, Berkeley. He was Research Associate at SUNY Buffalo and Research Engineer at Du Pont, before joining the University of Utah. Professor Sohn is recipient of Fellow Award from the Korean Academy of Science and Technology, TMS Champion H. Mathewson Gold Medal Award, TMS Extractive Metallurgy Lecturer Award, TMS Extraction and Processing Science Award (1990, 1994, 1999), Fulbright Distinguished Lecturership, and Dreyfus Foundation's Teacher-Scholar Award.

MONDAY, NOVEMBER 6, 2000

Plenary Speaker

Masahiro Yoshimura

Professor Masahiro Yoshimura is the Director of the Center for Materials Design, Materials and Structures Laboratory at the Tokyo Institute of Technology. Currently in this position for 4 years, Professor Yoshimura has held several research positions throughout France, United States and Japan. The award accomplishments, which Professor Yoshimura has received, are the Centennial Anniversary Academic Award from The Society of Japan in 1991; "Hydrothermal Processing in Ceramics" Academic Award from the Ceramic Society of Japan in 1993-1994; "Effects of Water on Syntheses, Properties and Stabilities of Ceramics" Research Development Award from the Powder and Powder Metallurgy Society of Japan in 1995; "Polymerized Complex Synthesis of Pure High-Temperature Superconducting Oxides", Society Fellow from the American Ceramic Society in 1996.

MONDAY, NOVEMBER 6, 2000

Luncheon Speaker

Osamu Takai

Osamu Takai is now a Professor at the Department of Materials Processing Engineering, Graduate School of Engineering, Nagoya University, Japan. He was born in Tokyo, Japan on November 3, 1947. He graduated in 1976 from Graduate School of Engineering, The University of Tokyo, where he obtained a Doctor of Engineering Degree. In 1992 he joined Nagoya University. He has been engaged in research in the fields of thin film processing, plasma materials processing and biomimetic materials processing.

TUESDAY, NOVEMBER 7, 2000

Dinner Speaker

Dennis Readey

"Microstructural Surprises"

Dennis W. Readey is the H. F. Coors Distinguished Professor of Ceramic Engineering in the George S. Ansell Department of Metallurgical and Materials Engineering at the Colorado School of Mines. Professor Readey is also Director of the Colorado Center for Advanced Ceramics. Prior to coming to the Colorado School of Mines in 1989 he was Chairman of the Ceramic Engineering Department at the Ohio State University. He currently represents TMS on the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. He is a fellow and past-president of the American Ceramic Society and a fellow of ASM International. His current research interests include: gas-solid interactions during sintering and corrosion of ceramics; processing of ceramic-metal composites; and defect chemistry and transport processes in compounds.

Conference Co-Sponsors:

The following list of Societies/Associations have been invited to serve as co-sponsors of PMP 2000:

Australasian Institute of Mining and Metallurgy
The Ceramic Society of Japan
Chinese Society for Metals
The Electrochemical Society of Japan
Federation of European Materials Society
Gesellschaft fuer Bergbau, Metallurgie, Rohstoff und Umwelttechnik
The Indian Institute of Metals
The Institute of Mining and Metallurgy, England
The Iron & Steel Institute of Japan
Iron & Steel Society
Japan Foundry Engineering Society
Japan Institute of Light Metals
Japan Society of Powder and Powder Metallurgy
South African Institute of Mining & Metallurgy
The Japan Institute of Metals
The Japan Society for the Promotion of Science
The Korean Institute of Metals
The Metallurgical Society of CIM, Canada
National Association of Corrosion Engineers
The Nonferrous Metals Society of China
The Resources Processing Society of Japan
The Society of Materials Science, Japan
The Society of Powder Technology, Japan
The Surface Finishing Society of Japan

Letters of Invitation:

The Second International Conference on Processing Materials for Properties (PMP 2000) Organizing Committees will issue letters of invitation to individuals requiring such a document. Such letters though, do not commit The Second International Conference on Processing Materials for Properties (PMP 2000) Organizing Committees to providing financial support. Fax, E-mail or mail your request for a letter of invitation to:

Michael Packard, Manager of Meeting Services
TMS
184 Thorn Hill Road
Warrendale, PA 15086, USA
Fax: 724-776-3770
E-mail: packard@tms.org

Americans With Disability Act:

TMS strongly supports the Federal Americans with Disabilities Act (ADA) which prohibits discrimination against, and promotes public accessibility for those with disabilities. In support of this act, we ask that those attendees requiring specific equipment or services contact the TMS Meeting Services Department to advise specific needs in advance.

Audio/Video Recording Policy:

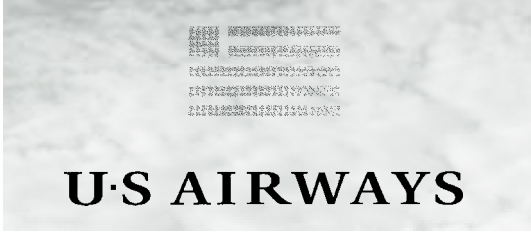
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US Airways:

US Airways has been designated as the official carrier for the attendees of the Second International Conference on Processing Materials for Properties (PMP 2000), November 5–8, 2000 in San Francisco, California and agrees to offer exclusive low fares for the attendees.

This special fare will offer a 7% discount off First or Envoy Class and any published US Airways promotional round trip fare. A 12% discount off unrestricted coach fares will apply with seven day advance reservation and ticketing required. Plan ahead and receive an additional discount by ticketing 60 days or more prior to departure. These discounts are valid provided all rules and restrictions are met and are applicable for travel from all points on US Airways route system.



The above discounts are not combinable with other discounts or promotions, and are valid November 2–11, 2000. Additional restrictions may apply on international travel.

To obtain these discounts, you or your professional travel consultant must call US Airways' Meeting and Convention Reservation Office at 800-334-8644; 8:00am–9:30pm, Eastern Time. Select option "1" when making the call.

REFER TO GOLD FILE NO. 22631205



Hertz Rent-a-Car System:

Has been selected as the official car rental company for the PMP 2000 Conference, November 5–8, 2000, San Francisco, California, USA.

Meeting rates listed below, with free unlimited mileage, are guaranteed one week before, through one week after, the actual meeting dates and are subject to car availability. Rates are available from all San Francisco locations.

Advance reservations may be made by calling the Hertz Reservations number (US: 1-800-654-2240; Canada: 1-800-263-0600; International: contact your local Hertz reservation center) and identify yourself as an attendee of the PMP 2000 Conference and reference the CV number which follows:

You must give the reservations agent the Hertz CV #010P0006

Rates

CAR CLASS	DAILY PER DAY	WEEKEND PER DAY	WEEKLY PER DAY
A Economy 2DR	\$34.99	\$21.99	\$139.99
B Compact 4DR	\$37.99	\$23.99	\$154.99
C Midsize 2/4DR	\$40.99	\$25.99	\$169.99
D Sporty 2DR	\$43.99	\$30.99	\$184.99
G Fullsize 4DR	\$47.99	\$32.99	\$199.99
I Luxury	\$65.99	\$62.99	\$284.99
L 4Wheel Drive	\$65.99	\$62.99	\$284.99
R Minivan	\$65.99	\$62.99	\$284.99

RATES INCLUDE UNLIMITED FREE MILES

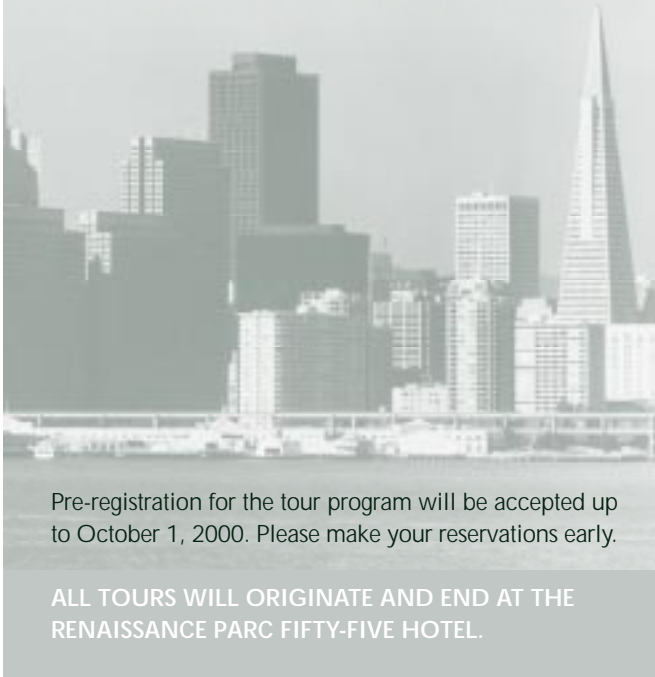
Terms and Conditions:

- UNLIMITED MILEAGE ALLOWANCES ON ALL RATES.
- One-way service fee will apply when cars are not returned to renting location.
- Additional daily charges for optional coverages (Loss Damage Waiver, Effect Protection, refueling and state tax) are not included in the rates.
- Drivers must meet standard Hertz age, driver and credit requirements.
- Hertz is a frequent flyer partner with US Airways, Delta, Northwest, United and American Airlines. Frequent flyer information may be requested at time of car booking.

Accompanying Persons Tours:

Accompanying persons tours have been customized to enhance the PMP 2000 experience. To register, please complete the Registration form in this mailer and return it to Cappa & Graham, Inc. Confirmations of the tour will be sent to each participant before the conference.

Please note that reservations will be handled on a first-come, first serve basis and reservations will not be available on-site.



Pre-registration for the tour program will be accepted up to October 1, 2000. Please make your reservations early.

ALL TOURS WILL ORIGINATE AND END AT THE RENAISSANCE PARC FIFTY-FIVE HOTEL.

Tour #1

SIGHTS OF SAN FRANCISCO

Monday, November 6, 2000

8:30am–12:30pm

\$35 per person

San Francisco is a captivating blend of exciting and varied areas for discovery. Explore the diverse communities of San Francisco on your private luxury motorcoach and begin to understand The City and its many cultures.

Tour fascinating neighborhoods such as bustling Fisherman's Wharf, exotic Chinatown, trendy North Beach and elegant Nob Hill. San Francisco is known the world over for its distinctive architecture, superb restaurants and unusual shopping. Whatever your taste—traditional, eclectic, cultural, unusual—San Francisco

offers sights, sounds and sensations that are sure to please the most discriminating and inquiring individuals.

Tour #2

CHINATOWN WALKING TOUR

Tuesday, November 7, 2000

9:30am–1:00pm

\$40 per person

Enter Chinatown and become immersed in one of the largest Chinese communities outside the Orient. Authentic in atmosphere, over 20,000 Chinese live and work within this 18 square block community in downtown San Francisco.

Experienced guides lead you through the secret back alleys explaining what to look for when buying cackling hens or fresh fish in the markets. Select traditional Chinese cookies from one of the many Chinese bakeries, sample teas from the exotic Orient or purchase ancient medicinal herbs from traditional pharmacists.

Elegant pagoda topped buildings, street signs in Chinese, dragon entwined lamp posts and dialects ranging in the hundreds are constant reminders that you are in a thriving and historic ethnic neighborhood.

After tea, enjoy a special Dim Sum lunch. Dim Sum are small delicious steamed or fried tidbits filled with barbecued pork, shrimp, taro root and other Cantonese favorites. The sight, sounds and tastes of Chinatown all come together in this walking tour.

Please note that this is a walking tour—dress for the weather and wear comfortable shoes.

Tour #3:

CALIFORNIA WINE EXPERIENCE

Thursday, November 9, 2000

9:30am–2:30pm

\$55 per person

Travel north of San Francisco to the serene beauty of Napa Valley. Deeply rooted throughout California's expansive valleys and rolling hills are rows of vines producing some of the finest grapes, and in turn, some of the finest wines in the world. Enjoy the scenery as you travel down roads where vineyards stretch as far as the eye can see.

California's wine industry commenced more than 200 years ago when Padre Junipero Serra began his chain of missions and planted his grapevines. By 1919, California had become America's leading wine-producing state with nearly 400 million gallons produced in 1990. Now it is your turn to experience some of this winemaking expertise.

About San Francisco:

Overview:

San Francisco is a golden dream come true, a place where heart, mind and soul embrace, lost in the simplicity of delightful deliverance. Fog and sun mingle playfully above America's favorite city; the cool, cloudy comfort of early morning slowly dissolving into the peaceful warmth of a gentle afternoon glow. Touch it....it is real. Feel it....it is the essence of escape. Savor it....it is one of a kind. Little wonder why San Francisco has been named the world's top city twice by readers of Condé Nast Traveler; the top U.S. city seven times since 1988. San Francisco's neighborhoods comprise its inner beauty, enhancing daydreams, opening doors to new and exciting visions. The City is a cultural wonderland, an ethnic treasure chest where custom, tradition and history are preserved, celebrated, shared. So take your time and explore The City. You'll find that the Gold Rush days have never really ended here; there's still plenty of gold to be found. The restless spirit of The City's Barbary Coast past lives on, fueled by a desire to be different, nurtured by infinite viewpoints, personalities, styles.

Magical moments abound. The echo of cable car bells from atop great hills. The rejuvenation of the soul upon crossing the Golden Gate Bridge. The splendor and elegance of a boat cruise on San Francisco Bay. The soft touching of wine glasses over a gourmet meal. The views. The people. The sights. The sounds. The City. So come and share the wealth. Let your heart, mind and soul wander. Stay as long as you like. San Francisco encourages lingering. It was designed with adventure, romance and pleasure in mind. It is one of life's great indulgences, so indulge. It is one of the world's most gratifying escapes, so escape. It is where the world comes to unwind. It is America's preeminent playground.

The Bay:

San Francisco Bay, a 500-square-mile cleft in the California coastline, has a split Personality. It is both a major center for waterborne commerce and a delightful excuse to just go play. From

the Central Valley and Sierra Nevada, 16 California rivers flow into San Francisco Bay. A steady stream of container ships, freighters and cruisers docked at more than 40 deepwater piers attest to its role as a major shipping lane. But it is the fun side of the bay, that lures mariners about and aboard, to skirt the Golden Gate Bridge where ebb tide meets west wind or happily paddle single kayaks in Richardson Bay. Scheduled ferry service, sightseeing and dining cruises offer another opportunity to ply the bay. However, for those who don't trust their sea legs, landside pursuits on the edge of the water can be just as engaging.

Fisherman's Wharf:

Eighty-seven percent of San Francisco's visitors include Fisherman's Wharf on their itinerary. With good reason. Waterfront marketplaces include The Anchorage, The Cannery, Ghirardelli Square and PIER 39. The Wharf's working hub, "Fish Alley," sells thousands of tons of sole, shrimp, salmon, sea bass, squid and other deep sea delicacies annually. During the crab season (mid-November through June) devotees line up for the best of the catch. For an impromptu picnic, order some cracked crab and pick up a loaf of sourdough French bread from a nearby bakery. A fleet of historic ships berths at Hyde Street Pier, a component of the San Francisco Maritime National Historical Park, which also includes the Maritime Museum. The USS Pampanito, a WWII fleet submarine, may be boarded at Pier 45. On The City's northern waterfront beyond Hyde Street Pier and the lagoon of Aquatic Park (this is a nice side trip from Fisherman's Wharf), the nearly four-mile-long Golden Gate Promenade winds past bocce ball courts through Fort Mason and Marina Green to Crissy Field, a shoreline retreat adjoining the Presidio, terminating at Fort Point. Ahead lies the world's most incredible piece of outdoor sculpture, the majestic Art Deco-style Golden Gate Bridge. Completed in 1937 the bridge links San Francisco to Marin County. For a real aerobic workout, climb the steps near Fort Point that lead up to the bridge and make "the walk of all walks."

Receive a subscription to the hardcopy of JOM; be eligible for member discounts on TMS conference fees and publications; have easy access to the World Wide Web (WWW) with TMS OnLine, plus an array of other membership benefits and services. Once you've been a part of TMS and seen all that's happening, you'll want to continue your membership long into the future.

All you need to do is complete a TMS application and return it to the TMS Registration Desk during the conference, along with your

\$90 payment. Or, you may opt to mail your application and payment to TMS Headquarters, 184 Thorn Hill Road, Warrendale, PA 15086, USA. **(Your membership cannot be processed without a completed application.)**

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The Second International Conference on Processing Materials for Properties
 November 5-8, 2000
 San Francisco, California, USA



ACCOMPANYING AND LEISURE TOURS

TOUR	TIME	PRICE	# OF PEOPLE	TOTAL
Monday, November 6 Sites of San Francisco	8:30am-12:30pm	\$35	_____	\$_____
Tuesday, November 7 Chinatown Walking Tour (Ending with Dim Sum Luncheon)	9:30am-1:00pm	\$40	_____	\$_____
Thursday, November 9 California Wine Experience (Lunch on your own in beautiful Sonoma Square)	9:30am-2:30pm	\$55	_____	\$_____
			TOTAL	\$_____

REGISTRATION DEADLINE: The registration deadline is October 1, 2000. After this date, tour registration will be taken on space-available basis only at the tour departure site Parc 55 (Cyril Magnin St.)

CANCELLATIONS: Cappa & Graham, Inc. reserves the right to cancel any tour if the minimum pre-registration is not met. In the event of tour cancellation, all pre-registration money will be refunded. Cappa & Graham, Inc. reserves the right to make comparable substitutions if circumstances beyond our control necessitate a change in any elements of the program started.

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The Second International Conference on Processing Materials for Properties
 November 5-8, 2000
 San Francisco, California, USA



ADVANCE REGISTRATION FORM

WEB	FAX	MAIL
Take advantage of the convenience of on-line pre-registration via the TMS website: http://www.tms.org . Web registration requires credit card payment.	Fax this form to TMS Meeting Services, + 724-776-3770. Fax registration requires credit card payment.	Return this form with payment to: TMS Meeting Services 184 Thorn Hill Road Warrendale, PA 15086 USA

Advance Registration Deadline: October 2, 2000 PAYMENT MUST ACCOMPANY FORM. Forms received past this date will be processed at the on-site fee structure. Instructions: Check your selections, and fill in the necessary information.

TMS or MMIJ Member Number: _____

Please print or type

Dr. Prof. Mr. Mrs. Ms.

This address is: Business Home New Address Address Correction

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Telephone: _____ Fax: _____ E-Mail Address: _____

Accompanying Person Name for Badge: _____

(Guests do not receive admission to technical sessions.)

REGISTRATION FEES:

Advance fees to October 2

On-Site fees after October 2

<input type="checkbox"/> Member*	\$480	\$580	
<input type="checkbox"/> Non-Member*	\$550	\$625	
<input type="checkbox"/> Student**	\$125	\$200	\$ _____

*Includes technical sessions, coffee breaks, welcoming reception, conference luncheon, banquet, and proceedings.

**Includes technical sessions, coffee breaks, and welcoming reception

ADDITIONAL SOCIAL FUNCTION TICKETS AND PROCEEDINGS

(for Students/Spouses):

	Fee	Number	Total
<input type="checkbox"/> Welcoming Reception (Sunday, November 5, 2000)	\$25	_____	\$ _____
<input type="checkbox"/> Conference Luncheon (Monday, November 6, 2000)	\$35	_____	\$ _____
<input type="checkbox"/> Banquet (Tuesday, November 7, 2000)	\$60	_____	\$ _____
<input type="checkbox"/> Dietary Restrictions: <input type="checkbox"/> Vegetarian (V) <input type="checkbox"/> Kosher (K)			
<input type="checkbox"/> PMP2 Proceedings	_____	books @ \$85 each =	\$ _____
<input type="checkbox"/> Shipping (U.S.)	_____	books @ \$10 each =	\$ _____
<input type="checkbox"/> Shipping (elsewhere)	_____	books @ \$20 each =	\$ _____

TOTAL FEES: \$ _____

Refund policy: Written requests must arrive at TMS no later than October 2, 2000. A \$50 processing fee will be charged for all registration cancellations.

PAYMENT OPTIONS:

- Check payable to TMS. Payment should be made in US dollars drawn on a US bank or via the following.
- VISA Card Number _____ Exp. _____
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RENAISSANCE PARC FIFTY-FIVE HOTEL

RESERVATION FORM

SECOND INTERNATIONAL CONFERENCE ON PROCESSING MATERIALS FOR PROPERTIES (PMP 2000)

PLEASE COMPLETE THE FORM BELOW AND RETURN TO:

Renaissance Parc Fifty-Five Hotel
Attn: Reservations Manager
55 Cyril Magnin Street
Market at Fifth
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Phone: 415-403-6634 or 800-621-1187
Fax: 415-421-5993

I Plan to arrive: _____
Date

I Plan to Depart: _____
Date

Please Check:

- Single - \$175
 Double - \$175

Room Tax - 14%

ALL RESERVATION REQUESTS MUST BE GUARANTEED BY THE FIRST NIGHT'S ROOM AND TAX BY PERSONAL CHECK OR CREDIT CARD. CANCELLATIONS MUST BE MADE SEVENTY-TWO (72) HOURS PRIOR TO ARRIVAL TO AVOID FIRST NIGHT'S BILLING.

All reservations must be received by: **Wednesday, October 4, 2000**

Requests prior to and after convention dates will be accepted on a space available basis only at the prevailing rate. (One card per room)

NAME: _____

Payment Enclosed: CHECK CREDIT CARD

FIRM: _____

CARD NO: _____

ADDRESS: _____

EXPIRATION DATE: _____

CITY, STATE, ZIP: _____

VISA MASTERCARD AMERICAN EXPRESS

TELEPHONE: _____

OTHER _____

FAX: _____

SIGNATURE: _____

ADDITIONAL PERSONS IN ROOM: _____

Specific Requests: _____

(Requests Subject to Availability)

PLEASE NOTE: CHECK-IN TIME IS 3:00PM • CHECK-OUT TIME IS 12 NOON

2000 PMP II: Second International Conference on Processing Materials for Properties Preliminary Technical Program

Plenary Session

Monday AM
November 6, 2000
Parc 55 Hotel

Room: Parc Ballroom I
Location: Renaissance

Session Chair: Brajendra Mishra, Colorado School of Mines, Metall. & Matls. Engr., Golden, CO 80401 USA

8:30 AM

Welcoming Remarks: Brajendra Mishra

8:45 AM

Nonferrous Metals Production: Advances in Process Technology and Environment Protection: *Hong Y. Sohn*¹; ¹University of Utah, Metallurgical Engineering

9:30 AM

Soft Solution-Processing for Advanced Materials—Concept, Realization, and Perspective: *Masahiro Yoshimura*¹; ¹Tokyo Institute of Technology, Matls. and Struct. Lab., Ctr. for Matls. Des., 4259 Nagatsuta, Midori, Yokohama, Kanagawa 226-8503 Japan

10:15 AM Break

10:30 AM

The Development of Graded Thin Film/Coating Systems: *John J. Moore*¹; Brajendra Mishra¹; D. Zhong¹; T. Dennin¹; E. Hixson¹; S. Challappalli¹; ¹The Colorado School of Mines, Adv. Coat. and Surf. Eng. Lab., Golden, CO 80401 USA

11:15 AM

Future Materials Requirements for High Energy-Intensity Production of Aluminum: *Barry Welch*¹; ¹University of Auckland, P.O. Box 42-240, Coates Ave., Orakei, Auckland 1130 New Zealand

Non-ferrous Alloys and Light Metals - I

Monday PM
November 6, 2000
Parc 55 Hotel

Room: Cervantes
Location: Renaissance

Session Chairs: Barry J. Welch, University of Auckland; Takashi Nakamura, Tohoku University, Instit. for Adv. Matls. Process.

2:00 PM Keynote

Use of Refractory Hard Cathodes to Reduce the Energy Consumption in Aluminium Smelting: *Mark P. Taylor*¹; ¹Comalco Aluminium Limited, GPO Box 153, Brisbane, Queensland 4001 Australia

2:30 PM

Influence of Heat Treatment Conditions on the Mechanical Properties of New Rheocasting Aluminium Parts: *Helmut Kaufmann*¹; Peter J. Uggowitzer²; ¹Leichtmetall Kompetenzzentrum Ranshofen, Ranshofen A-5282 Austria; ²ETH Zurich, Instit. for Metall., Sonneggstrasse 3, Zurich CH-8092 Switzerland

2:55 PM

Synthesis and Thermal Properties of Ti-Based Amorphous Alloys with a Large Supercooled Liquid Region: *Pee-Yew Lee*¹; Nan-Fong Hsu¹; C. Y. Ma²; ¹National Taiwan Ocean University, Matls. Eng. Dept., 2, Pei-Ning Rd., Keelung, Taiwan 202 Taiwan; ²Chung-Shan Institute of Science & Technology, Matls. and Electro-Optics Rsch. Div., P. O. Box 90008-8-4, Lung-Tan, Tao-Yuan, Taiwan 325 Taiwan

3:20 PM

Titanium Powder Production by Reactive Molten Salt as a Reductant: *Tetsuya Uda*¹; *Toru H. Okabe*²; Yoshio Waseda¹; ¹Tohoku University, Rsch. Ctr. for Metall. Process Eng., Instit. for Adv. Matls. and Process., 2-1-1 Katahira Aoba-ku, Sendai, Miyagi Pref. 980-8577 Japan; ²Tohoku University, Instit. of Adv. Matls. and Process., 2-1-1 Katahira Aoba-ku, Sendai, Miyagi Pref. 980-8577 Japan

3:45 PM

Modeling of the Reactive Immersion of Ceramic Particles into Molten Aluminum Alloy: *Kevoorkian M. Varuzan*¹; ¹Independent Researcher, Lackova 139, Limbus 2341 Slovenia

4:00 PM

Properties of AlMgSi1 Wrought Alloy Components Produced by Means of the NRC-Process: *Heimo Wabusseg*¹; Giancarlo Gullo¹; Helmut Kaufmann²; Peter J. Uggowitzer¹; ¹Swiss Federal Institute of Technology ETH, Instit. of Metall., ETH Zentrum, Sonneggstrasse 3, Zurich CH-8092 Switzerland; ²Centre of Competence on Light Metals, LKR, P.O. Box 26 Lambrechtshausenerstrasse, Ranshofen A-5282 Austria

Composite Materials - I

Monday PM
November 6, 2000
Parc 55 Hotel

Room: DaVinci 2&3
Location: Renaissance

Session Chairs: V. K. Vijayalakshmi, N.M.K.R.V. College for Women; Hideo Nakae, Waseda University, Dept. of Matls. Sci. and Eng.

2:00 PM Keynote

Fracture in Ductile-Brittle Graded Composites: *I. E. Reimanis*¹; ¹Colorado School of Mines, Metall. and Matls. Eng. Dept., Golden, CO 80401 USA

2:30 PM

Property/Processing Relationships for Continuously Fabricated MMC Fiber-Reinforced Wire: Shannon L. Sampson¹; Joseph T. Blucher¹; *Jacqueline A. Isaacs*¹; ¹Northeastern University, Mech. Ind. and Manu. Eng., 334 Snell Eng., 360 Huntington Ave., Boston, MA 02115 USA

2:55 PM

Characterisation of Corrosion Properties of ZA-27/Quartz Metal Matrix Composites: *P. V. Krupakara*¹; Jayagopal Uchil²; Trivikram³; ¹RV College of Engineering, Dept. of Chem., Bangalore, Karnataka 560059 India; ²Mangalore University, Dept. of Matl. Sci., Mangalagangothri, Mangalore India; ³RV College of Engineering, Dept. of Mech. Eng., Mysore Rd., Bangalore 560059 India

3:20 PM

Oxidation Behaviour of Aluminium-6061/Hematite Particulate MMC's at Elevated Temperatures: *S. C. Sharma*¹; N. Shanmukha¹; M. Krishna¹; ¹R.V. College of Engineering, Dept. of Mech. Eng., Rsch. and Dev., Bangalore, Karnataka 8600535 India

3:45 PM Break

4:00 PM

Fabrication and Mechanical Properties of the SiCf/Oxide Matrix Composites: *Makoto Yoshida*¹; Kenya Nagahisa¹; Kazuya Kitatani¹; Naoto Ohta²; Toshihiro Ishikawa³; Jin Pan¹; Gen Sasaki¹; Hideharu Fukunaga¹; ¹Hiroshima University, Mech. Eng. Dept., 1-4-1 Kagamiyama, Higashi, Hiroshima, Hiroshima Pref. 739-8527 Japan; ²Toyo Tanso Company Limited, Eng. and Dev. Ctr., 2181-2 Nakahime, Ohnohara-Cho, Mitoyo-Gun, Kagawa Pref. 769-1612 Japan; ³Ube Industries Limited, Ube Rsch. Lab., 1978-5 Kogushi, Ube City, Yamaguchi Pref. 755-8633 Japan

4:25 PM

Study on Oxidation Resistance of High Temperature of Electrodeposited RE-Ni-W-P-SiC Multiple Functional Composite Materials: *Guo Zhongcheng*¹; Yang Xianwan¹; Zhai Dacheng¹; Zhu Xiaoyun¹; ¹Kunming University of Science and Technology, Dept. of Metall., Kunming, Yunnan 650093 China

Resources and Its Related Environment

Monday PM
November 6, 2000
Parc 55 Hotel

Room: DaVinci 1
Location: Renaissance

Session Chairs: Keith Axler, Los Alamos National Laboratory; Yoshiaki Umetsu, Tohoku University; Tetsuya Shoji, The University of Tokyo

2:00 PM Keynote

Steel Making Technology for Environment Protection: *Kiyoshi Shibata*¹; ¹Nippon Steel Corporation, Adv. Tech. Rsch. Labs., 20-1 Shintomi, Futtsu, Chiba 293-8511 Japan

2:30 PM

Economic Growth and Relationships between Key Metals and Energy Consumption: *Toshihide Ito*¹; Jie Liu²; Takashi Nishiyama²; ¹Kansai University, Dept. of Inform., Osaka 569-1095 Japan; ²Kyoto

University, Grad. Sch. of Eneyg Sci., Kyoto 606-8501 Japan

2:55 PM

A Macro Model for Steel Usage Pattern in Japan: *Keiji Kakudate*¹; Yoshihiro Adachi²; Toshio Suzuki²; ¹The University of Tokyo, Grad. Sch., 7-3-1, Hongo, Bunkyo-ku, Tokyo 113-8656 Japan; ²The University of Tokyo, Dept. of Metall., 7-3-1, Hongo, Bunkyo-ku, Tokyo 113-8656 Japan

3:20 PM

Recovery of Pure MnO₂ from Medium-Grade Local Manganese Ores: *M. B. Morsi*¹; ¹Central Metallurgical Research and Development Institute, Pyro. Div., P.O. Box 87, Helwan, Cairo, Egypt

3:45 PM Break

4:00 PM

Exergy Analysis of Plastic Recycling: Shigeki Koyanaka¹; Shigehisa Endoh¹; Atsushi Inaba²; *Hitoshi Ohya*¹; ¹National Institute for Resources and Environment, Matls. Process. Dept., 16-3 Onogawa, Tsukuba, Ibaraki 305-8569 Japan; ²National Institute for Resources and Environment, Rsch. Plan. Off., 16-3 Onogawa, Tsukuba, Ibaraki 305-8569 Japan

4:25 PM

International Supremacy and Conflicts Viewed from Metal Resources: A Historical Review: *T. Shoji*¹; ¹The University of Tokyo, Dept. of Environ. Sys., Dept. of Geosys. Eng., Sch. of Eng., Tokyo 113-8656 Japan

4:50 PM

Challenges Facing Mine Development: *S. Nagae*¹; H. Ikeda¹; ¹Metal Mining Agency of Japan, Tokiwa Bldg. 1-24-14, Toranomon, Minato-Ku, Tokyo 105-0001 Japan

Waste Management - I

Monday PM
November 6, 2000
Parc 55 Hotel

Room: Michaelangelo
Location: Renaissance

Session Chairs: Patrick R. Taylor, University of Idaho, Plasma Process. Lab., Moscow, ID 83844-3024 USA; Masao Suzuki, Aiteku Gijitsu-Kaihatsu Company

2:00 PM Keynote

Utilization of Mining and Smelting Technology and Facilities to Waste Management in Japan: *Yoshihiko Maeda*¹; Kiyomi Yamaguchi¹; ¹Dowa Mining Company Limited, Waste Mgmt. Busi. Unit, 1-8-2 Marunouchi, Chiyoda-ku, Tokyo 100-8282 Japan

2:30 PM

Utilization of Wastes in Production of Portland Cement and Associated Environmental Measures-Separation and Decomposition of Chlorine: *Mitsuhiro Ito*¹; ¹Taiheiyō Cement Corporation, Eng. and Tech. Dept., 3-8-1, Nishikanda, Chiyoda-ku, Tokyo 101-8357 Japan

2:55 PM

Removal of Impurities during Silver Recycle Processes: *Takeshi Kamata*¹; Mamoru Takayanagi¹; Yashushi Akahori²; Itaru Jimbo²;

Shunichi Takemoto²; Hiromasa Takeuchi²; ¹Matsuda Sangyo, Nishi-Shinjuku 1-26-2, Shinjuku-ku, Tokyo 163-0558 Japan; ²Tokai University, Dept. of Metall. Eng., 1117 Kitakaname, Hiratsuka, Kanagawa 259-1292 Japan

3:20 PM

Elimination of Nickel from Copper Scrap Melt: *Hiroiyuki Sano*¹; Shin-ya Iwahori²; Mitsuru Tanahashi²; Chikabumi Yamauchi²; Toshiharu Fujisawa¹; ¹Nagoya University, Rsch. Ctr. for Adv. Waste and Emiss. Mgmt., Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan; ²Nagoya University, Dept. of Matls. Sci. and Eng., Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan

3:45 PM Break

4:00 PM

Precipitation Selectivity of Titanium Compounds from BF-Slags: *Zhitong Sui*¹; Yuhai Li¹; Guangqiang Li¹; Junwei Ma¹; Taiping Lou¹; Nianxin Fu¹; ¹Northeastern University, Schl. of Matls. and Metall., P.O. Box 119, Shenyang, Liaoning 110006 PRC

4:25 PM

The Processing of the Solid Household and Industrial Waste in the Slag's Bubbled Smelt with the Usage of the Vanyukov's Furnaces: *Andrey V. Tarasov*¹; Valery M. Paretsky¹; ¹State Research Institute of Non-Ferrous Metals, Gintsvetment, 13 Acad. Korolyov St., Moscow 129515 Russia

4:50 PM

Disposal of Wasted Fluoride and Chloride Gases in the Manufacturing Process of Semiconductors: *Hideki Yamamoto*¹; Junji Shibata¹; ¹Kansai University, Dept. of Chem. Eng., Fac. of Eng., 3-3-35 Yamate, Suita, Osaka 564-8680 Japan

Iron and Steelmaking - I

Monday PM
November 6, 2000
Parc 55 Hotel

Room: Raphael
Location: Renaissance

Session Chairs: Brajendra Mishra, Colorado School of Mines, Dept. of Metall. and Matls. Eng., Golden, CO 80401 USA; Masamichi Sano, Nagoya University

2:00 PM Keynote

Kinetic Studies of Tank Degassing: *Gordon A. Irons*¹; Dian-Cai Guo¹; Dorel Anghelina¹; ¹McMaster University, Matls. Sci. and Eng. Depts., 1280 Main St. West, Hamilton, Ontario L8S 4L7 Canada

2:30 PM

Capability of CO-H₂-H₂S Mixtures to Carbide Iron Ore Reduced at Elevated Temperatures: *Yoshiaki Iguchi*¹; ¹Nagoya Institute of Technology, Matl. Sci. and Tech., Gokiso-cho, Showa-ku, Nagoya, Aichi 466-8555 Japan

2:55 PM

Reaction Rate of Coke with CO₂ and Degradation of Coke after Reaction: *Masahiro Kawakami*¹; K. Murayama¹; T. Takenaka¹; S. Yokoyama¹; ¹Toyohashi University of Technology, Dept. Prod. Sys. Eng., Tempakucho-aza-Hibarigaoka 1-1, Toyohashi 441-8580 Japan

3:20 PM

Reduction Rate of Chromite Ore by Fe-C-Si Melts: Takamitsu Nakasuga¹; Haiping Sun¹; Kunihiko Nakashima¹; *Katsumi Mori*¹; ¹Kyushu University, Dept. of Matls. Sci. and Eng., Faculty of Eng., 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581 Japan

3:45 PM Break

4:00 PM

Non-Isothermal Gravimetric Investigation on Kinetics of Reduction of Magnesia by Carbon and Aluminum: *Keiji Okumura*¹; Hong Lan¹; Masamichi Sano¹; ¹Nagoya University, Matls. Process. Eng., Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8603 Japan

4:25 PM

Magnetic Separation of Inclusion in Molten Metal Using a High Magnetic Field: *Kensuke Sasse*¹; Norihisa Waki²; Shigeo Asai¹; ¹Nagoya University, Grad. Sch. of Eng., Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan; ²Nagoya University, Grad. Student, Grad. Sch. of Eng., Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan

4:50 PM

Application of Equal Channel Angular Extrusion to the Control of Microstructure in Stainless Steels: *N. Saito*¹; M. Mabuchi¹; M. Nakanishi¹; M. Nakamura¹; I. Shigematsu¹; G. Yamauchi²; T. Asahina¹; ¹National Industrial Research Institute of Nagoya, 1-1 Hirate-cho, Kita-ku, Nagoya, Aichi 462-8510 Japan; ²Daido Institute of Technology, 2-21 Daido-cho, Minami-ku, Nagoya, Aichi 457-8531 Japan

Electronic, Magnetic & Photonic Materials - I

Monday PM
November 6, 2000
Parc 55 Hotel

Room: Dante
Location: Renaissance

Session Chairs: S. Govindarajan, Motorola; Takuo Takeshita, Mitsubishi Materials Co.

2:00 PM Keynote

Enabling of Low-Cost, High Rate PVD Processing of Electronic Thin-Films using Intelligent Process Control: *Bruce Lanning*

2:30 PM

Processing of Ultrafine Ferrite Particles from Sulfuric Acid Pickling Solution: *Yasuhiro Konishi*¹; Kazunari Mizoe¹; ¹Osaka Prefecture University, Dept. of Chem. Eng., 1-1 Gakuen-cho, Sakai, Osaka 599-8531 Japan

2:55 PM

Microstructural Effects on the Damping Capacity of Fe-Cr-Mn Alloys: *Kazuya Miyahara*¹; Keichi Tomita²; Shiori Idaka²; Chang-Yong Kang³; Naohiro Igata⁴; ¹Nagoya University, Dept. of Molecular Des. and Eng., Furoh-cho, Chikusa-ku, Nagoya 464-8603 Japan; ²Nagoya University, Grad. Sch., Furoh-cho, Chikusa-ku, Nagoya 464-8603 Japan; ³Pukyong National University, Dept. of Metall. Eng., Yong Dang-Dong, Nam-ku, Pusan South Korea; ⁴University of Tokyo, Dept. of Fund. Eng. Sci., Yamazaki, Nodacity, Chiba-Pref 278-8510 Japan

3:20 PM

Size Control of Precursor Particles of $Y_2O_3:Eu$ Phosphor Prepared from Aqueous Solution with Nucleus-Particles: *Yoshihiro Nishisu*¹; Mikio Kobayashi¹; ¹National Institute for Resources and Environment, Matls. Process. Dept., 16-3, Onogawa, Tsukuba-Shi, Ibaraki 305-8569 Japan

3:45 PM Break

4:00 PM

Synthesis of Transition Metal Mixed Sulfides Using Sulfur Melt: *Nobuaki Sato*¹; ¹Tohoku University, Instit. for Adv. Matls. Process., 2-1-1 Katahira, Aoba-ku, Sendai 980-8577 Japan

4:25 PM

Preparation and Properties of Germanium Sulfide Glasses: *Hirofumi Takebe*¹; Kenji Morinaga¹; ¹Kyushu University, Grad. Sch. of Eng. Sci., Kasugakouen 6-1, Kasuga 816-8580 Japan

4:50 PM

Thermodynamic Analysis for Crystal Growth of the III-V Compound: *Katsunori Yamaguchi*¹; Yoichi Takeda¹; ¹Iwate University, Dept. of Matls. Sci. and Tech., Ueda 4-3-5, Morioka, Iwate 020-8551 Japan

Control & Analysis in Materials Processing - I

Monday PM
November 6, 2000
Parc 55 Hotel

Room: Rubens
Location: Renaissance

Session Chairs: C. Suryanarayana, Colorado School of Mines; Kenji Ohmori, Sumitomo Metal Mining Co., Cent. Res. Inst.

2:00 PM Keynote

Materials Process Modelling: A General Tool or a Specialty: *Hani Henein*¹; ¹University of Alberta, Chem. & Matls. Eng., 536 Chemical-Mineral Engr. Bldg., Adv. Materials Processing Lab., Edmonton,, Alberta T6G 2G6 Canada

2:30 PM Keynote

In-Situ Characterization of Sintering Properties with Non-Contact Ultrasonic Measurements: *James C. Foley*¹; David K. Rehbein¹; ¹Ames Laboratory, Metall. and Cer. Pgm., 122 Metals Development, Ames, IA 50011 USA

3:00 PM

Evaluation of Frictional Properties of Polycrystalline Diamond at Room Temperature: *Ali Soleman Al-Watban*¹; ¹Riyadh Technical College, P.O. Box 53699, Riyadh 11593 Saudi, Arabia

3:25 PM

Structure and Performance Evaluation of Hydrogen Sensor for Molten Copper under Industrial Conditions: *Koji Katahira*¹; Kunihiro Koide¹; Takashi Iwamoto¹; Noriaki Kurita²; Norihiko Fukatsu²; Teruo Ohashi²; ¹TYK Corporation, Adv. Matls. Rsch. and Dev. Ctr., 3-1 Ohata-cho, Tajimi 507-8607 Japan; ²Nagoya Institute of Technology, Matls. Sci. and Eng. Dept., Gokiso-cho, Showa-ku, Nagoya 466-8555 Japan

3:50 PM Break

4:05 PM

Conventional V_s Hot Die Forging of Alloy 685: Process Optimisation for Properties: *V. Gopala Krishna*¹; Balram Gupta¹; ¹Government of India Ministry of Defense, Def. Rsch. and Dev., Org. Reg. Ctr. for Military Matls., P.O. Kanchanbagh, Hyderabad 500058 India

4:30 PM

Conduction Electron Generation upon Oxygen Release of Indium Tin Oxide: *Hiroyuki Fujiwara*¹; Shinya Otsuka-Yao-Matsuo¹; Naoki Ono²; *Takahisa Omata*¹; ¹Osaka University, Dept. of Matls. Sci. and Process., Grad. Sch. of Eng., 2-1, Yamada-oka, Suita 5650871 Japan; ²Mitsui Mining and Smelting Company Limited, Elect. Matls. Sect., 2081, Tohsen, Ohmuta 8360003 Japan

4:55 PM

Equal Channel Angular Extrusion (ECAE): From Macromechanics to Structure Formation: *Vladimir Segal*¹; ¹Johnson Matthey Electronics R&D, Prin. Rsch. Sci., 15128 E. Euclid Ave., Spokane, WA 99216 USA

Copper, Nickel, Zinc, Lead and Tin - I

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: Rubens
Location: Renaissance

Session Chairs: Robert Stephens, Cominco; Mitsuhisa Hino, Tohoku University, Inst. for Adva. Matls. Proc.

8:30 AM Keynote

Thermodynamic Study of Oxygen-Smelting of Copper or Nickel Matte: *Kimio Itagaki*¹; ¹Tohoku University, Instit. for Adv. Matls. Process., 2-1-1 Katahira Aoba-ku, Sendai 980-8577 Japan

9:00 AM

Modern View on Composition of Autogenous Smelting Slags and Methods of Their Decoppering: *Valery M. Paretsky*¹; Andrey V. Tarasov¹; ¹State Research Institute of Non-Ferrous Metals, Gintsvetmet, 13 Acad. Korolyov St., Moscow 129515 Russia

9:25 AM

Increase in the Productivity of PS-Converters at Saganoseki Smelter & Refinery: *Masatoshi Maeda*¹; ¹Nippon Mining & Metals Company Limited, Saganoseki Smelt. and Refine., Saganoseki-cho, Oita-pre. 879-2201 Japan

9:50 AM

A Model Study of Splash in a Peirce-Smith Converter: *Yasumasa Hattori*¹; Kimiaki Utsunomiya¹; Yoshiaki Mori¹; Toyokazu Okubo²; ¹Sumitomo Metal Mining, Pyrometall. Rsch. Ctr., Niihama Rsch. Labs., Otu 145-1, Funaya, Saijo, Ehime 793-0005 Japan; ²Sumitomo Metal Mining, Niihama Rsch. Labs., Isouracho 17-5, Niihama 982-0002 Japan

10:15 AM Break

10:30 AM

The Q_{235} (A_3) of Seawater Microbe Corrosion in Dayao Gulf: *Wang Li*¹; Chen Jiafu²; Qiao Qianni¹; ¹Northeastern University,

Coll. of Res. and Civil Eng., Shenyang, Liaoning 110006 China;
2Fushen Petroleum Institute, Mach. Dept. 113001 China

10:55 AM

Lead Smelting and Refining at Kosaka Smelter: Hiroshi Inoue²; Shinsuke Nakaya¹; Kousuke Inoguchi³; *Satoshi Nakagawara*¹; ¹Kosaka Smelting and Refining Company Limited, Lead Smelt. Sect., 60-1 Otarube, Kosaka, Akita 017-0202 Japan; ²Kosaka Smelting & Refining Company Limited, Smelt. & Refining Dept., 60-1, Otarube, Kosaka, Akita 017-0202 Japan; ³Kosaka Smelting & Refining Company Limited, Tech. Dept., 60-1, Otarube, Kosaka, Akita 017-0202 Japan

11:20 AM

The Oxidation Rate of Pb and Ni in the Copper by Slag: *Kunihiko Nakashima*¹; Keisuke Yamamoto¹; Etsuro Sibata¹; Hiroko Tahori¹; ¹Kyushu University, Dept. of Matls. Sci. and Eng., Faculty of Eng., 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581 Japan

11:45 AM

Study of the Influence of Chemical Composition on the Machinability Properties of Brasses: *Cândida Guerra Vilarinho*¹; Paulo Davim²; Fernando Castro¹; ¹Universidade do Minho, Dept. Eng. Mech., Rua Capitão Alfredo Guimarães, Guimarães 4810 Portugal; ²Universidade de Aveiro, Secção Autónoma de Eng. Mech., Campus Universitário de Santiago, Aveiro 3810 Portugal

Rare Metals

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: Raphael
Location: Renaissance

Session Chairs: James C. Foley, Iowa State University, Ames Lab.; Toshio Oishi, Kansai University, Dept. of Matls. Sci. and Eng.

8:30 AM Keynote

The Development of Processes for the Production of Selected Rare Earth Electronic Materials: *Renato G. Bautista*¹; ¹University of Nevada at Reno, Metall. and Matls. Eng. Dept., Reno, NV 89557 USA

9:00 AM Keynote

Processing and Applications of Rare Earth Metals and Intermetallic Compounds: *Ken-ichi Machida*¹; ¹Osaka University, Dept. of Appl. Chem., 2-1 Yamadaoka, Suita, Osaka 565-0871 Japan

9:30 AM

Aqueous/Organic Processing of Rare-Earth Carbonate Powders from Rare-Earth Loaded Carboxylate Solutions Using CO₂ Gas: *Yasuhiro Konishi*¹; Yoshiyuki Noda¹; ¹Osaka Prefecture University, Dept. of Chem. Eng., 1-1 Gakuen-cho, Sakai, Osaka 599-8531 Japan

9:55 AM

Rare-Earth-Based Hydrogen Storage Alloys for Batteries: *Nobuhiro Kuriyama*¹; Tetsuo Sakai¹; Hideaki Tanaka¹; Hiroyuki T. Takeshita¹; Itsuki Uehara²; ¹Osaka National Research Institute, 1-8-31 Midorigaoka, Ikeda, Osaka 563-8577 Japan; ²Industrial Tech-

nology Center of Toyama Prefecture

10:20 AM Break

10:35 AM

Thermodynamic Consideration of Melting of Copper Based Alloys with Rare Earths: *Toshio Oishi*¹; Motohiro Horiguchi¹; Kazuo Ichii¹; ¹Kansai University, Matls. Sci. and Eng. Dept., 3-3-35, Yamate-cho, Suita, Osaka 564-8680 Japan

11:00 AM

Solid State Electrotransport of Oxygen in Praseodymium: *Hiroyuki Sano*¹; Jun Sugiyama²; Hideki Takeuchi²; Mitsuru Tanahashi²; Toshiharu Fujisawa¹; Chikabumi Yamauchi²; ¹Nagoya University, Rsch. Ctr. for Adv. Waste and Emiss. Mgmt., Furocho Chikusa-ku, Nagoya 464-8603 Japan; ²Nagoya University, Dept. of Matls. Sci. and Eng., Furocho Chikusa-ku, Nagoya 464-8603 Japan

11:25 AM

Synthesis of La₂S₃ and Its Thermoelectronic Properties: Shinji Hirai¹; *Kazuyoshi Shimakage*¹; Toshiyuki Nishimura²; Yoichiro Uemura²; Mamoru Mitomo²; Leo Brewer³; ¹Muroran Institute of Technology, Dept. of Matls. Sci. and Eng., 27-1 Mizumoto-cho, Muroran-shi, Hokkaido 050-8585 Japan; ²National Institute for Research in Inorganic Materials, Tsukuba Japan; ³University of California-Berkeley, Berkeley, CA 94720-1760 USA

11:50 AM

Hydrogen-Absorbing Alloys Containing Rare-Earth Elements and Their Applications: *Ikuo Yonezu*¹; ¹SANYO Electric Company Limited, New Matls. Rsch. Ctr., 1-1, Dainichi-higashimachi, Moriguchi, Osaka 570-8502 Japan

Electronic, Magnetic and Photonic Materials - II

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: Dante
Location: Renaissance

Session Chairs: Bruce Lanning, ITN Energy Systems; Kenji Morinaga, Kyushu University, Dept. of Matls. Sci. and Tech.

8:30 AM Keynote

On the Progress of the HDDR Process as the Microstructure Control Method: *Takuo Takeshita*¹; ¹Mitsubishi Materials Corporation, Cntr. Rsch. Instit., 1-297 Kitabukuro, Omiya, Saitama 330-8508 Japan

9:00 AM

Ferrite Thin Film Devices by Low Temperature Fabrication Process: *Masanori Abe*¹; Yoshitaka Kitamoto¹; ¹Tokyo Institute of Technology, Dept. of Phys. Elect., 2-12-1 O-okayama, Meguro-ku, Tokyo 152-8552 Japan

9:25 AM

The Role of EDTA and Glycine in the Chemical Mechanical Planarization (CMP) of Copper: Serdar Aksu¹; *Fiona M. Doyle*¹; ¹University of California, Dept. Matls. Sci. and Eng., 551 Evans Hall # 1760, Berkeley, CA 94720-1760 USA

9:50 AM

Preparation and Optical Properties of Aluminium Fluoroberyllate Glasses: *Shigeru Fujino*¹; Kenji Morinaga¹; ¹Kyushu University, Grad. Sch. of Eng. Sci., Kasugakouen 6-1, Kasuga 816-8580 Japan

10:15 AM Break

10:30 AM

Exfoliation and Photocatalytic Activities of Layered Oxides K₂Sr₂Nb₃O₁₀: *Michikazu Hara*¹; Norikazu Ooto¹; Takeshi Sumida¹; Junko N. Kondo¹; Kazunari Domen¹; ¹Tokyo Institute of Technology, Rsch. Lab. of Resources Utilization, 4259 Nagatsuda-cho, Midori-ku, Yokohama, Kanagawa 226-8503 Japan

10:55 AM

Magnetic Properties of Electrodeposited Ni-Fe Alloy Films: *Kenji Hara*¹; Shinji Yamashita¹; Hisayuki Kaku¹; Michiaki Ikeda¹; Shunsuke Kawano²; *Takeshi Ohgai*²; Tetsuya Akiyama³; *Hiroaki Nakano*²; Hisaaki Fukushima²; ¹Yaskawa Electric Corporation, 2-1 Kurosakishiroishi, Yahatanishi-ku, Kitakyushu 806-0004 Japan; ²Kyushu University, Fac. of Eng., 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581 Japan; ³Kyushu Sangyo University, Fac. of Eng., 2-3-1 Matsukadai, Higashi-ku, Fukuoka 813-8503 Japan

11:20 AM

Hard Magnetic Properties of Quenched Sm-Fe-N Powders: *Takahiko Iriyama*¹; Ryo Omatsuzawa¹; Takayuki Nishio¹; Norio Okochi¹; Yuichiro Fujita¹; ¹Daido Steel Company Limited, Rsch. and Dev. Lab., 2-30 Daido-Cho, Minami-Ku, Nagoya 457-8545 Japan

11:45 AM

Fluorescent Characteristics of Fine Multicomponent Particles of Yttrium and Europium: *Mikio Kobayashi*¹; Yoshihiro Nishisu¹; ¹National Institute for Resources and Environment, Matls. Process. Dept., Onogawa 16-3, Tsukuba-shi, Ibaraki-ken 305-8569 Japan

High Temperature Materials

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: Cervantes
Location: Renaissance

Session Chairs: Keith Axler, Los Alamos National Laboratory; Keizo Uematsu, Nagaoka University of Technology, Dept. of Matls. Sci. and Eng.

8:30 AM Keynote

The Preparation and Characterization of Boron-Carbon-Nitrogen Nanotubes by a DC Arc Plasma: *Yusuke Moriyoshi*¹; Y. Shimizu¹; T. Watanabe²; ¹Hosei University, Fac. of Eng., 3-7-2 Kajinocho, Koganeishi, Tokyo 184-8584 Japan; ²Tokyo Institute of Technology, 2-12-1 Ookayama, Meguroku, Tokyo 152-8550 Japan

9:00 AM

Origin of the Fracture Strength of Silicon Nitride Ceramics: *Hiroya Abe*¹; T. Hotta¹; M. Naito¹; N. Shinohara²; M. Okumiya²; K.

Uematsu³; ¹Japan Fine Ceramics Center, 2-4-1 Mutsuno, Atsutaku, Nagoya, Aichi 456-8587 Japan; ²Asahi Glass Company Limited, 1150 Hazawa, Kanagawaku, Yokohama, Kanagawa 221 Japan; ³Nagaoka University of Technology, Dept. of Chem., 1603-1 Kamitomioka, Nagaoka, Niigata 940-2188 Japan

9:25 AM +

Kinetic Effect of Moisture on Production of Ceramics: *Yutaka Saito*¹; Nozomu Uchida¹; Keizo Uematsu¹; ¹Nagaoka University of Technology, Chem. Dept., Kamitomioka 1603-1, Nagaoka, Niigata 940-2188 Japan

9:50 AM

Aluminum Oxide Produced by an Oxy-Chlorination Process: *Ana Ester Bohe*¹; Fabiola Alvarez²; Daniel Miguel Pasquevich³; ¹Consejo Nacional de Investigaciones Científicas y Técnicas, Unidad Complejo Tecnológico Pilcaniyeu CNEA, Av. Bustillo 9500, San Carlos de Bariloche, Rio Negro 8400 Argentine; ²Comisión Nacional de Energía Atómica, Unidad Tecnológica Plicaniyeu, Av. Bustillo 9500, San Carlos de Bariloche, Rio Negro 8400 Argentine; ³Comisión Nacional de Energía Atómica, Unidad Complejo Tecnológico Pilcaniyeu, Av. Bustillo 8400, San Carlos de Bariloche, Rio Negro 8400 Argentine

10:15 AM Break

10:30 AM +

Influence of Slurry pH on the Compaction Pressing of Alumina Ceramics: *Midori Saito*¹; Nozomu Uchida¹; Keizo Uematsu¹; ¹Nagaoka University of Technology, Chem. Dept., Kamitomioka 1603-1, Nagaoka, Niigata 940-2188 Japan

10:55 AM

Modeling Grain Size During Hot Working of IN 718: *Steve C. Medeiros*¹; Y.V.R.K. Prasad¹; William G. Frazier¹; Raghavan Srinivasan²; ¹Air Force Research Laboratory, Matls. Process. Des. Brnch., 2977 P St., Bldg. 653 Rm. 205, Wright-Patterson AFB, OH 45433-7746 USA; ²Wright State University, Mech. and Mats. Eng., Dayton, OH 45435 U.S.A

11:20 AM

Study on the Corrosion Mechanism of Al₂O₃-C-ZrO₂ Refractory in the Melts of Smelting Reduction with Iron Bath: *Qingcai Liu*¹; Dengfu Chen²; Jing Lin³; ¹University of California and Chongqing University, PRC, Dept. of Mech. and Aero. Eng., 9500 Gilman Dr., La Jolla, CA 92093-0411 USA; ²Chongqing University, Sch. of Matls. Eng., Chongqing 400044 PRC; ³Chongqing Jianzhu University, Dept. of Appl. Sci., Chongqing 400045 PRC

11:45 AM

Synthesis of Highly Oriented Zr(Y)O₂ Films by Sol-Gel Method: *Hiroshi Yamamura*¹; Noritaka Horii¹; Katsuyoshi Kakinuma¹; ¹Kanagawa University, Faculty of Eng./Dept. of Appl. Chem., 3-27-1 Rokkakubashi, Yokohama, Kanagawa-kenn 221-8686 Japan

Thin Films and Coatings - I

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: DaVinci 1
Location: Renaissance

Session Chairs: S. Govindarajan, Motorola, Inc.; Osamu Takai, Nagoya University, Dept. of Matls. Process. Eng.

8:30 AM Keynote

Advanced Processing for the Creation of Functional Thin Films Using Laser Ablation: *Tomoji Kawai*¹; ¹Osaka University, ISIR-Sanken, 8-1 Mihogaoka, Ibaraki 567-0047 Japan

9:00 AM

Mesoporous Silica Coatings Through Triblock-Copolymer Templated Processing: *Jose M. Gomez-Vega*¹; Atsushi Hozumi²; Hiroyuki Sugimura¹; *Osamu Takai*¹; ¹Nagoya University, Dept. of Matls. Process. Eng., Grad. Sch. of Eng., Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8603 Japan; ²National Industrial Research Institute of Nagoya, 1-1 Hirate-cho Chikusa-ku, Nagoya, Aichi 462-8510 Japan

9:25 AM

Friction and Wear Performance of Unbalanced Magnetron Sputter-Deposited Diamond-Like Carbon Multilayer Coatings: *Eiji Iwamura*¹; ¹Kobe Steel Limited, Matls. Rsch. Lab., 1-5-5 Takatsukadai Nishi-ku, Kobe, Hyogo-ken 651-2271 Japan

9:50 AM

Preparation of YSZ Thin Films by RF Plasma-Enhanced Metal Organic Chemical Vapor Deposition: *Takashi Nishimura*¹; Takamichi Ichikawa¹; Nagahiro Saito¹; Akio Fuwa¹; ¹Waseda University, Dept. of Matl. Sci. and Eng., 3-4-1 Okubo, Tokyo 169-0027 Japan

10:15 AM Break

10:30 AM

Study on Corrosion Resistance of Electrodeposited RE-Ni-W-P-SiC Composite Coating: *Guo Zhongcheng*¹; Yang Xianwan¹; ¹Kunming University of Technology and Science, Dept. of Metall., Kunming, Yunnan 650093 China

10:55 AM

The Effects of Entrapped Grit on the Thermomechanical Fatigue Properties of a Pt-Al Superalloy Coating: *A. L. Purvis*¹; B. M. Warnes¹; ¹Howmet Specialty Products, Thermatech Coat., 555 Benston Rd., Whitehall, MI 49461-1899 USA

11:20 AM

Effect of Gas Flow on Ion Carburizing of Steel: Naotatsu Asahi²; Hirotsugu Takeuchi³; Yoshiyuki Hunaki³; Khoo Khyou Pin¹; Ryichi Urao¹; ¹Ibaraki University, Sch. of Eng., 4-12-1, Nakanarusawa, Hitachi, Ibaraki 316-0033 Japan; ²Aida Engineering Company, Simomarusawa, Sagamihara, Kanagawa 229-1134 Japan; ³Nihon Denshi Kogyo Company, Miyashita, Sagamihara, Kanagawa 229-1112 Japan

11:45 AM

Study on Microstructure of Electrodeposited RE-Ni-W-P-SiC Composite Coating: *Guo Zhongcheng*¹; Zhu Xiaoyun¹; Zhai Dacheng¹; Yang Xianwan¹; ¹Kunming University of Science and Technology, Dept. of Metall., Kunming, Yunnan 650093 China

Electrolytic Processing - I

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: Michaelangelo
Location: Renaissance

Session Chairs: Georges Kipouros, Dalhousie University, Dept. of Min. and Metall. Eng., Halifax, Nova Scotia B3J 2X4 Canada; Masazumi Okido, Nagoya University, Dept. of Matls. Sci. & Eng.

8:30 AM Keynote

Electrochemical Implantation to Form Functional Films in Molten Salt Systems: *Yasuhiko Ito*¹; ¹Kyoto University, Dept. of Fund. Energy Sci., Grad. Sch. of Energy Sci., Sakyo-ku, Kyoto 606-8501 Japan

9:00 AM

Superplasticity in Electro-Deposited Nickel: *S. X. McFadden*¹; R. S. Mishra¹; A. K. Mukherjee¹; ¹University of California, Dept. of Chem. Eng. and Matls. Sci., One Shields Ave., Davis, CA 95616 USA

9:25 AM

Electrodeposition Behavior of Zn-Cr Alloys from Methanol Baths: *Tetsuya Akiyama*¹; Shigeo Kobayashi¹; Toshiaki Tsuru¹; Takeshi Ohgai²; Hisaaki Fukushima²; ¹Kyushu Sangyo University, Fac. of Eng., Dept. of Indust. Chem., 2-3-1 Matsukadai, Higashi-ku, Fukuoka 813-8503 Japan; ²Kyushu University, Fac. of Eng., Dept. of Matls. Sci. and Eng., 6-10-1 Hokozaiki, Higashi-ku, Fukuoka 812-8581 Japan

9:50 AM

Recovery of Molybdenum and Rhenium from Sulfide Concentrate by Electro-Oxidation and Precipitation: Tsembe Darjaa¹; Toru H. Okabe²; *Yoshiaki Umetsu*²; ¹Tohoku University, Grad. Sch. of Eng., 2-1-1 Katahira Aoba-ku, Sendai, Miyagi 980-8577 Japan; ²Tohoku University, Instit. for Adv. Matls. Process., 2-1-1 Katahira Aoba-ku, Sendai, Miyagi 980-8577 Japan

10:15 AM Break

10:30 AM

Experimental Study of High Current Density Electrolysis at Tamano Refinery: *Kenji Haiki*¹; ¹Hibi Kyodo Smelting Company Limited, Tamano Smelt. and Refine., 6-1-1, Hibi, Tamano City, Okayama Pref 706-8511 Japan

10:55 AM

High Throughput of Cathode Copper by New Anode Body Press Machine at Onahama No. 1, 2 Tankhouse: *Koji Iwami*¹; Kiyotaka Abe¹; ¹Onahama Smelting and Refining Company Limited, Onahama Div., 1-1 Nagisa, Onahama, Iwaki, Fukushima 971-8101 Japan

11:20 AM

Anomalous Codeposition Behavior of Fe-Ni and Zn-Ni Alloys from Methanol Baths: *Shunsuke Kawano*¹; Takeshi Ohgai¹; Shigeo Kobayashi²; Hiroaki Nakano¹; Toshiaki Tsuru²; Tetsuya Akiyama²; Hisaaki Fukushima¹; ¹Kyushu University, Fac. of Eng., Dept. of Matls. Sci. and Eng., 6-10-1 Hakozaki, Higashi-Ku, Fukuoka 812-8581 Japan; ²Kyushu Sangyo University, Fac. of Eng., 2-3-1 Matsukadai, Higashi-ku, Fukuoka 813-8503 Japan

11:45 AM

Effect of Electrolytic Conditions on the Crystal Orientation of Electrodeposited Zinc: *Masao Kurosaki*¹; Norimasa Yamasaki¹; ¹Nippon Steel Corporation, Steel Rsch. Labs., 20-1 Shintomi, Futtsu-city, Chiba 293-8511 Japan

Aqueous Processing - I

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: Parc Ballroom III
Location: Renaissance

Session Chairs: Renato G. Bautista, University of Nevada-Reno; Yasuhiro Awakura, Kyoto University, Dept. of Matls. Sci. and Eng.

8:30 AM Keynote

Aqueous Processing of Materials—Where Is Our Expertise Taking Us?: *Fiona M. Doyle*¹; ¹University of California, Dept. of Matls. Sci. and Eng., 551 Evans Hall, #1760, Berkeley, CA 94720-1760 USA

9:00 AM

Direct Fabrication of LiCoO₂ Films on Papers by Electrodeposition: *Takeshi Fujiwara*¹; Yoshinori Nakagawa¹; Seung-Wan Song¹; Tomoaki Watanabe¹; Ryo Teranishi¹; Masahiro Yoshimura¹; ¹Tokyo Institute of Technology, Matls. and Struct. Lab., Ctr. for Matls. Des., 4259 Nagatsuda, Midori, Yokohama, Kanagawa 226-8503 Japan

9:25 AM

Chemical Corrosion Resistance Coating on Aluminum Substrates by the Sol-Gel Process: Shinji Hirai¹; *Kazuyoshi Shimakage*¹; Kenji Wada²; ¹Muroran Institute of Technology, Dept. of Matls. Sci. and Eng., 27-1 Mizumoto-cho, Muroran-shi, Hokkaido 050-8585 Japan; ²National Institute for Research in Inorganic Materials, Tsukuba, Japan

9:50 AM

Hydrothermal Corrosion of TiN, TiAlN and CrN Films on SUS-304 in 100 MPa Water: *Sergiy Korablov*¹; Masahiro Yoshimura¹; ¹Tokyo Institute of Technology, Matls. and Struct. Lab., Ctr for Matls. Des., 4259 Nagatsuda, Midori, Yokohama, Kanagawa 226-8503 Japan

10:15 AM Break

10:30 AM

Precipitation Stripping of Samarium Oxalate Particles: *Yasuhiro Fukunaka*¹; Toshihiro Kuzuya¹; Masakazu Niinae¹; Eishi Kusaka¹;

Ryuuji Ishii¹; ¹Kyoto University, Dept. of Energy Sci. and Tech., Kyoto 606-8501 Japan

10:55 AM

Production of Synthetic Rutile from Egyptian Ilmenite Ore by a Direct Hydrometallurgical Process: *I. A. Ibrahim*¹; E. A. Abdel-Aal¹; A. A. Ismail¹; A. K. Ismail¹; ¹Central Metallurgical R&D Institute, P.O. Box 87, Cairo, Helwan, Egypt

11:20 AM +

Room-Temperature Direct Patterning of Crystalline Inorganic Materials on Organic Substrates by On-Site Solution Reaction: *Ryo Teranishi*¹; Takeshi Fujiwara¹; Tomoaki Watanabe¹; Masahiro Yoshimura¹; ¹Tokyo Institute of Technology, Matls. and Struct. Lab., 4259 Nagatsuda Midori, Yokohama 226-8503 Japan

11:45 AM

The Extraction and Separation of Nickel, Cobalt and Copper Using Solvent Impregnated Resin Absorbed LIX84-I: *Masayasu Kawahara*¹; ¹Kumamoto University, Mech. Eng. and Matls. Sci., 2-39-1 Kurokami, Kumamoto 860-8555 Japan

Composite Materials - II

Tuesday AM
November 7, 2000
Parc 55 Hotel

Room: DaVinci 2&3
Location: Renaissance

Session Chairs: Dennis R. Readey, Colorado School of Mines; Hideharu Fukunaga, Hiroshima University, Dept. of Mech. Eng.

8:30 AM Keynote

Synthesis of Advanced Composite Oxides Thin Film by the Liquid Phase Deposition Method from Aqueous Solution: *Shigehito Deki*¹; ¹Kobe University, Depts. of Chem. Sci. and Eng., Rokko-dai-cho, Nada-ku, Kobe, Hyogo Pref. 657-8501 Japan

9:00 AM

Wear Resistance of Metal Matrix Composites: *Tadeusz Hejwowski*¹; ¹Technical University of Lublin, Fac. of Mech. Eng., 36 Nadbystrzycka 36 St., Lublin 20-618 Poland

9:25 AM

Production and Assessment of TiC Reinforced Al-Fe-V-Si Alloy: *Ali Kalkanli*¹; ¹Middle East Technical University, Metall. and Matls. Eng. Depts., Inonu, Ankara, Bulvari 06531 Turkey

9:50 AM

New Process for the Fabrication of Cast Al Alloy Matrix Composites: *Toshiaki Kimura*¹; Hideki Yamaura¹; Hideo Nakae²; ¹Hitachi Metals, Cast. Tech. Rsch. Lab., 11 Kinugaoka, Moka, Tochigi-ken 321-4367 Japan; ²Waseda University, Dept. of Matls. Sci. and Eng., 3-4-1 Okubo, Shinjyuku, Tokyo 169-8555 Japan

10:15 AM Break

10:30 AM

A Study on the Mechanical Behavior of ZA-27 Alloy/Quartz Particulate Composites: *P. V. Krupakara*¹; ¹R.V. College of Engineering, Dept. of Chem., Bangalore, Karnataka 560059 India

10:55 AM

Corrosion Studies of Hematite Reinforced Aluminium-6061 MMC's at Elevated Temperatures: *S. C. Sharma*¹; N. Shanmukha¹; M. Krishna²; ¹R.V. College of Engineering, Dept. of Mech. Eng., Rsch. and Dev., Bangalore 560059 India

11:20 AM

A Case Study on Corrosion Properties of Garnet Particles Reinforced Aluminium Composites: *V. T. Vijayalakshmi*¹; Jayagopal Uchil²; B. M. Girish³; K. H. Thipperudrappa³; ¹NMKRV College for Women, Dept. of Chem., Jayanagar, Bangalore, Karnataka 560-011 India; ²Mangalore University, Dept. of Matl. Sci., Mangalore, India; ³RV College of Engineering, Rsch. and Dev., Mech. Eng. Dept., Bangalore 560059 India

Powder Preparation and Processing - I

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: Dante
Location: Renaissance

Session Chairs: Janice Klansky, Buehler, Inc.; Fumio Saito, Tohoku University, Instit. for Adv. Matls. Process.

2:00 PM Keynote

Morphology Control in Particle Preparation by Aerosol Method: *Kikuo Okuyama*¹; ¹Hiroshima University, Dept. of Chem. Eng., Higashi, Hiroshima 739-8527 Japan

2:30 PM

Combined MA and CCS in the TiH₂-B System: *Sedat Ozbilen*¹; Abdulkadir Gullu²; ¹Gazi University, Metall. Edu. Dept., Fac. of Tech., Teknikokullar, Ankara, Turkey; ²Gazi University, Mech. Edu. Dept., Fac. of Tech. Edu., Teknikokullar, Ankara, Turkey

2:55 PM

Structural and Mechanical Behavior of Boron Modified Low-Carbon PM Superalloys: *K. K. Sharma*¹; N. Chary¹; R. K. Sood¹; ¹Defense Metallurgical Research Laboratory, Hyderabad, A.P. 500058 India

3:20 PM

A New Technology for Production of Two Component Composite Powders with Solvent Extraction-Crystallization Strip-ping: *Junji Shibata*¹; Shigeno Matsumoto¹; Hideki Yamamoto¹; ¹Kansai University, Fac. of Eng., Dept. of Chem. Eng., 3-3-35, Yamate, Suita, Osaka 564-8680 Japan

3:45 PM Break

4:00 PM

Study of Quench Gas Injection for In-Flight Nitridation of Molybdenum Disilicide Powders in an Induction Plasma: *Gervais Soucy*¹; Mohamed Rahmane²; Xiaobao Fan³; Takamasa Ishigaki⁴; ¹University of Sherbrooke, Plasma Tech. Rsch. Ctr., Sherbrooke, Quebec J1K2R1 Canada; ²Universite Hassan II, Phys. Dept., Fac. Sci. and Tech., Mohammadia 20650 Maroc; ³Nanomaterials Research Corporation, 2620 Trade Ctr. Ave., Longmont, CO 80503 USA; ⁴National Institute for Research in

Inorganic Materials, 1-1 Namiki, Tsukuba-shi, Ibaraki 305-0044 Japan

4:25 PM

Low-Temperature Processing of Ba-Doped Lead Zinc Niobate Powder with Chemical Solution Deposition: *Hisao Suzuki*¹; Toshitaka Ota²; Minoru Takahashi²; ¹Shizuoka University, Dept. of Matls. Sci., 3-5-1 Johoku, Hamamatsu, Shizuoka 432-8561 Japan; ²Nagoya Institute of Technology, Cer. Rsch. Lab., 10-6-29 Asahigaoka, Tajimi, Gifu 507 Japan

4:50 PM

Production of Fine Powder of Tantalum by Reduction of Tantalum Chloride Vapor with Hydrogen: *Hitoshi Iijima*²; Kenichi Otsuka³; Fumitaka Tsukihashi¹; ¹The University of Tokyo, Dept. of Adv. Matls. Sci., Grad. Sch. of Front. Sci., 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033 Japan; ²Showa Cabot Supermetals K.K., New Prod. Rsch. Off.; ³Kawasaki Steel Techno-Research Company

Control & Analysis in Materials Processing - II

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: Rubens
Location: Renaissance

Session Chairs: Hani Henein, University of Alberta; Shiya Otsuka-Yao-Matsuo, Osaka University, Dept. of Matls. Sci. and Process.

2:00 PM Keynote

Hydrogen Sensor for Molten Metals and its Application to Materials Processing: *Norihiko Fukatsu*¹; Noriaki Kurita¹; Teruo Ohashi¹; ¹Nagoya Institute of Technology, Dept. Matls. Sci. and Eng., Gokiso-cho, Showa-ku, Nagoya 466-8555 Japan

2:30 PM

Software Sensors for Real Time Optimization of Incoherent Materials Exploitation and Processing: *Giuseppe Bonifazi*¹; Floriana La Marca¹; Paolo Massacci¹; ¹Universita Di Roma, Dept. di Ing. Chim. Matl. Mat. Metall., Via Eudossiana 18, Roma 00184 Italy

2:55 PM +

Numerical Analysis of Influences of Operational Parameters on Fluid Flow and Heat Transfer in Funnel Type Mold of Thin Slab Caster: Hwa-Soo Park²; Jong-Kyu Yoon¹; *Hoseok Nam*¹; ¹Seoul National University, Sch. of Matls. Sci. and Eng., San 56-1 Shinrim-2, Dong Kwanak-ku, Seoul 151-742 Korea; ²Kookmin University, Sch. of Metallu. and Matls. Eng., 861-1 Chongnung-dong, Songbuk-gu, Seoul 136-702 Korea

3:20 PM

Development of Bonded Sm-Fe-N Magnet Using Reduction and Diffusion Method: *Kenji Ohmori*¹; Atsushi Kawamoto¹; Shoichi Yoshizawa¹; Takashi Ishikawa¹; Kaname Takeya¹; ¹Sumitomo Metal Mining Company Limited, 3-18-5, Nakakokubun, Ichikawa, Chiba 272-8588 Japan

3:45 PM Break

4:00 PM

Development of an Automatic Short-Circuit Detector at Hitachi Refinery: *Hidenori Okamoto*¹; ¹Nippon Mining and Metals, Hitachi Refinery, 1-1-2 Sirogane-Cho, Hitachi-Shi, Ibaraki-Ken 317-0056 Japan

4:25 PM

Determination of Trace Arsenic(III), Arsenic(V), Antimony(III), Antimony(V) in Drain by ICP Equipped with Hydridegeneration System: *Hiroshi Ono*¹; ¹Mitsui Mining and Smelting Company Limited, Corp. R&D Ctr., 1333-2 Haraichi Ageo, Ageo, Saitama 362-0021 Japan

4:50 PM

Electrochemical Studies of ZA-27/Flyash Particulate Composites in Acidic Medium: *M. S. Koti*¹; *S. C. Sharma*¹; ¹R.V. College of Engineering, Dept. of Mech. Eng., Bangalore, Karnataka 560059 India

Non-ferrous Alloys & Light Metals - II

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: Cervantes
Location: Renaissance

Session Chairs: Mark P. Taylor, Comalco Aluminum; Yasuhiro Miura, Kyushu University, Dept. of Matls. Sci. and Eng.

2:00 PM Keynote

Effect of Processing on Mechanical Anisotropy and Formability of Textured Zircaloy Sheet: *K. Linga Murty*¹; *Susan A. Lloyd*¹; ¹North Carolina State University, Nuc. Eng. Dept., P.O. Box 7909, Raleigh, NC 27695-7909 USA

2:30 PM

The Effect of Sc on the Microstructure of Al Alloys: *Tadashi Aiura*²; *Yasuhiro Miura*¹; ¹Kyushu University, Dept. of Matl. Sci. and Eng., Hakozaki 6-10-1, Higashi-ku, Fukuoka 812-8581 Japan; ²Kobe Steel Limited, Chofu Plant, Shimonoseki 752-0953 Japan

2:55 PM

Mechanical Properties of Heavily Deformed Copper Alloy: *Koichi Miyake*¹; *Dierk Raabe*²; *Hidefusa Takahara*¹; ¹Mitsui Mining and Smelting Company Limited, Corp. R&D Ctr., Haraichi 1333-2, Ageo, Saitama 362-0021 Japan; ²Carnegie Mellon University, Dept. of Matls. Sci. and Eng., Pittsburgh, PA 15213 USA

3:20 PM

A Review of Processing for Metallic Foams and A Basic Study on Bubble Foaming in Liquids: *Takashi Nakamura*¹; *Svyatoslav Vitalievich Gnyloskukurenko*¹; *Yoshio Waseda*¹; ¹Tohoku University, Instit. of Adv. Matls. Process., Rsch. Ctr. for Metall. Process. Eng., 1-1 Katahira 2chome, Aoba-ku, Sendai 980-8577 Japan

3:45 PM Break

4:00 PM

Wettability of Tin-Bismuth-Silver Solders: *Teruo Tanabe*¹; ¹Kyoto University, Matls. Sci. and Eng., Yoshida Honmachi, Kyoto 606-8501 Japan

4:25 PM

Oxidation Behavior of Molten Cu-Be Alloys: *Mitsuru Tanahashi*¹; *Jutaro Miura*¹; *Takaharu Iwadachi*²; *Hiroyuki Sano*³; *Toshiharu Fujisawa*³; *Chikabumi Yamauchi*¹; ¹Nagoya University, Dept. of Matls. Sci. and Eng., Furo-cho Chikusa-ku, Nagoya, Aichi 464-8603 Japan; ²NGK Insulators Limited, New Mets. Div., 1 Maegata-cho, Handa, Aichi 475-0825 Japan; ³Nagoya University, Rsch. Ctr. for Adv. Waste and Emiss. Mgmt., Furo-cho Chikusa-ku, Nagoya, Aichi 464-8603 Japan

4:50 PM

Research, Technical and Economical Analysis of the Thermal Methods of Production Alumina (Al₂O₃), Technical Aluminum and Its Alloys at the High Temperature Shaft-Furnace: *Shelkov E.M. Ivtan*¹; *Volovik A.V. Ivtan*¹; ¹Samotechny 18, Appartm. 61, Moscow 103473 Russia

Composite Materials - III

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: DaVinci 2&3
Location: Renaissance

Session Chairs: Ivar Reimanis, Colorado School of Mines; Keisaku Ogi, Kyusyu University, Dept. of Matls. Proc. Eng.

2:00 PM Keynote

New Processing of Whisker Reinforced Metal Matrix Composites: *Hideharu Fukunaga*¹; ¹Hiroshima University, Dept. of Mech. Eng., Kagamiyama, Higashi, Hiroshima 739-8527 Japan

2:30 PM

Fabrication of Al Matrix Composite by Reactive Infiltration Process: *Makoto Kobashi*¹; *Naoyuki Kanetake*¹; *Takao Choh*¹; ¹Nagoya University, Matls. Process. Eng. Dept., Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8603 Japan

2:55 PM +

Control of Ag Distribution in YBCO/Ag Composites: *Takashi Kuroki*¹; *Kazuhiro Nishizono*²; *Nobuyuki Mori*³; *Keisaku Ogi*¹; ¹Kyushu University, Dept. of Matls. Process. Eng., 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581 Japan; ²Kyushu University, Dept. of Matls. Process. Eng., 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581 Japan; ³Kyushu University, Depts. of Phys. and Chem., 6-10-1 Hakozaki, Higashi-ku, Fukuoka 812-8581 Japan

3:20 PM

Pressureless Infiltration into Performed SiC_p by Al-Si Alloys: *Hideo Nakae*¹; *Hideki Yamaura*²; *Takashi Miyamoto*³; *Takeshi Yanagihara*⁴; ¹Waseda University, Dept. of Matls. Sci. and Eng., 3-4-1 Ohkubo, Shinjuku, Tokyo 169-8555 Japan; ²Hitachi Metals Limited, Cast. Tech. Rsch. Lab., Tochigi, Japan; ³Waseda University, Dept. of Matls. Sci. and Eng., Student, 3-4-1 Ohkubo, Shinjuku, Tokyo 169-8555 Japan; ⁴Waseda University, Dept. of Matls. Sci. and Eng., Grad. Stud., 3-4-1 Ohkubo, Shinjuku, Tokyo 169-8555 Japan

3:45 PM Break

4:00 PM

Thermal Expansion Behavior of Aluminum-Matrix Composites Processed by Solid- and Liquid-State Routes: *Horacio Elio Nassini¹*; Mario Moreno¹; Carlos González Oliver²; ¹Comisión Nacional de Energía Atómica, Unidad Tecnológica Pilcaniyeu, Avda. Bustillo 9500, San Carlos de Bariloche, Río Negro 8400 Argentina; ²Consejo Nacional de Investigaciones Científicas y Técnicas, Unidad Tecnológica Pilcaniyeu, Avda. Bustillo 9500, San Carlos de Bariloche, Río Negro 8400 Argentina

4:25 PM

Mechanical Alloying of Ti-Based MMC Alloys by the ZOZ Attritor: *Sedat Ozbilen¹*; Cemil Cetinkaya¹; ¹Gazi University, Metall. Edu. Dept., Fac. of Tech. Edu., Teknikokullar, Ankara, Turkey

4:50 PM

Fabrication of the Alumina Short Fiber Reinforced High Chromium Cast Irons by an Infiltration Process: *Michiru Sakamoto¹*; *Hua-Nan Liu¹*; Mikio Nomura²; *Keisaku Ogi³*; ¹Kyushu National Industrial Research Institute, Matls. Eng. Dept., Shuku, Tosu, Saga Prefecture 841-0052 Japan; ²Isobe Iron Works Company Limited, Higashi-Minato, Kokura-Kita, Kitakyushu, Fukuoka Prefecture 803-0802 Japan; ³Kyushu University, Dept. of Matls. Sci. and Eng., Hakozaki, Fukuoka, Fukuoka Prefecture 812-0053 Japan

Thin Films & Coatings - II

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: DaVinci 1
Location: Renaissance

Session Chairs: John J. Moore, Colorado School of Mines; Hiroyuki Sugimura, Nagoya University, Dept. of Matls. Proc. Eng.

2:00 PM Keynote

Development of a Novel Ni Coating Technique of Ni(OH)₂ Powder for Ni-MH Batteries: *Koji Hoshino¹*; Takahiro Uno¹; Kazusuke Sato¹; ¹Mitsubishi Materials Company, Cntl. Rsch. Instit., 1-297 Kitabukuro-cho, Omiya, Saitama 330-8508 Japan

2:30 PM

Thermal Fatigue Resistance of a Multilayer Thermal Barrier Coating: *Tadeusz Hejwowski¹*; Andrzej Weronki¹; ¹Technical University of Lublin, Fac. of Mech. Eng., 36 Nadbystrzycka 36 St., Lublin 20-618 Poland

2:55 PM

Mechanical Properties of Reactively Sputtered (Ta,Si)_N Hard Coating: *S. K. Hwang¹*; J. W. Nah¹; W. S. Choi¹; C. M. Lee¹; ¹Inha University, Dept. of Metall. Eng., 253 Yonghyun-Don, Nam-Gu, Incheon 402-751 Korea

3:20 PM

Surface Reactions in Low-Temperature Plasma Deposition of Silicon-Oxide Films: *Yasushi Inoue¹*; J. Iwai¹; H. Sugiyama¹; O. Takai¹; ¹Nagoya University, Matls. Process. Eng. Dept., Furo-cho,

Chikusa-ku, Nagoya, Aichi 464-8603 Japan

3:45 PM Break

4:00 PM

Behavior of Cu-In-Te Electrodeposition from Acid Solution: *Takahiro Ishizaki¹*; Naghiro Saito¹; Daisuke Yata¹; Akio Fuwa¹; ¹Waseda University, Depts. of Matls. Sci. and Eng., Okubo 3-4-1, Shinjuku-ku, Tokyo 169-0072 Japan

4:25 PM

Temperature Programmed Photoelectron Emission Analysis of Copper Surfaces Subjected to Cleaning and Abrasion in Organic Liquids: *Yoshihiro Momose¹*; Suguru Kohno¹; Masakazu Honma¹; Tokirou Kamosawa¹; ¹Ibaraki University, Dept. of Matls. Sci., 4-12-1 Nakanarusawa, Hitachi, Ibaraki 316-8511 Japan

4:50 PM

Formation of Al-Cr-N Films by a DC Reactive Sputtering Method and Evaluation of Their Properties: Yukio Ide²; *Takashi Nakamura¹*; Katsuhiko Kishitake³; ¹Tohoku University, Instit. of Adv. Matls. Process., Rsch. Ctr. for Metall. Process. Eng., 1-1 Katahira 2chome, Aoba-ku, Sendai 980-8577 Japan; ²Yamaguchi Prefectural Industrial Technology Institute, Matl. Eng. Dept., 4-1-1 Asutopia, Ube 755-0151 Japan; ³Kyusyu Institute of Technology, Dept. of Matls. Sci. and Eng., 1-1 Sensui-cho, Tobata-ku, Kitakyusyu 804-8550 Japan

Solidification Processing - I

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: Raphael
Location: Renaissance

Session Chairs: Ben Q. Li, University of Washington, Pullman, WA USA; Hisao Esaka, National Defense Academy, Dept. of Matls. Sci. And Eng.

2:00 PM Keynote

Modeling Micro Scale Phenomena for Application in Solidification Process Simulations: *Vaughan R. Voller¹*; ¹University of Minnesota, Civil Eng. Dept., 500 Pillsbury Dr. SE, Minneapolis, MN 55455 USA

2:30 PM

Microstructure and High Temperature Phase Studies of Rapidly Solidified Al-Fe-V-Si Alloy: *Suat Kemal Angi¹*; Ali Kalkan¹; ¹Middle East Technical University, Metallu. and Matls. Dept., Inonu Bulvan, Ankara 06531 Turkey

2:55 PM

Influence of Gravity on Monotectic and Eutectic Growth: *Ichiro Aoi¹*; Makoto Yoshida²; Makoto Ishino¹; Hideo Nakae¹; ¹Waseda University, Dept. of Matl. Sci. and Eng., 3-4-1 Okubo, Shinjuku-ku, Tokyo 169-8555 Japan; ²Hiroshima University, Fac. of Eng., 1-4-1 Kagamiyama, Higashihiroshima, Hiroshima 739-8527 Japan

3:20 PM

Growth Direction of Cellular and Dendritic Interface: *H. Esaka¹*; H. Daimon¹; K. Fujita¹; K. Shinozuka¹; M. Tamura¹; ¹National

Defense Academy, 1-10-20 Hashirimizu, Yokosuka 239-8686 Japan

3:45 PM Break

4:00 PM

Material Properties Improvement of Cast A206 Using Vacuum Assisted Counter Gravity Casting Process: *Scott R. Giese*¹; Lucas Dix²; ¹University of Northern Iowa, Met. Cast. Ctr., 4318 Cherrywood Dr., Cedar Falls, IA 50613 USA; ²University of Northern Iowa, Indus. Tech. Dept., Cedar Falls, IA 50614-0178 USA

4:25 PM

Semi-Solid Processing of Hyper-Eutectic Cast Iron: *Masaru Imaizumi*¹; Hiroyuki Nomura²; Mitsuharu Takita²; ¹Nagoya University, Dept. of Matls. Process. Eng., Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan; ²Nagoya University, Dept. Matls. Process. Eng., Schl. of Eng., Furo-cho, Chikusa-ku, Nagoya 464-8603 Japan

4:50 PM

The Influence of Thermophysical Properties on the Calculation Accuracy of Solidification Thermokinetics: *Frantisek Kavicka*¹; Josef Stetina¹; Jay M. Khodadadi²; ¹Technical University of Brno, Mech. Eng. Dept., Brno, Technicka 2 616 69 Czech Republic; ²Auburn University, Dept. of Mech. Eng., 201 Ross Hall, Auburn, AL 36849-5341 USA

PRC; ²Northeastern University, Dept. of Min. Dress., Shenyang, Liaoning 110006 PRC

3:45 PM Break

4:00 PM

Soil Washing Using Mineral Processing Plant in Hanaoka Mine: *Toru Nishiyama*¹; ¹Dowa Mining Company Limited, Soil Remediation Business Unit, 1-8-2, Marunouchi, Chiyoda-ku, Tokyo 100-8282 Japan

4:25 PM

Chemical Improvement of Coal Burnt Ash and Slag for Reutilizing as Acid Gas Absorbents: Yuuji Saito¹; Hiroki Awata¹; Daisuke Hirabayashi¹; Hitoki Matsuda¹; Yoshimi Goto²; Tetushi Iwashita²; *Shoji Ozawa*¹; ¹Nagoya University, Rsch. Ctr. for Adv. Waste and Emission Mgmt., Furo-cho, Chikusa-ku, Nagoya, Pref.Aichi 464-8603 Japan; ²Yabashi Industry Company Limited, Dev. Div., Ohkubo 4278-1, Akasaka-cho, Ohgaki, Pref.Gifu 503-2213 Japan

4:50 PM

A Novel Technique to Recovery Value-Nonferrous Metal Compounds from Metallurgical Slags: *Zhitong T. Sui*¹; Taiping Lou¹; Yuhai Li¹; Nianxin Fu¹; Guangqiang Li¹; Zhida Sui¹; ¹Northeastern University, Sch. of Matls. and Metall., P.O. Box 119, Shenyang, Liaoning 110006 PRC

Waste Management - II

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: Michaelangelo
Location: Renaissance

Session Chairs: Robert Stephens, Cominco; Itaru Jimbo, Tokai University, Dept. of Metall. Eng.

2:00 PM Keynote

Application of Thermal Plasma Technology in the Treatment of Waste: *Patrick R. Taylor*¹; ¹University of Idaho, Plasma Process. Lab., P.O. Box 443024, Moscow, ID 83844-3024 USA

2:30 PM

The Use of Washability Curves to Predict Critical Glass Fragments (Cullets) Size Classes Recovery According to Their Detected Optical-Digital Properties: *Giuseppe Bonifazi*¹; Paolo Massacci¹; ¹Universita Di Roma, Dept. di Ing. Chim., Matl., delle Mat. Prime e Metall., Via Eudossiana 18, Roma 00184 Italy

2:55 PM

Sulfur Recovery from the Leached Residue Produced by the Direct Leaching of Zinc Concentrate: *Toyohisa Fujita*¹; K. Koike¹; H. Masuda²; ¹Akita University, Fac. of Eng. and Resource Sci., 1-1 Tegata Gakuencho, Akita 010-8502 Japan; ²Akita Zinc Company Limited, Iijima Refinery, Akita 011-0911 Japan

3:20 PM +

The Separating of Perovskite from Treated BF-Slag: Junwei Ma¹; *Zhitong Sui*¹; Bingchen Chen²; ¹Northeastern University, Sch. of Matls. and Metall., P.O. Box 119, Shenyang, Liaoning 110006

Iron & Steelmaking - II

Tuesday PM
November 7, 2000
Parc 55 Hotel

Room: Parc Ballroom III
Location: Renaissance

Session Chairs: Gordon Irons, McMaster University, Canada; Masahiro Kawakami, Toyohashi University of Technology, Dept. of Prod. Sys. Eng.

2:00 PM Keynote

Out Look of Innovative Refining Process in the 21st Century: *Katsukiyo Marukawa*¹; ¹Osaka University, Sumitomo Met. Ind. Ltd., Japan

2:30 PM

Analysis of Mixed Grade Transition in Continuous Thin Slab Casting with EMBR: *Jae-Hwan Ahn*¹; Jong-Kyu Yoon¹; Jung-Eui Lee²; ¹Seoul National University, Sch. of Matls. Sci. and Eng., San 56-1Shinrim-2 Dong, Kwanak-ku, Seoul 151-742 Korea; ²POSCO, Kwangyang Iron and Steel. Rsch. Grp., Tech. Rsch. Labs., Kwangyang 545-711 Korea

2:55 PM

Hot-Dip Galvanizing Features of Various Grades of Spheroidal Graphite Cast Iron: *Annelize Els-Botes*¹; Danie Hattingh¹; ¹Port Elizabeth Technikon, Fac. of Mech. Eng., Private Bag X6011, Port Elizabeth 6000 South Africa

3:20 PM

Control of Mixing Phenomena between Two Liquids using Lorentz Force: *Toshiyuki Kozuka*¹; Masayasu Kawahara¹;

¹Kumamoto University, Matls. Sys. Eng., 2-39-1, Kurokami, Kumamoto 862-8555 Japan

3:45 PM Break

4:00 PM

Mathematical Modeling and Cold Model Experiment on Ultrasonic Separation of Inclusions from Molten Metal: *Mamoru Kuwabara*¹; Tomohito Taki¹; Masamichi Sano¹; ¹Nagoya University, Dept. of Matls. Process. Eng., Furo-cho Chikusa-ku, Nagoya, Aichi Prefecture 464-8603 Japan

4:25 PM

Deoxidation and Desulfurization of Molten Iron with Magnesium Vapour In-Situ Produced by Carbothermic Reduction of Magnesium Oxide: *Keiji Okumura*¹; Jiayi Shan¹; Yang Jian¹; Masamichi Sano¹; ¹Nagoya University, Matls. Process. Eng. Dept., Furo-cho, Chikusa-ku, Nagoya, Aichi 464-8603 Japan

4:50 PM

A New Type of Bell-Less Top for Blast Furnaces: *Yunjin Yan*¹; Mingchun Lu²; ¹University of Science and Technology of Beijing, #912 Bldg. 37, Beijing 100083 PRC; ²Tianjin Ironmaking Group, Eng. Dept., China

Solidification Processing - II

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: Raphael
Location: Renaissance

Session Chairs: Vaughn Voller, University of Minnesota, MN USA; Hiroyuki Nomura, Nagoya University, Dept. of Matls. Process. Eng.

8:30 AM Keynote

Computer Simulation of Casting-Recent Development: *I. Ohnaka*¹; J. D. Zhu¹; T. Ohmichi¹; S. Kashiwai¹; Il. Yasuda¹; ¹Osaka University, Dept. of Adapt. Mach. Sys., Grad. Sch. of Eng., Yamadaoka 2-1, Suita-shi, Osaka 565-0871 Japan

9:00 AM

New Composite Cast Alloys Based on Copper and Technological Peculiarity of Processing: *B. A. Kyrylyevsky*¹; V. I. Dubodelov¹; V. A. Seredenko¹; H. V. Seredenko¹; V. V. Khristenko¹; ¹Physico, Tech. Instit. of Mets. and Alloys of the NAS, Kyiv, Ukraine

9:25 AM

Reactive Casting of NiAl and Simultaneous Joining to Steel: *Kiyotaka Matsuura*¹; Masayuki Kudoh¹; ¹Hokkaido University, Div. of Matls. Sci. and Eng., Kita 13 Nishi 8, Kita-ku, Sapporo, Hokkaido 060-8628 Japan

9:50 AM

Plasma-Arc Zone Refining of Silicon: *Kouji Mimura*¹; Manabu Kishida¹; Minoru Isshiki¹; ¹Tohoku University, Instit. for Adv. Matls. Process., 2-1-1 Katahira Aoba-ku, Sendai, Miyagi 980-8577 Japan

10:15 AM Break

10:30 AM

Numerical Simulation of Ostwald Ripening using the Phase-Field Model: *Machiko Ode*¹; Seong Gyoon Kim²; Won Tea Kim³; Toshio Suzuki⁴; ¹University of Tokyo, Grad. Sch., 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656 Japan; ²Kunsan National University, Dept. of Matls. Sci. and Eng., Kunsan 573-701 Korea; ³Chongju University, CNM and Dept. of Phys., Chongju 360-764 Korea; ⁴University of Tokyo, Dept. of Metall., 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656 Japan

10:55 AM

New Process and Technology-VEAT-In Directional Solidification of Eutectics: *Paul Christian Olaru*¹; ¹FAURSA, Sr. Metall. Air. Eng., B-dul Basarabia nr. 256, Sector 3, Bucuresti 73429 Romania

11:20 AM

Metal/Mould Interfacial Heat Transfer during Solidification of Cast Iron Against Cast Iron Chills: *Narayan K. Prabhu*¹; William D. Griffiths²; ¹University of Manchester and UMIST, Manchester Matls. Sci. Ctr., Grosvenor St., Manchester M1 7HS UK; ²University of Birmingham, IRC in Matls., Elms Rd., North Campus, Edgbaston, Birmingham B15 2TT UK

11:45 AM

No-Inner Core Continuous Casting of Metal Pipe: *Zhongming Ren*¹; ¹Shanghai University, Matls. Dept., 149 Yan Chang Rd., Shanghai 200072 China

Cu, Ni, Zn, Pb and Sn - II

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: Rubens
Location: Renaissance

Session Chairs: Hong Y. Sohn, University of Utah, USA; Takahiko Okura, Nikko Techno Service Co.

8:30 AM Keynote

Technological Advances for Reducing Production Costs of Commodity Metals: *Robert L. Stephens*¹; Douglas J. McKay¹; ¹Cominco Research, P.O. Box 2000, Trail, British Columbia V1R 4S4 Canada

9:00 AM

Phase Equilibrium between Nickel Alloy Containing Minor Elements and FeO_x-MgO-SiO₂ Slag: *Hector Mario Henaol*¹; Mitsuhsa Hino¹; Kimio Itagaki¹; ¹Tohoku University, Instit. for Adv. Matls. Process., Katahira 2-1-1, Aoba-ku, Senda 980-8577 Japan

9:25 AM

Activity Measurements of Several Molten Sulfide Systems: Kazuo Koike¹; *Mitsuhsa Hino*²; Akira Yazawa²; ¹Akita University, Faculty of Eng. and Res. Sci., Tegata-Gakuen-choh 1-1, Akita 010-8502 Japan; ²Tohoku University, Instit. for Adv. Matls. Process., Katahira 2-1-1, Sendai 980-8577 Japan

9:50 AM

Recent Operation in the Gresik Smelter and Refinery: *Teruyuki Matsutani*¹; Toshihiko Igarashi¹; Moto Goto¹; ¹PT Smelting, Gresik Smelt. and Refine., Desa Roomo, Kecamatan Manyar P.O. Box 555, Gresik, East Java 61151 Indonesia

10:15 AM Break

10:30 AM

Recent Improvements in Waelz Operation for Zinc Leach Residue: R. Yoneoka¹; Y. Ohmizo¹; *Masayuki Sakamoto*¹; S. Karasawa¹; ¹Toho Zinc Company Limited, 1443 Nakajuku, Annaka, Gunma 379-0197 Japan

10:55 AM

High-Performing Flash Smelting Furnace at Saganoseki Smelter & Refinery: *Chikashi Suenaga*¹; ¹Nippon Mining & Metals Company Limited, Saganoseki Smelt. and Refine., Saganoseki, Oita-pre. 879-2201 Japan

11:20 AM

New Operational Calculation Process for the T-FSF: *Soichirou Tanaka*¹; ¹Hibi Kyodo Smelting Company Limited, Tamano Smelter and Refinery, 6-1-1, Hibi, Tamano City, Okayama Pref 706-8511 Japan

11:45 AM

Balance of the Circulation Materials and Behavior of the Various Components in the Lead Smelting Process at Chigirishima Refinery: *Koichi Yamazaki*¹; Toshio Kurikami¹; ¹Toho Zinc Company Limited, Chigirishima Refinery, 5562-1 Higashino-cho, Toyota-gun, Hiroshima-pre. 725-0222 Japan

Non-ferrous Alloys & Light Metals - III

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: Cervantes
Location: Renaissance

Session Chairs: John N. Hryn, Argonne National Laboratory; Teruo Tanabe, Kyoto University, Dept. of Matls. Sci. and Eng.

8:30 AM Keynote

Silicon in the World: *Masafumi Maeda*¹; ¹The University of Tokyo, Instit. of Indust. Sci., Roppongi 7-22-1, Minato-ku, Tokyo, Japan

9:00 AM

Aging Process of Alloyed ADI: *Hamid Bayati*¹; Roy Elliott¹; ¹University of Manchester, Manchester Matls. Sci. Ctr., Grosvenor St., Manchester M1 7HS UK

9:25 AM +

Effect of Carbon Addition on the Microstructures and Mechanical Properties of IMI 205: *Zhiqiang Chen*¹; *Yuegang Li*¹; *Michael H. Loretto*¹; ¹The University of Birmingham, Interdisc. Rsch. Ctr. in Matls. for High Perform. Appls., IRC in Materials, Birmingham, Edgbaston B15 2TT UK

9:50 AM

Effect of Extrusion Manufacturing and Materials Processing on the Mechanical Properties and Microstructure of Aluminum-Lithium Alloys: *James Mark Fragomeni*¹; ¹Ohio University, Dept. of Mech. Eng., Coll. of Eng. and Tech., 251 Stocker Eng. Ctr., Athens, OH 45701-2979 USA

10:15 AM Break

10:30 AM

Semi-Solid Processing of Al-Wrought Alloys: Andreas Wolf²; Kurt Steinhoff³; Peter J. Uggowitzer¹; *Gian-Carlo Gullo*¹; ¹Swiss Federal Institute of Technology Zürich, Instit. of Metall., ETH Zentrum Sonneggstrasse 3, Zürich CH-8092 Switzerland; ²University of Stuttgart, Instit. for Met. Form. Tech., Holzgartenstrasse 17, Stuttgart D-70174 Germany; ³SM AG, Development & QM, Altdorf CH-6460 Switzerland

10:55 AM

Mitsubishi Materials' High Performance Oxygen Free Copper and High Performance Alloys: *Norihisa Iida*¹; Tsutomu Masui¹; Yutaka Koshiba²; ¹Mitsubishi Materials Corporation, Sakai Plant, 1-9,3-cho, Chikko Shinmachi, Sakai, Osaka 592-8331 Japan; ²Mitsubishi Materials Corporation, Copper & Copper Alloy Prod. Dept. Non-Ferr. Alloys Co., 5-11-cho, Marunouti, Chiyodaku, Tokyo 100-8222 Japan

Thin Films & Coatings - III

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: DaVinci 1
Location: Renaissance

Session Chairs: C. Suryanarayana, Colorado School of Mines; Takeo Fujino, Tohoku University, Inst. for Adv. Matls. Sci.

8:30 AM Keynote

TEM and SIMS Study of Duplex Structure of Anodic Films on Aluminum: *Sachiko Ono*¹; Noboru Masuko¹; ¹Chiba Institute of Technology, Dept. of Metall., 2-17-1 Tsudanuma, Narashino, Chiba 275-0016 Japan

9:00 AM

Structure of Ni-Mn-Ga Films Prepared by a Sputtering Method: *Makoto Ohtsuka*¹; Kouki Chiba¹; Minoru Matsumoto¹; Kimio Itagaki¹; ¹Tohoku University, Instit. for Adv. Matls. Process., 2-1-1 Katahira Aoba-ku, Sendai 980-8577 Japan

9:25 AM

Field Emission from CVD Diamond Fabricated by Pulse-Modulated Microwave Plasma: *Yukihiro Sakamoto*¹; Matsufumi Takaya¹; ¹Chiba Institute of Technology, Dept. of Precision Eng., 2-17-1, Tsudanuma, Narashino, Chiba 275-0016 Japan

9:50 AM

Deposition of Tantalum Oxide Thin Film by Laser Ablation: *Nobuaki Sato*¹; ¹Tohoku University, Instit. for Adv. Matls. Process., 2-1-1 Katahira, Aoba-ku, Sendai 980-8577 Japan

10:15 AM Break

10:30 AM

Electron Field Emission from Nitrogen-Doped Amorphous Carbon Thin Films Prepared by Arc Ion Plating: *Hiroyuki Sugimura*¹; Yoshiki Sato¹; Nobuhiro Tajima¹; Osamu Takai¹; ¹Nagoya University, Matls. Process. Eng., Furo-cho, Chikusa, Nagoya 464-8603 Japan

10:55 AM

Production of Lead Oxide Film by PVD and Its Application to a Thin Film Solid Cell: *Masami Taguchi*¹; ¹Akita University, Dept. of Matls. Sci. and Eng., 1-1 Tegata Gakuenmachi, Akita 010-8502 Japan

11:20 AM

In_xGa_{1-x}As Islands Grown on CaF₂ Si(111) by Molecular Beam Epitaxy: *Y. Takeda*¹; Y. Moriya¹; Y. Sadayoshi¹; Y. Nonogaki¹; ¹Nagoya University, Dept. of Matls. Sci. and Eng., Grad. Sch. of Eng., Nagoya 464-8603 Japan

Powder Preparation & Processing - II

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: Dante
Location: Renaissance

Session Chairs: Raj Mendiratta, Indian Institute of Technology, Delhi, India; Mitsuhiro Ito, Taiheiyo Cement Corporation, Eng. & Tech. Dept.

8:30 AM Keynote

Nano-Particulate Design and Preparation for Targeting and Controlled Release of Drugs: *Yoshinobu Fukumori*¹; Hideki Ichikawa¹; Hiroyuki Tokumitsu¹; Futoshi Shikata¹; Masahito Miyamoto¹; Testuya Watanabe¹; ¹Kobe Gakuin University, Faculty of Pharm. Scis. and High Tech. Res. Ctr., 518 Arise, Ikawadani-cho, Nishi-ku, Kobe 651-2180 Japan

9:00 AM

Continuous Hydrothermal Synthesis of Metal Oxides in Sub- and Supercritical Water: *Tadafumi Adschiri*¹; ¹Tohoku University, Dept. of Chem. Eng., Aoba-ku Aramaki Aza, Aoba-07, Sendai 980-8579 Japan

9:25 AM

Sintered Co-Fe-Ti Alloys with Refined Microstructures: *J. G. Cabanas-Moreno*¹; H. A. Calderon¹; H. Mendoza¹; G. Garcia¹; R. Martinez¹; M. Umemoto²; ¹Instituto Politecnico Nacional, Apdo Postal 75-373, Mexico, D.F. 07300 Mexico; ²Toyohashi University of Technology, Toyohashi, Aichi Japan

9:50 AM

Production and Characterization of Nanocrystalline TiAl-X and Al₃Ti-X Intermetallics: *Hector A. Calderon*¹; V. Garibay¹; A. Cabrera¹; K. Tsuchiya²; M. Umemoto²; G. J. Cabatias-Moreno¹; ¹ESIQIE-IPN, Dept. de Ing. Metall., UPALM Ed. 7, Zacatenco, D.F. 07300 Mexico; ²Toyohashi University of Technology, Prod. Sys. Eng., Japan

10:15 AM Break

10:30 AM

Preparation and Characterization of a Pure, Ultrafine, and Partially-Stabilized Zirconia Powder from Technical-Grade Zirconium Oxychloride and the Effluent of an Acrylic Acid Plant: *G. Y. Guo*¹; Y. L. Chen²; ¹Shanghai Jiao Tong University, Dept. of Matls. Sci. and Eng., 1954 Hua Shan Rd., Shanghai 200030 China; ²Shanghai University, Coll. of Chem. and Chem. Eng., Shanghai 200072 China

10:55 AM

Controlled Structure of Nano-Porous Silica Particles through the Use of the Spinodal Decomposition-Type Process: *Kimio Imaizumi*¹; ¹Graduate School of Sibaura Institute of Technology, Dept. of Matls. Sci. and Eng., Sibaura 3-9-14, Minato-ku 1088548 Japan

11:20 AM

Preparation of Lead Zirconate Titanate Through a Spark Plasma Sintering Technique: *Kazuyuki Kakegawa*¹; ¹Chiba University, Grad. Sch. of Sci. and Tech., 1-33 Yayoi-cho Inageku, Chiba-shi, Chiba 263-8522 Japan

Electrolytic Processing - II

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: Michaelangelo
Location: Renaissance

Session Chairs: S. X. McFadden, University of California-Davis; Tetsuya Akiyama, Kyushu Sangyo University, Dept. of Chem. Eng.

8:30 AM Keynote

Challenges in Electrolytic Processing of Materials: *Georges J. Kipouros*¹; ¹Dalhousie University, Dept. of Min. and Metall. Eng., P.O. Box 1000, 1360 Barrington St., Halifax, Nova Scotia B3J 2X4 Canada

9:00 AM +

Structure of Zn-Cr Alloy Electrodeposited on Steel at High Current Densities: *Masao Miyake*¹; Tetsuji Hirato¹; Eiichiro Matsubara²; Yasuhiro Awakura¹; ¹Kyoto University, Dept. of Matls. Sci. and Eng., Yoshida-hommachi, Sakyo-ku, Kyoto 606-8501 Japan; ²Tohoku University, Instit. for Matls. Rsch., 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi 980-8577 Japan

9:25 AM

Electrochemical Behavior of Copper in Ammonium Imide Type Room Temperature Molten Salts: *Kuniaki Murae*¹; Koji Nitta¹; Tetsuji Hirato¹; Yasuhiro Awakura¹; ¹Kyoto University, Dept. of Matls. Sci. and Eng., Yoshida-hommachi, Sakyo-ku, Kyoto 606-8501 Japan

9:50 AM

Electrodeposition of Zn-Te Semiconductor Film from Acidic Aqueous Solution: *Ryoichi Ichino*²; Kensuke Kuroda¹; Masazumi Okido¹; ¹Nagoya University, CIRSE, Furo-cho Chikusa-ku,

Nagoya 464-8603 Japan; ²Nagoya University, Dept. of Matls. Sci., Furo-cho Chikusa-ku, Nagoya 464-8603 Japan

10:15 AM Break

10:30 AM

Formation of Hydrogen Absorption Film by Electrodeposition in Molten Salts: *Hiroaki Yamamoto*²; Takahiro Sakamoto²; Kensuke Kuroda¹; Ryoichi Ichino²; Masazumi Okido¹; ¹Nagoya University, CIRSE, Furo-cho Chikusa-ku, Nagoya 464-8603 Japan; ²Nagoya University, Dept. Matls. Sci., Furo-cho Chikusa-ku, Nagoya 464-8603 Japan

10:55 AM

The Effect and Automatic Control of the Electrolysis of Metal Aqueous Solution by Organic Additive: *Li Shixiong*¹; Zhang Chuanfu¹; ¹Central South University of Technology, Dept. of Metall., Changsha 410083 PRC

11:20 AM

Electrowinning of Titanium in Fluoride Melt: *Toshihide Takenaka*¹; Nao Murakami¹; Takashi Matsui¹; Masahiro Kawakami¹; ¹Toyohashi University of Technology, Dept. of Prod. Sys. Eng., Hibarigaoka 1-1, Tempaku-cho, Toyohashi 441-8580 Japan

11:45 AM

Production of Strong Reducing Solvent by Electrolyzer Equipped with Bipolar Membrane: *Satoshi Yamashita*¹; Noboru Masuko¹; ¹Chiba Institute of Technology, Dept. of Metall. Eng., 2-17-1 Tsudanuma, Narashino-shi, Chiba 275-8588 Japan

Aqueous Processing - II

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: Parc Ballroom III
Location: Renaissance

Session Chairs: Fiona Doyle, University of California-Berkeley; Junji Shibata, Kansai University, Dept. of Chem. Eng.

8:30 AM Keynote

New Approaches for Electrochemical Preparation of CdS Film: *Hideki Minoura*¹; ¹Gifu University, Grad. Sch. of Eng., Yanagido 1-1, Gifu 501-1193 Japan

9:00 AM +

Electrochemically Deposited LiCoO₂ Film on Platinum Metal Substrate under Hydrothermal Condition: *Seung-Wan Song*¹; ¹Tokyo Institute of Technology, Matls. and Struct. Lab., 4259 Nagatsuta Midori, Yokohama 226-8503 Japan

9:25 AM

Ultra-High Purification of Transition Metals by Anion Exchange Applying Various Oxidation States: *Tamas Kekesi*¹; Masahito Uchikoshi²; Kouji Mimura¹; Yongfu Zhu¹; Minoru Isshiki¹; ¹Tohoku University, Inst. for Adv. Matls. Process., 2-1-1 Katahira Aoba-ku, Sendai, Miyagi 980-8577 Japan; ²MRC Japan, Inc., R&D Div., 2-1-15 Meigetsu, Tagajo, Miyagi 985-0843 Japan

9:50 AM

Ambient-Temperature Precipitation of Heavy-Metal Ions from Aqueous Solutions as Ferrite-Type Compounds: *Oscar Perales Perez*¹; Yoshiaki Umetsu²; Kazuyuki Tohji³; Atsuo Kasuya¹; ¹Tohoku University, Ctr. for Interdis. Rsch., Aramaki aza Aoba, Aoba-ku, Sendai, Miyagi-ken 980-8578 Japan; ²Tohoku University, Inst. for Adv. Matls. Process., Katahira 2-1-1, Aoba-ku, Sendai, Miyagi-ken 980-8577 Japan; ³Tohoku University, Dept. of Geosci. and Tech., Aramaki aza Aoba Aoba-ku, Sendai, Miyagi-ken 980-8578 Japan

10:15 AM Break

10:30 AM

Preparation of Mono-Dispersed Droplet using Ultrasonic: *Kunihiko Takeda*¹; ¹Sibaura Institute of Technology, Dept. of Matls. Sci. and Eng., Sibaura 3-9-14, Minato-ku 1088548 Japan

10:55 AM

Surface Conditioning of ABS for Metallization—A Study on Cleaner Processes: *Luiz Alberto Teixeira*¹; Marcela Costa Santini¹; ¹Catholic University of Rio de Janeiro, Dept. Matls. Sci. and Metall., CP. 38008, Gavea, Rio de Janeiro, RJ 22453-900 Brazil

11:20 AM

New Hydro-Metallurgical Process for Electrolytic Copper Refinery Slimes at Saganoseki Smelter and Refinery: *Akinori Toraiwa*¹; Yoshifumi Abe¹; ¹Nippon Mining and Metals Company Limited, Saganoseki Smelter and Refinery, Saganoseki-cho, Oita-pre. 879-2201 Japan

11:45 AM

Aqueous Oxidation of Sodium Phosphite by Dissolved Oxygen Using Sulfur Dioxide in a Catalytic Reaction: *Satoshi Yamashita*¹; Takabumi Kondo¹; Noboru Masuko¹; ¹Chiba Institute of Technology, Dept. of Metall. Eng., 2-17-1 Tsudanuma, Narashino-shi, Chiba 275-8588 Japan

Composite Materials - IV

Wednesday AM
November 8, 2000
Parc 55 Hotel

Room: DaVinci 2&3
Location: Renaissance

Session Chairs: S. C. Sharma, R.V. College of Engineering, India; Naoyuki Kanetake, Nagoya University, Dept. of Matls. Proc. Eng.

8:30 AM Keynote

Processing and Characterization of Cu-Al₂O₃ Nano-Scale Composites Produced by In-Situ Reduction: Marcelo Senna Motta¹; Eduardo A. Brocchi¹; P. K. Jena¹; *Guillermo Solórzano*¹; ¹PUC-Rio, Matls. Sci. and Metall. Dept., P.O. Box 38090-Gávea, Rio de Janeiro, RJ 22451-970 Brazil

9:00 AM +

Damping Behaviour of Aluminite Particulate Reinforced ZA-27 Alloy Metal Matrix Composite: *Shanta Sastry*¹; *Jayagopal Uchil*²; *M. Krishna*³; ¹N.M.K.R.V College for Women, Phys. Dept.,

Jayanagar, Bangalore, Karnataka 560011 India; ²Mangalore University, Matl. Sci. Dept., Mangala Gangotri, Dakshina Karnataka, Mangalore, Karnataka 574199 India; ³R.V. College of Engineering, Mech. Eng. Dept., Rsch. and Dev., Bangalore, Karnataka 560059 India

9:25 AM

Prediction of Galvanic Corrosion Rates for Garnet/LM-6 Metal Matrix Composites in Sodium Chloride Solutions: *V. T. Vijayalakshmi*¹; Jayagopal Uchil¹; K. H. Thipperudrappa¹; M. Krishna¹; ¹N.M.K.R.V. College for Women, Dept. of Chem., Jayanagar III Block, Bangalore 560011 India

10:05 AM

Damping Behavior and Mechanical Properties of a MnB Particle-Reinforced INCRAMUTE Matrix Composite: *Fuxing Yin*¹; Yoshiaki Ohsawa¹; Akira Sato¹; Kohji Kawahara²; ¹National Research Institute for Metals, Matls. Creation Station, Sengen1-2-1, Tsukuba, Ibaraki 305-0047 Japan; ²B.B. Materia Company Limited, Asumigaoka, Chiba 267-0066 Japan

10:15 AM Break

10:30 AM

Elastic Behavior of Aluminite Particulate Reinforced ZA-27 Alloy Metal Matrix Composite: *Shanta Sastry*¹; Jayagopal Uchil²; S. C. Sharma³; M. Krishna³; B. M. Satish³; ¹NMCRV College for Women, Dept. of Phys., Jayanagar, Bangalore, Karnataka 560011 India; ²Mangalore University, Dept. of Matl. Sci., Mangalore, India; ³RV College of Engineering, Rsch. and Dev. Dept., Dept. of Mech. Eng., Bangalore 560 059 India

10:55 AM

Titanium-Titanium Nitride MMC's by Reactive Mechanical Alloying: *Sedat Ozbilen*¹; Abdulkadir Gullu¹; ¹Gazi University, Metall. and Mech. Edu. Depts., Fac. of Tech. Edu., Teknikokullar, Ankara 06500 Turkey

Powder Preparation & Processing - III

Wednesday PM
November 8, 2000
Parc 55 Hotel

Room: Dante
Location: Renaissance

Session Chairs: Fumitaka Tsukihashi, The University of Tokyo, Dept. of Adv. Matls. Sci.; K. K. Sharma, Defence Metall. Res. Lab., Hyderabad, India

2:00 PM Keynote

Production by Mechanical Milling and Plasma Sintering of FeO-Fe₃O₄ and MgO-MgFe₂O₄ composites: *Araceli Huerta*¹; *Hector A. Calderon*¹; Minoru Umemoto²; Koichi Tsuchiya²; ¹ESFM-IPN, Depto. Ciencia de Materiales, UPALM Ed. 9, Apdo. Postal 75-707, Mexico, DF 07338 Mexico; ²Toyohashi University of Technology, Product. Sys., Toyohashi, Japan

2:30 PM

Analysis of Aionic Polymer Dispersant Behavior in Dense Silicon Nitride and Silicon Carbide Suspensions by Using AFM: *H. Kamiya*¹; M. Nojiri¹; H. Hasegawa¹; S. Matsui¹; Y. Fukuda¹; M.

Tsukada¹; ¹Tokyo University of Agriculture and Technology, Koganei, Tokyo, Japan

2:55 PM

Structure and Properties of an F75 Co-Cr-Mo Superalloy Produced by Fluidized-Bed Nitriding of Gas-Atomized Powders, HIP-Consolidation, and Heat-Treatment: *Wade L. Karlsen*¹; ¹Helsinki University of Technology, Lab. of Eng. Matls., Otakaari 4, P.O. Box 4100, Espoo, Hut 02015 Finland

3:20 PM

Mechanochemical Syntheses of Zeolite-A and X from Kaolinite in NaOH Solution: *Wantae Kim*¹; *Qiwu Zhang*¹; *Fumio Saito*¹; ¹Tohoku University, IAMP, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577 Japan

3:45 PM Break

4:00 PM

Processing of Soft Ferrites by the Citrate Precursor Method: *Raj Gopal Mendiratta*¹; *Anjali Verma*¹; *Tara Chand Goel*¹; ¹Indian Institute of Technology Delhi, Phys. Dept., Hauz Khas, New Delhi, Delhi 110016 India

4:25 PM

Grain Growth in Pure Ti, Ti Based MMC Advanced Alloys Processed by Mechanical Alloying and Hot Isostatic Pressing: *Sedat Ozbilen*¹; *Cemil Cetinkaya*¹; ¹Gazi University, Metall. Edu. Dept., Fac. of Tech. Edu., Teknikokullar, Ankara, Turkey

Waste Management - III

Wednesday PM
November 8, 2000
Parc 55 Hotel

Room: Michaelangelo
Location: Renaissance

Session Chairs: Georges J. Kipouros, Dalhousie University, Halifax, Canada; Toshiharu Fujisawa, Nagoya University, Res. Ctr. for Adv. Waste and Emis. Mgmt.

2:00 PM Keynote

Industrial Wastes Management for Construction Materials: *V. A. Myrmin*¹; *Alfonso J. Vazquez Vaamonde*²; *P. A. Alexeev*³; ¹Profsouznaia Str., 152-4-119, Moscow 117321 Russia; ²Avda Gregorio del Amo 8, Madrid 28040 Spain; ³Profsouznaia Str. 152-4-71, Moscow 117321 Russia

2:30 PM

Extraction of Valuable Compounds from Egyptian Zinc Concentrate: *Kamilia A. El-Barawy*¹; *Samir Z. El-Tawil*¹; *M. B. Morsi*¹; *M. M. Nasr*¹; *Zaki I. Mohamed*¹; ¹Central Metallurgical Research and Development Institute, Pyrometall. Div., P.O. Box 87, Helwan, Cairo, Egypt

2:55 PM

Reaction Between Model Steelmaking Dust and Polyvinyl Chloride: *Masahiro Hirasawa*¹; ¹Tohoku University, Instit. for Adv. Matls. Process., 2-1-1 Katahira, Aoba-ku, Sendai 980-8577 Japan

3:20 PM

Bioleaching of Waste Nickel Condenser Powder: *Hiroshi Nakazawa*¹; Wu Shouming¹; Hayato Sato¹; Yasuo Kudo¹; ¹Iwate University, Fac. of Eng., 4-3-5, Ueda, Morioka-shi, Iwate Prefecture 020-8551 Japan

3:45 PM Break

4:00 PM

The Roles of Metallic Compounds on Dioxins Generation-De-composition Behavior from Thermodynamics and Quantum Chemistry: *Nagahiro Saito*¹; *Mituhito Hirota*¹; *Takahiro Ishizaki*¹; *Akio Fuwa*¹; ¹Waseda University, Depts. of Matl. Sci. and Eng., 3-4-1 Okubo, Shinjuku-ku, Tokyo 169-0027 Japan

4:25 PM

Zinc and Lead Recovery from Model Ash Compounds: *Shin-ji Abe*²; *Tadakazu Kagami*²; *Katsuyasu Sugawara*¹; *Takuo Sugawara*¹; ¹Akita University, Fac. of Eng. and Res. Sci., 1-1 Tegata Gakuen-cho, Akita City, Akita Pref. 010-8502 Japan; ²Mitsubishi Material Company, 1-3-25 Koishikawa, Bunkyo-ku, Tokyo 112-0002 Japan

4:50 PM

Recovery of Nickel from Spent Electroless Nickel Plating Solution by Solvent Extraction: *Mikiya Tanaka*¹; *Mikio Kobayashi*¹; *Mansour Ahmed S. AlGhamdi*¹; *Kenji Tatsumi*²; *Hiroataka Senba*³; *Yukinori Saiki*³; ¹National Institute for Resources and Environment, Matls. Process. Dept., 16-3 Onogawa, Tsukuba, Ibaraki 305-8569 Japan; ²National Institute for Resources and Environment, Hydro. Environ. Protect. Dept., 16-3 Onogawa, Tsukuba, Ibaraki 305-8569 Japan; ³Japan Kanigen Company Limited, 3-11-10 Edagawa, Koto-Ku, Tokyo 135-0051 Japan

Iron & Steelmaking - III

Wednesday PM
November 8, 2000
Parc 55 Hotel

Room: Parc Ballroom III
Location: Renaissance

Session Chairs: Patrick R. Taylor, University of Idaho;
Masanori Iwase, Kyoto University, Dept. of EGY. Sci. and Tech.

2:00 PM Keynote

Influence of the Production Condition and the Preforming Process of IF-Steel on the Impact Behavior: *Angelika Spalek*¹; *Gerd Reisner*¹; *Ewald Werner*¹; *Andreas Pichler*²; *Peter Stiaszny*²; ¹Christian Doppler Laboratorium für Moderne Mehrphasenstähle, Lehrstuhl A für Mechnik; TU-München, Boltzmannstr. 15, Garching D-85747 Germany; ²VOEST-ALPINE STAHL Linz GmbH, Rsch., Dev. and Test. Div., Voest-Alpine Str. 3, Linz A-4034 Austria

2:30 PM

The Fracture Toughness of Cold Work Tool Steels: *Ewald Werner*¹; *Werner Liebfahrt*²; *Johann Blaha*¹; ¹Christian-Doppler-Laboratorium, Lehrstuhl A für Mechanik, TU München, Boltzmannstrasse 15, Garching D-85747 Germany; ²Böhler

Edelstahl GmbH, Mariazellerstraße 25, Kapfenberg A-8605 Austria

2:55 PM

Grain Refining Process and Fracture and Toughness of Ultra-Fine Low-Carbon Steel Bars: *Toshihiro Hanamura*¹; *Tohru Hayashi*¹; *Hiroshi Nakajima*¹; *Shirou Torizuka*¹; *Kotobu Nagai*¹; ¹National Research Institute for Metals, 1-2-1 Sengen, Tsukuba 305-0047 Japan

3:20 PM

Formation of Austenite Grain in Hypo-Peritectic Carbon Steels: *Masayuki Kudoh*¹; *Tohru Maruyama*²; *Yohichi Ito*¹; ¹Hokkaido University, Div. of Matls. Sci. and Eng., Grad. Sch. of Eng., Kitaku N13W8, Sapporo 060-8628 Japan; ²Hokkaido University, Div. of Matls. Sci. and Eng., Grad. Student, Kitaku N13W8, Sapporo 060-8628 Japan

3:45 PM Break

4:00 PM

Modelling of Austenite Decomposition of Hot-Rolled Dual Phase Steels during the Cooling in Run-Out Table: *Andrej Samoilov*¹; *Yuri Titovets*²; *Nikolai Zolotarevskii*²; *Gottfrid Hribernik*¹; *Peter Stiaszny*¹; ¹VOEST-ALPINE STAHL LINZ, R and D Hot Rolled Sheet, WFC, Voest-Alpine-Strasse 3, P.O. Box 3, Linz A-4031 Austria; ²St.-Petersburg State Technical University, Metalphy. & Comp. Tech. for Matl. Sci. Dept, Politechnicheskaya 29, St.Petersburg 195251 Russia

4:25 PM

Phase Equilibria of the MnO-SiO₂-CrO_x System: *Mitsuru Tanahashi*¹; *Nobuo Furuta*¹; *Hiroyuki Sano*²; *Toshiharu Fujisawa*²; *Chikabumi Yamauchi*¹; ¹Nagoya University, Dept. of Matls. Sci. and Eng., Nagoya, Aichi 464-8603 Japan; ²Nagoya University, Rsch. Ctr. for Adv. Waste and Emiss. Mgt., Furo-cho Chikusa-ku, Nagoya, Aichi 464-8603 Japan

4:50 PM

Phase Diagrams of FeO-Containing Slags Derived from Activity Measurements: *Yuichi Uchida*¹; *Masanori Iwase*¹; *Alexander Mclean*²; ¹Kyoto University, Ferrous Metall. Rsch. Grp., Dept. of EGY. Sci. and Tech., Yoshida-Honmachi, Sakyo-ku, Kyoto 606-8501 Japan; ²Kyoto University, Ferrous Metall. Rsch. Grp., Dept. of EGY. Sci. and Tech., Yoshida-Honmachi, Sakyo-ku, Kyoto 606-8501 Japan

PMP 2000

		Monday-November 6	Tuesday-November 7	Wednesday-November 8			
		AM	PM	AM	PM	AM	PM
Parc Ballroom 1 Parc Ballroom 3 Dante DaVinci 1 DaVinci 2 & 3 Cervantes Michaelangelo Raphael Rubens	Plenary Session						
			Aqueous Processing I	Iron & Steelmaking II	Aqueous Processing II	Iron & Steelmaking III	
		Electronic, Magnetic & Photonic Materials I	Electronic, Magnetic & Photonic Materials II	Powder Preparation & Processing I	Powder Preparation & Processing II	Powder Preparation & Processing III	
		Resources & Its Related Environment	Thin Films & Coatings I	Thin Films & Coatings II	Thin Films & Coatings III		
		Composite Materials I	Composite Materials II	Composite Materials III	Composite Materials IV		
		Non-ferrous Alloys & Light Metals I	High Temperature Materials	Non-ferrous Alloys & Light Metals II	Non-ferrous Alloys & Light Metals III		
		Waste Management I	Electrolytic Processing I	Waste Management II	Electrolytic Processing II	Waste Management III	
		Iron & Steelmaking I	Rare Metals	Solidification Processing I	Solidification Processing II		
		Control & Analysis in Materials Processing I	Cu, Ni, Zn, Pb and Sn I	Control & Analysis in Materials Processing II	Cu, Ni, Zn, Pb and Sn II		