ANNOUNCEMENTS & CALLS FOR PAPERS

TMS

The 132nd TMS Annual Meeting & Exhibition

DATE: March 2-6, 2003

LOCATION: San Diego Convention Center
San Diego, California, USA

Featuring Programming in the following Conference Tracks–

- Aluminum and Magnesium: Production and Processing
- High-Temperature Materials
- Materials Characterization and Mechanical Properties
- Metallurgical Extraction, Processing, Shaping, Forming, and Recycling
- Micro- and Nanoscale Technologies
- Materials Science Education

Programmed by the 5 TMS Technical Divisions–

- Electronic, Magnetic & Photonic Materials Division (EMPMD)
- Extraction & Processing Division (EPD)
- Light Metals Division (LMD)
- Materials Processing & Manufacturing Division (MPMD)
- Structural Materials Division (SMD)

with contributions by

- TMS Education Committee
- Aluminum Association
- Materials Science Critical Technology Sector of ASM International
- International Magnesium Association

HOT-TOPIC TRACK—*Materials Production and Processing Efficiencies*
Highlighted by the MPMD Fourth Global Innovations Symposium:
Energy Efficient Manufacturing Processes

Submit your abstract electronically via the TMS Conference Management System at http://cms.tms.org

The Minerals, Metals & Materials Society (TMS) will hold its 2003 Annual Meeting the week of March 2-6, 2003, in San Diego, California. An extensive program totaling more than 200 sessions and 1,400 individual presentations will be presented. More than 3,500 of the world's top materials science and engineering professionals are expected to participate.

You are encouraged to review the programming tracks listed below and make plans now to submit an abstract and participate in the symposium that fits your area of technical activity. Abstract deadlines are listed with each symposium, as are the proceeding publication plans for each symposium.

Abstracts may be submitted easily – day or night – utilizing the TMS Conference Management System at **http://cms.tms.org.** If you have questions or need assistance while using CMS, please contact TMS Technical Programming Services at (724) 776-9000, ext. 253, or via e-mail at ckobert@tms.org

The meeting also hosts a wide-ranging exhibition designed to complement the variety of subjects to be spotlighted in the technical programming tracks. For details in participating in the exhibition, contact Cindy Wilson at 724-776-9000, ext. 231, or via email at wilson@tms.org

ALUMINUM AND MAGNESIUM: PRODUCTION AND PROCESSING TRACK

This track encompasses a menu of symposia that focus on the science and technological issues associated with the production and processing of the two most widely marketed and applied light metals–aluminum and magnesium. Programming will also examine progress in the development and refinement of related alloys and their performance. The TMS Annual Meeting & Exhibition is recognized as the global light metals community's preeminent forum for the presentation of primary and secondary aluminum technology. The proceedings of the alumina reduction, bauxite and alumina, carbon, cast shop, and recycling technology symposia are published in the annual volume–*Light Metals*. This book is widely recognized as the "bible of the aluminum industry." Rapidly attaining similar status, *Magnesium 2003* provides a like reference for scientists and engineers working with this extremely lightweight metal.

Alumina and Bauxite

Sponsored by: Light Metals Division, Aluminum Committee

Abstract due date: 7/15/02

The Alumina and Bauxite Symposium, along with cast shop technology, aluminum reduction technology, carbon technology, recycling technology, and reactive metals, collectively form the Light Metals Symposium, where experts from the Light Metals Industry and academia from all over the world meet each other and share information. You are invited to submit papers in the following subject areas: Bayer Process: fundamentals, chemistry, operational experiences; Safety and environment with focus on residues; Bauxite mining; Process control; Analytical methods; Design of refineries. Inert anodes. Submit abstracts electronically at http://cms.tms.org or to: David Kirkpatrick, Kaiser Aluminum & Chemical Group, PO Box 3370, Gramercy, LA 70052-3370 USA, T:2 25 869 2470, F:1 225 869 2349, Email: david.kirkpatrick@kaiseral.com. Co-Chair: Steve Rosenberg, Worsley Alumina Pty Ltd., Process Chemistry Group, PO Box 344, Collie-WA 6225 Australia, T: 61 8-9734-8315, F: 61 8 9734 8643, Email: steve.rosenberg@wapl.com.au**.** The organizers are planning to publish the proceedings from this symposium in *Light Metals 2003*.

Aluminum Reduction Technology

Sponsored by: Light Metals Division, Aluminum Committee

Abstract due date: 7/15/02

The Aluminum Reduction Technology Symposium, along with alumina and bauxite, cast shop technology, carbon technology, recycling technology, and reactive metals, collectively form the Light Metals Symposium, where experts from the Light Metals Industry and academia from all over the world meet each other and share information. You are invited to submit papers in the following subject areas: Cell design; Cell operation (performance and operating advances); New cell materials; Cell modernization and productivity increase**;** Process control**;** Modeling of cell design**;** Environmental aspects; Fundamentals**;** Bath chemistry**;** Inert anodes. Submit abstracts electronically at http://cms.tms.org or to: Jay N. Bruggeman, Alcoa Inc., 100 Technical Dr., Alcoa Center, PA 15069 USA, F: 724 337-2005, Email: jay.brugge-man@alcoa.com. Co-Chair: Martin Segatz, VAW Aluminium Technology, Georg v. Boeselager Str. 25, D-53117 Bonn, Germany, T: 49 228 552 2693; F: 49 228 552 2135, Email: martin.segatz@vaw.com. The organizers are planning to publish the proceedings from this symposium in *Light Metals 2003*.

Aluminum ReductionñPotroom Operations Symposium

Sponsored by: Light Metals Division, Aluminum Committee

Abstracts due date: by 7/15/02

Plant operational managers and technical managers of aluminum smelters are invited to make presentations specifically related to potroom operations and performance improvements at the 2003 TMS aluminum reduction session: potline amperage creep, potline shutdown & restart, power modulation, innovative potroom work practices, process improvements that increase metal production, cost reduction projects, and solutions to complex potroom operational problems. Note: Formal technical papers are not required for the presentations for the TMS Potroom Operations Symposium. All presentations (about 25 minutes) will be submitted in PowerPoint format. The PowerPoint presentations are to be submitted for initial review by November 1, 2002 and for final submission to the TMS organizer by December 1, 2003. Presentations will be combined and published in a special TMS document. Presentations will be selected for acceptance in the symposium based on significance or innovation, performance gains, and industrial impact. Authors are required to present the information at the annual TMS meeting to be included in the TMS publication. Submit abstracts electronically at http://cms.tms.org or to: Alton T. Tabereaux, Alcoa; T: 865-604-8419; Email: Alton.Tabereaux@alcoa.com

Automotive Alloys 2003

Sponsored by: Light Metals Division, Aluminum Committee

Abstract due date: 7/15/02

Automotive Alloys 2003 symposium is inviting papers to capture the ongoing research, development and testing activities for usage of aluminum and magnesium alloys in automotive applications. Submit abstracts electronically at http://cms.tms.org or to: Subodh K. Das, Secat, Inc., Coldstream Research Campus, Lexington, KY 40511 USA; T: 859-619-8386; F: 859-323-8228; Email: skdas@engr.uky.edu. The organizers are planning to publish the proceedings from this symposium.

Carbon Technology

Sponsored by: Light Metals Division, Aluminum Committee

Abstract due date: 7/15/02

The Carbon Technology Symposium, along with aluminum reduction technology, alumina and bauxite, cast shop technology, recycling technology, and reactive metals, collectively form the Light Metals Symposium, where experts from the Light Metals Industry and academia from all over the world meet each other and share information. You are invited to submit papers in the following subject areas: Anode raw materials and properties; Paste plant design and operation**;** Baking furnace design and operation; Rodding room design and operation; Anode quality and performance; Carbon plant environmental and safety; Carbon cathode materials and performance. Submit abstracts electronically at http://cms.tms.org or to: Amir Mirchi, Alcan, Inc., Jonquiere, QC G7S 4K8 Canada; T: 418-699-6585x6390; Email: amir_mirchi@alcan.com. Co-Organizers: Don T. Walton, Aluminum Company of America, Wenatchee Works, Malaga, WA 98828-9728 USA; T: 509-663-9317; F: 509-664-8686; Email: don.walton@alcoa.com. The organizers are planning to publish the proceedings from this symposium in *Light Metals 2003*.

Cast Shop Technology

Sponsored by: Light Metals Division, Aluminum Committee

Abstract due date: 7/15/02

The Cast Shop Technology Symposium, along with carbon technology, aluminum reduction technology, alumina and bauxite, recycling technology, and reactive metals, collectively form the Light Metals Symposium, where experts from the Light Metals Industry and academia from all over the world meet each other and share information. You are invited to submit papers in the following subject areas: Charge materials; Melting; Filtration**;** Pre-furnace treatment; Casting processes; Fluxing; Environmental issues; Shape casting; Grain refinement; Modeling and control; Automation; Cast structures; Safety. Submit abstracts electronically at http://cms.tms.org or to: Jean-Pierre Martin, Alcan, Inc., Jonquiere, QC G7S 4K8 Canada; T: 418-699-6585; Email: jeanpierre.martin@alcan.com. Co-Organizers: David H. DeYoung, Alcoa Technical Center, Alcoa Center, PA 15069 USA; T: 724-337-2269; F: 724-337-4063; Email: david.deyoung@alcoa.com. The organizers are planning to publish the proceedings from this symposium in *Light Metals 2003*

Casting and Solidification of Mg-Alloys

Sponsored by: Materials Processing & Manufacturing Division, Solidification Committee

Abstract due date: 7/15/02

The Mg committee and the Solidification committee of TMS are organizing a one-day joint symposium on Mg solidification. The symposium will focus on the following topics: Casting and welding technology; Simulation of casting; welding and solidification; Microstructural evolution in casting and welding; Casting and weld microstructural stability; and properties.The symposium will include invited lectures by keynote speakers and contributed presentations. Submit abstracts electronically at http://cms.tms.org or to: Menachem Bamberger, Technion, Israel Institute of Technology, Haifa 32000 Israel; T: 972 4 829 4587; Email: mtrbam@tx.technion.ac.il. Co-Organizers: Gerald S. Cole, Ford Motor Company, Ford Research Labs., Dearborn, MI 48121 USA; T: 313-302-1860; F: 313-390-0514; Email: gcole@ford.com; Marty Glicksman, Rensselaer Polytechnic Institute, Matls. Sci. & Eng., Troy, NY 12180 USA; T: 518-276-6721; F: 518-276-8074; Email: glickm@rpi.edu

Products, Applications, and Services Showcase

Sponsored by: Light Metals Division, Aluminum Committee

Abstract due date: 7/15/02

Intended for short technical/product presentations of a commercial nature. Preferences given to contracted exhibitors and referrals from specific Program Chairpersons. The papers of the Product and Equipment Showcase Sessions will not be published in *Light Metals 2003*. Four sessions will be organized and scheduled concurrently with technical sessions. Topics: Alumina technology; Reduction technology; Furnaces; Refractories; Melt treatment; Miscellaneous. Submit abstracts electronically at http://cms.tms.org or to: David V. Neff, Metaullics Systems Company, Solon, OH 44139 USA; T: 216-349-8800; F: 216-248-3432; Email: dvneff@metaullics.com

Friction Stir Welding and Processing II

Sponsored by: Materials Processing & Manufacturing Division, Shaping and Forming Committee

Abstract due date: 7/15/02

The process of friction stir welding is a relatively new solid state joining process receiving considerable attention in the industry. FSW is the most-significant development in the joining industry in the last ten years. Friction stir welding not only provides a solution to join all types of aluminum alloys and composites, it also leads to significantly better joint properties. Also, some researchers are using the friction stir process as a grain refinement technique. In such cases Friction Stir Processing (FSP) is likely to open up several new possibilities. This symposium will provide researchers with an opportunity to review the current status of the friction stir related processes and discuss the future possibilities. Submit abstracts electronically at http://cms.tms.org or to: Rajiv S. Mishra, University of Missouri, Metall. Eng., Rolla, MO 65409-0340 USA; T: 573-341-6361; F: 573-341-6934; Email: rsmishra@umr.edu. Co-Organizers: Thomas J. Lienert, University of South Carolina, Mech. Eng. Dept., Columbia, SC 29208 USA; T: 803-777-8011; F: 803-777-0106; Email: lienert@engr.sc.edu; Murray W. Mahoney, Rockwell Science Center, Thousand Oaks, CA 91360 USA; T: 805-373-4248; F: 805-373-4775; Email: mwmahoney@rsc.rockwell.com. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

Universities Servicing Education, Research and Technology Internationally for the Aluminium and Light Metals Industries

Sponsored by: Light Metals Division

Abstract due Date: 7/15/02

This symposium will provide a global update on university based R&D in the aluminum and light metals industries. In addition, the key role industry-specific courses and curricula play in the university communityís service to industry will be discussed. Participation from both academia and industry is expected. Contrib-

uted papers may focus on these areas: a)How universities currently are and can best service the Aluminium and Light Metals industries, in terms of research and technology development, education and establishment of independent testing facilities; b)Needs, issues, approaches and solutions relating to funding and support; critical ìmassî/size of research groups; degree of international collaboration; collaboration between industry and universities; management of projects where people are geographically dispersed and may have different objectives/requirements; ownership of intellectual property and project confidentiality; c)There is particular interest in presentations that will show similarities and variance in university programs throughout the world. It is expected that participation will include all major industrial regions. Submit abstracts electronically at http://cms.tms.org or to: Subodh K. Das, University of Kentucky, Center of Alum. Techn., Coldstream Research Campus, 1505 Bull Lea Road, Lexington, KY 40511 USA; T: 859-514-4955; F: 859-514-4988; Email: skdas@engr.uky.edu. Co-organizers: Fiona J. Stevens McFadden, Comalco, Dept. C&M Eng., Private Bag 920191, Auckland, New Zealand; T: 011-64-321-40122; Email: Fiona.StevensMcFadden@comalco.riotinto.com.au; Halvor Kvande, Hydro Aluminium Metal Products, Oslo, N-0246, Norway; T: 011-47-2253-9155; F: 011-47-2253-7778; Email: halvor.kvande@hydro.com; Barry J. Welch, University of Auckland, Dept. Chem. and Mat. Eng., High Temp. Matls. & Process Group, Auckland, 92019, New Zealand; T: 011-649-528-3488; F: 011-649-521-9142; Email: barry@barry.co.nz. The organizers are planning to publish the proceedings from this symposium.

Hot Deformation of Aluminum Alloys

Sponsored by: Materials Processing and Manufacturing Division, Shaping and Forming Committee

Abstract due date: 7/15/02

This symposium will address recent progress in theoretical and experimental studies of hot deformation of aluminum alloys. All topics relating to hot deformation of aluminum alloys are solicited. This includes, but is not limited to: hot deformation mechanisms; the evolution of grain structure; texture; precipitates and damage in thermomechanical processes including: rolling; extrusion; forging; superplastic forming; friction stir welding; severe plastic deformation forming; hydroforming and semi-solid forming. Relevant issues include the influence of microstructure evolution and process parameters on the material performance, models and simulations of hot deformation and thermomechanical processes at all length and time scales, and constitutive description of large strain deformation. Submissions that address design and optimization of thermomechanical processes and microstructure using fundamental understanding, development of models and computer simulation are strongly encouraged. Papers relating to both fundamental research and industrial applications are solicited. Submit abstracts electronically at http://cms.tms.org or to: Zhe Jin, Alcoa Technical Center, Thermomechanical Proc. and Alloy Dev., Alcoa Center, PA 15069 USA; Email: Zhe.Jin@alcoa.com. Co-Organizers: Armand J. Beaudoin, University of Illinois at Urbana-Champaign, Dept. of Mech. and Indus. Eng., Urbana, IL 61801 USA; T: 217-244-9094; F: 217-244-6534; Email: abeaudoi@uiuc.edu; Thomas R. Bieler, Michigan State University, Chem. Eng. and Matls. Sci., East Lansing, MI 48824 USA; T: 517-353-9767; F: 517-432-1105; Email: bieler@egr.msu.edu; Balasubramaniam Radhakrishnan, Oak Ridge National Laboratory, Oak Ridge, TN 37831-6359 USA; T: 865-241-3861; F: 865-574-7463; Email: radhakrishnb@ornl.gov. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

Magnesium Technology 2003

Sponsored by: Light Metals Division, Magnesium Committee, International Magnesium Association

Abstract due date: 7/15/02

This symposium topics will include 7 sessions on the following: magnesium primary production, recycling, environmental issues, alloy development, physical mechanical and high temperature properties, with a sub emphasis on solidification, casting, and welding. Submit abstracts electronically at http://cms.tms.org or to: Howard I. Kaplan, Magnesium Corporation of America, Salt Lake City, UT 84116 USA; T: 801-532-2043 x567; F: 801-534-1407; Email: hkaplan@magnesium-corp.com. Co-Organizers: John L. Mihelich, Metal Experts International, Winston, GA 30187 USA; T: 770-942-7893; F: 770-942-0945; Email: yodonna@aol.com. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

HIGH-TEMPERATURE MATERIALS TRACK

The symposia of this track will provide a form to explore the design, manufacture, application, and service performance of high-temperature materials, including superalloys, ceramics, intermetallics, and composites.

International Symposium on Intermetallic and Advanced Metallic Materials - A Symposium Dedicated to Dr. C. T. Liu on his 65th Birthday

Sponsored by: ASM International: Materials Science Critical Technology Sector, Structural Materials Division, Jt. Mechanical Behavior of Materials

Abstract due date: 7/15/02

For the past decade, substantial advances have been achieved in the understanding and development of intermetallic compounds and advanced metallic materials, such as high temperature alloys and bulk metallic glasses. These advances are a result of extensive technical efforts in conducting intriguing experiments using the state-of-the-art techniques and computer simulations performed at various length scales. This has also led to many commercial applications of these advanced intermetallics and metallics. The objective of this conference is to provide an international forum to discuss recent progress in both fundamentals and applications of these intermetallic and metallic materials. We propose to organize a five-session symposium on all aspects of intermetallic compounds and advanced metallics, including high temperature alloys and bulk metallic glasses. Some examples of what might be included in the proposed sessions are: basic understanding of alloy design; experimental methods and studies; modeling and simulation; and material processing and commercial applications. This symposium is organized in honor of Dr. C. T. Liu who has made significant contributions in the development of intermetallic compounds and advanced metallics during the past thirty years. Submit abstracts electronically at http://cms.tms.org or to: S. C. Deevi, Phillip Morris USA, Richmond, VA 23234 USA; T: 804-274-1934; Email: Seetharama.C.Deevi@pmusa.com. Co-Organizers: Linda Horton, Oak Ridge National Laboratory, Oak Ridge, TN 37831-6132 USA, Email: hortonll@ornl.gov; Peter K. Liaw, University of Tennesse, Knoxville, TN 37996-2200 USA, Email: pliaw@utk.edu; T.G. Nieh, Lawrence Livermore National Laboratory, Livermore, CA 94551 USA, Email: nieh1@llnl.gov; Robert W. Cahn, University of Cambridge, Cambridge, England, Email: rwc12@cam.ac.uk; Fritz Appel, GKSS Research Center Geesthacht, Geesthacht, Germany, Email: fritz.appel@gkss.de; G.L. Chen, University of Science and Technology, Beijing, China, Email: glchen@bj163.com; Masaharu Yamaguchi, Kyoto University, Kyoto, Japan, Email:masahrau.mtl.kyot-u.ac.jp; Dong-Ling Lin, Shangai Jiao-Tong University, Shangai, China, Email: dlin@mail.

sjtu.edu.cn; Shuji Hanada, Tohoku Univeristy, Sendai, Japan; Email: handa@imr.tohoku.ac.jp; Yip-Wah Chung, Northwestern University, Evanston, IL 60208-3108 USA, Email: ywchung@nwu.edu; Y.A. Chang, Univeristy of Wisconsin, Madison, WI 53706 USA, Email: chang@engr.wisc.edu The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

High Temperature Alloys: Processing for Properties

Sponsored by: Structural Materials Division, High Temperature Alloys Committee

Abstract due date: 7/1/02

This symposium will focus on the development and optimization of processing techniques used for producing elevated temperature alloys with improved properties. The effect of processing on the microstructures and properties (e.g., creep, fatigue and tensile strength, fracture toughness, etc) of high temperature alloys, including superalloys, refractory metals, intermetallics and composites will be discussed. Processing techniques to be discussed include, but are not limited to, casting, wrought processing, powder metallurgy, and hybrid techniques. Papers are solicited from industry, government and academia that describe the development and optimization processes. Submit abstracts electronically at http://cms.tms.org or to: Gerhard E. Fuchs, University of Florida, Dept. of Matls. Sci. and Eng., Gainesville, FL 32611-6400 USA; T: 352-846-3317; F: 352-392-7219; Email: gfuch@mse.ufl.edu. Co-Organizers: Jacqui B. Wahl, Cannon-Muskegon Corporation, Muskegon, MI 49443-0506 USA. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

International Symposium on Gamma Titanium Aluminides

Sponsored by: Structural Materials Division, ASM International: Materials Science Critical Technology Sector, Materials & Processing, High Temperature Alloys Committee, Titanium Committee

Abstract due date: 7/10/02

The 3rd International Symposium on Gamma Titanium Aluminides (ISGTA 2003) will deal with both basic and practical aspects in all areas of the gamma titanium aluminide materials technology. Topics to be included are: A) Basic Understanding: phase relations/transformations, alloy development, process development, mechanical behavior, microstructure/property relationships, and environmental effects; B) Materials Technology: casting, ingot metallurgy, powder metallurgy, hot-working and forming, fabrication & joining, machining, and other novel processes, evaluation, and cost analyses; C) Applications: status, aerospace, automotive, and other developments; D) Data Compilation: mechanical, physical, chemical, thermodynamic, environmental, and others: E) New Developments and Future Directions. The forum is intended to share the progresses and achievements made toward applications that will have been made since ISGTAi99 and to steer and stimulate the future research and development of the gamma materials technology. Submit abstracts electronically at http://cms.tms.org or to: Paul McQuay, Howment Research Corporation, Adv. Techn., Whitehall, MI 49461 USA; T: 231-894-7250; F: 231-894-7826; Email: pmcquay@howmet.com. Co-Organizers: Helmut Clemens, Institute of Matls. Res., GKSS Res. Ctr., D-21502 Geest-hacht Germany; T: 49-4152-87-2502; F: 49-4152-87-2666; Email: helmut.clemens@gkss.de; Young-Won Kim, UES, Inc., Matls. & Proc. Div., Dayton, OH 45432 USA; T: 937-255-1321; F: 937-656-7292; Email: young-won.kim@afrl.af.mil; Andrew H. Rosenberger, Matls. & Manuf. Direc., Air Force Matls. Lab., Wright-Patterson AFB Area B, OH 45433 USA; T: 937-255-3304; F: 937-255-3007; Email: andrew rosenberger@wpafb.af.mil. The organizers are planning to publish the proceedings from this symposium.

Surface Engineering in Materials Science - II

Sponsored by: Materials Processing & Manufacturing Division, Surface Engineering Committee

Abstract due date: 7/15/02

The Surface Engineering Symposium in Materials Science II will address the scientific issues related to Surface Engineering phenomena in synthesis, characterization, and application for all materials. The objective of this symposium is to provide a multidisciplinary discussion on surface related phenomena by which materials performance may be enhanced through engineered interface and surface modification technologies. Specific topics include, but are not limited to: PVD and CVD processes, nanostructured and nanoparticles synthesis, thermal barrier coatings, biomedical coatings, functional coatings for electronic, optical and magnetic applications, surface modification by plasma, ion and laser beam techniques, direct fabricated materials, coatings for space, automobile and environmental industries, corrosion and oxidation resistance coatings, modeling, mechanical and tribological properties, interface properties and adhesion, advanced surface investigation techniques, ultrahard coatings. Submit abstracts electronically at http://cms.tms.org or to: Sudipta Seal, University of Central Florida, Advanced Matls. Proc. and Analysis Center and Mech., Matls. and Aerospace Eng., Oviedo, FL 32765-7962 USA; T: 407-823-5277; F: 407-823-0208; Email: sseal@peg-asus.cc.ucf.edu. Co-Organizers: Narendra B. Dahotre, The University of Tennessee, Center for Laser Appl., Dept. of Matls. Sci. & Eng., 10521 Research Dr., Su. 400, Knoxville, TN 37932 USA; T: 865-974-0523; F: 865-974-0530; Email: ndahotre@utsi.edu or ndahotre@utk.edu. The organizers are planning to publish the proceedings from this symposium.

MATERIALS CHARACTERIZATION AND MECHANICAL PROPERTIES TRACK

The symposia of this track provide an opportunity to expand our understanding of structure-processing-property-performance relationships, as well as the associated physical and mechanical behavior. Within the context of the discussions, the application of electron microscopy, crystallography, computer modeling, and other techniques will be considered in the investigation of defects, fatigue, phase stability and transformation, radiation damage, hardening and softening, twinning, and other characteristics for a wide range of materials.

Defects and Deformation of Crystalline Solidsñin Honor of Dr. Man H. Yoo

Sponsored by: Structural Materials Division and ASM International: Materials Science Critical Technology Sector, Jt. Mechanical Behavior of Materials; Electronic, Magnetic & Photonic Materials Division and Structural Materials Division, Jt. Chemistry & Physics of Materials Committee; Structural Materials Division, Physical Metallurgy Committee

Abstract due date: 7/15/02

Recently developed novel experimental techniques and rapid progress in computational power have helped to develop a clearer understanding of the defects and deformation behavior of crystalline solids. Thus, we are a step closer to the stage of predicting the properties and performance of such materials and estimating the efficiency of pertinent technological processes. The symposium is intended for the presentation of recent findings and for discussion of fundamental features of the field to which Dr. Man H. Yoo of Oak Ridge National Laboratory has made noted contributions over recent decades. Submit abstracts electronically at http://cms.tms.org

or to: Jong K. Lee, Michigan Technological University, Metallurgical & Matls. Eng. Dept., Houghton, MI 49931-1200 USA; T: 906 487 2266; F: 906 487 2936; Email: jkl103@mtu.edu. Co-Organizers: Sean R. Agnew, University of Virginia, VA USA T: 434-924-0605; Email: sra4p@virginia.edu; K. N. Subramanian, Michigan State University, Dept. of Matl. Sci. & Mechs., East Lansing, MI 48824-1226 USA; T: 517-353-5397; F: 517-353-9842; Email: subraman@egr.msu.edu

Dynamic Deformation: Constitutive Modeling, Grain Size, and Other Effects: Symposium in Honor of Professor Ronald W. Armstrong

Sponsored by: Structural Materials Division and ASM International: Materials Science Critical Technology Sector, Jt. Mechanical Behavior of Materials

Abstract due date: 7/15/02

This symposium is organized to honor the work of Professor Ron Armstrong. The focus is on the dynamic behavior of materials, with emphasis in areas in which Prof. Armstrong has made seminal contributions: constitutive equations and grain-size effects. Dynamic deformation encompasses a broad range of phenomena with technological applications in military and civilian sectors. This will be the third in the series of symposia held on this subject, with the first symposium held in October 1994 and the second in October 1998, both in Rosemont, Illinois. Grain size effects on plastic deformation of materials have been a subject of consistent interest since the days of Hall and Petch, and the recent thrust in nanocrystalline materials has raised the interest to even higher levels. The macromechanical and physical processes that govern deformation at high-strain-rates and in materials with nanocrystalline grain sizes manifest themselves by a dazzling complexity of effects and morphologies. Professor Armstrongís noteworthy contributions in these areas have enhanced our predictive capability by enabling an improved understanding of the deformation mechanisms. The purpose of this symposium is to bring together researchers working in dynamic high-strain-rate deformation of solids, and on effects of grain size on plastic deformation, in particular, of nano-crystalline materials. The objective will be to review the state of the understanding of deformation mechanisms and mechanical properties as they are influenced by high-strain-rate and grain size effects. Unique consequences of dynamic deformation, including stress-induced chemical and physical changes, will also be discussed. The proposed 6-session symposium will include invited and contributed papers in the following areas: high-strain-rate mechanical properties; mechanisms of dynamic deformation; constitutive equations; grain size effects on mechanical properties; strengthening mechanisms in nanocrystalline solids; stress-induced physical and chemical changes in inert and energetic materials. Submit abstracts electronically at http://cms.tms.org or to: Marc Andre Meyers, University of CaliforniañSan Diego, Dept. of Mech. and Aerospace Eng., La Jolla, CA 92093-0411 USA, T: 858-534-4719, F: 858-534-5698, Email:mameyers@ucsd.edu. Co-Organizers: Naresh Thadhani, Georgia Institute of Technology, School of Mats. Sci. and Eng., Atlanta, GA 30332-0245 USA; T: 404-894-2651; F: 404-853-9140; Email: naresh.thadhani@mse.gatech.edu. The organizers are planning to publish the proceedings from this symposium in *Metallurgical and Materials Transactions*.

Martensitic Transformations in Low Symmetry Materials

Sponsored by: ASM International: Materials Science Critical Technology Sector and Structural Materials Division, Jt. Nuclear Materials Committee, Phase Transformations Committee

Abstract due date: 7/15/02

Martensite transformations in low symmetry materials offer unique challenges in terms of the crystallographic relationships between the parent and product phases. However, many engineering materials rely on the details of the transformation mechanism in the performance of the material. Specifically, many structural materials, actinides, and shape memory alloys depend on a martensitic phase for a desired property response. This symposium is intended to present the current advancements in the understanding of martensites in low symmetry materials. Fundamental aspects to be covered include: theory/modeling, thermodynamics/kinetics, and crystallography. Specific emphasis will be placed on the applications of external fields and how they relate to the performance of these types of materials. Submit abstracts electronically at http://cms.tms.org or to: Robert D. Field, Los Alamos National Laboratory, Los Alamos, NM 87545 USA; T: 505-665-3938; Email: rdfield@lanl.gov. Co-Organizers: Richard W. Fonda, Naval Research Laboratory, Washington, DC 20375 USA

Materials Lifetime Science and Engineering

Sponsored by: Structural Materials Division and ASM International: Materials Science Critical Technology Sector, Jt. Mechanical Behavior of Materials

Abstract due date: 6/30/02

The most complex and damaging processes that control the lifetimes of structural materials are those that involve synergistic interactions between environmental and mechanical effects. Mechanistic understanding and theoretical modeling need to be provided to further the studies of materials lifetime science and engineering. Specifically, mechanical/environmental interactions, fatigue, corrosion fatigue, oxidation effects, pit initiation, crack initiation and propagation, and final failure will be emphasized. Submit abstracts electronically at http://cms.tms.org or to: Peter K. Liaw, University of Tennessee, Dept. of Matls. Sci. and Eng., Knoxville, TN 37996-2200 USA; T: 865-974-6356; F: 865-974-4115; Email: pliaw@utk.edu. Co-Organizers: Ray A. Buchanan, The University of Tennessee, Matls. Sci. and Eng., Knoxville, TN 37996-2200 USA; T: 865-974-4858; F: 865-974-4115; Email: rab1@utk.edu; Gary Harlow, Lehigh University, Mech. Eng. and Mechs., Bethlehem, PA 18015-3192 USA; T: 610-758-4127; F: 610-758-6224; Email: dgh0@lehigh.edu; Dwaine L. Klarstrom, Haynes International, Inc., Kokomo, IN 46904-9013 USA; T: 765-456-6218; F: 765-456-6225; Email: dklarstrom@haynesintl.com; Robert P. Wei, Lehigh University, Mech. Eng. and Mechs., Bethlehem, PA 18015-3192 USA; T: 610-758-3587; F: 610-758-6555; Email: rpw0@lehigh.edu. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

Materials Prognosis: Integrating Damage-State Awareness and Mechanism-Based Prediction

Sponsored by: Structural Materials Division

Abstract due date: 7/15/02

This symposium is intended highlight scientific tools and approaches for development of a comprehensive damage prognosis technology for materials. The objective of such a prognosis capability is to enable continual assessment and prediction of the current and future health of materials in a complex mechanical system or subsystem, such as a turbine engine, helicopter gearbox, or aircraft. The ultimate goal is the development of quantitative models that relate a systemís-level structural response to materialís-level microstructural events. Areas of emphasis include: (1) methods for in situ interrogation of the damage state of a material, such as that from fatigue and/or creep, (2) physically-based models of the formation and growth of material damage under realistic loading, and (3) coupled state-awareness and life models, including probabilistic and uncertainty approaches. The symposium is expected to attract participants from diverse but interdependent disciplines including materials science, mechanical engineering, physics, and diagnostic state-awareness engineering. Submit abstracts electronically at http://cms.tms.org or to: James M. Larsen, US Air Force, Life

Prediction and Durability, Matls. and Manuf. Directorate, Metals, Ceramics and NDE Div. (AFRL/MLLN), Wright-Patterson AFB, OH 45433-7817 USA; Email: James.Larsen@wpafb.af.mil. Co-Organizers: Leo Christodoulou, Defense Advanced Research Agency, Arlington, VA 22203-1714 USA; T: 703-696-2374; F: 703-696-3999; Email: lchristodoulou@darpa.mil; Andrew J. Hess, Naval Air Systems Command, Building 106, Unit 4, 22195 Elmer Rd. Patuxent River, MD 20670-1534 USA; Stephan M. Russ, AFRL/MLLMN, Air Force Research Lab., Wright-Patterson Air Force Base, OH, 45433-7817 USA, T: 937-255-1356, F: 937-656-4840, E-Mail: Stephan.Russ@wpafb.af.mil; William J. Hardman, Naval Air Systems Command, (AIR 4.4.2), Building 106, Unit 4, 22195 Elmer Rd., Patuxent River, MD 20670-1534, T: 301-757-0508, F: 301-757-0562; J. Wayne Jones, University of Michigan, Dept. of Matls. Sci. and Eng., 2018 H.H. Dow, Ann Arbor, MI 48109, T: 734-764 7503, F: 734-763-4788

Measurement and Interpretation of Internal/Residual Stresses

Sponsored by: Structural Materials Division, ASM International: Materials Science Critical Technology Sector, Materials Processing & Manufacturing Division, Jt. Mechanical Behavior of Materials, Shaping and Forming Committee

Abstract due date: 7/15/02

Residual stresses play an important role in the behavior of metal matrix composites, multi-component and multi-phase alloys. These stresses form during processing and service due to transformation or thermal expansion mismatch as well as elastic and plastic mismatch during deformation. In order to develop a deeper understanding of the thermo-mechanical behavior of these materials, over a variety of length scales from bulk to the nano-structure, it is of key interest to examine the development of such residual and/or internal stresses. This symposium is targeted to the measurement and interpretation internal and/or residual stresses. The basic principle of internal stress measurement is identical in that they record strains via changes in lattice parameter, which are converted to stresses. A host of Neutrons, X-Ray and other microscopic techniques are available, though the length-scales at which such techniques operate vary. Within the context of internal stresses, this symposium invites contributions attempting internal/residual stress measurements over mm to sub-micron scale via Neutron, X-Ray, Synchrotron, and other novel techniques including SEM based EBSP methods. Submit abstracts electronically at http://cms.tms.org or to: Craig S. Hartley, National Science Foundation, Arlington, VA 22203 USA ; T: 703-696-8523; F: 703-696-8451; Email: craig.hartley@afosr.af.mil. Co-Organizers: Mark A.M. Bourke, Los Alamos National Laboratory, Neutron Science Center, Los Alamos, NM 87545 USA; Bimal K. Kad, University of California, AMES Laboratory, La Jolla, CA 92093-0411 USA; T: 858-534-7059; F: 858-534-6373; Email: bkad@ucsd.edu. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

Microstructural Processes in Irradiated Materials

Sponsored by: Structural Materials Division and ASM International: Materials Science Critical Technology Sector, Jt. Nuclear Materials Committee

Abstract due date: 7/12/02

Radiation can produce dramatic improvements or degradation in the properties of materials. An understanding of the microstructural changes occurring during irradiation is critical for the development of predictive models. The scope of this symposium will focus on the microstructural changes occurring in solids during ion, electron, neutron, gamma ray or x-ray irradiation. This symposium, which is the fifth in a series of symposia held every two years, is intended to bring together researchers working on different materials systems so that similarities and differences in radiation effects can be compared. Materials of interest include metals, intermetallics, semiconductors, insulators and superconductors. Both experimental and theoretical studies are solicited with a particular emphasis on linking state-of-the-art modeling with experimental observation. Specific topics where contributions are encouraged include: Amorphization and recrystallization; Phase stability and solute segregation; Radiation-enhanced or induced diffusion; Irradiation spectrum and dose rate effects; Defect characterization; Ion implantation-induced precipitation; Damage in fusion & fission reactor materials. Submit abstracts electronically at http://cms.tms.org or to: Lance L. Snead, Oak Ridge National Laboratory, Metals and Ceramics Division, Oak Ridge, TN 37830-6138 USA; T: 865-574-9942; F: 865-241-3650. Co-Organizers: Charlotte Becquart, Universite de Lille I, Laboratoier de Metallurgie Physique Et Genie des Materiaux, 59655 Villenueve síAscq, Cedex, France; Email: Charlotte.Becquart @univlille1.fr. The organizers are planning to publish the proceedings from this symposium.

The Mike Meshii Symposium on Electron Microscopy: Its Role in Materials Research

Sponsored by: ASM International: Materials Science Critical Technology Sector, Structural Materials Division, Jt. Mechanical Behavior of Materials

Abstract due date: 7/15/02

Electron microscopy has played a critical role in advancing the materials science paradigm. Direct imaging of structures at the microstructural and nanostructural levels allows structure-property relations to become better elucidated. This is particularly true for defects, either induced by the microscope as radiation damage or pre-existent as initiation sites for fatigue or phase transformations. The Mike Meshii Symposium is intended to capture the current research activities and to assess the state-of-the-art the use of electron microscopy to solve problems in materials science and engineering. We propose to organize a four-session symposium on electron microscopy, specifically its role in materials research. Some examples of what might be included in the proposed sessions are: defects and radiation damage; fatigue; solid solution softening and; phase transformations. We propose to dedicate this sympoisum in honor of Dr. Masahiro (Mike) Meshii who will retire from Northwestern University after more than 40 years of service in September 2003. Professor Meshii has made important contributions to the field using electron microscopy, particularly, amorphization, galvanization, solid-solution softening and fatigue. Submit abstracts electronically at http://cms.tms.org or to: Morris E. Fine, Northwestern University, Dept. of Matls. Sci. & Eng., Evanston, IL 60208 USA; T: 847-491-4322; F: 847-491-7820; Email: m-fine@northwestern.edu. Co-Organizers: Katherine T. Faber, Northwestern University, Dept. of Matls. Sci. & Eng., Evanston, IL 60208 USA; T: 847-491-2444; Email: k-faber@ northwestern.edu; Wayne King, Lawrence Livermore National Laboratory, San Ramon, CA 94583-2496 USA; Peter K. Liaw, University of Tennessee, Dept. of Matls. Sci. and Eng., Knoxville, TN 37996-2200 USA; T: 865-974-6356; Email: pliaw@utk.edu; Ben Mori, Tokyo 168-0081 Japan; Email: tm218@hermes.cam.ac.uk; David J. Quesnel, University of Rochester, Dept. of Mech. Eng., Rochester, NY 14627 USA; T: 716-275-5215; Julia R. Weertmen, Northwestern University, Dept. of Matls. Sci. & Eng., Evanston, IL 60208 USA; T: 847-491-5353; Email: jrweertman@northwestern.edu. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

Phase Stability, Phase Transformations & Reactive Phase Formation in Electronic Materials

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Structural Materials Division, Jt. Alloy Phases Committee

Abstract due date: 7/15/02

This symposium addresses phase stability, phase transformation, and reactive phase formation issues in electronic materials. Topics of interest include, but are not limited to, phase stability of flip-chip UBM, interfacial reactions at solder joints, phase transformations in lead-free solders during the soldering process, stability of solder joints in optoelectronics, phase transformations in silicide materials, phase stability of contacts and interconnects in ICs, new barrier layers for Cu processes, multicomponent III-V materials, and chemical interactions between electronic materials. Papers on experimental and theoretical investigations of related topics are all welcome. Submit abstracts electronically at http://cms.tms.org or to: Sinn-Wen Chen, National Tsing-Hua University, Dept. of Chem. Eng., Hsinchu City 300 Taiwan; T: 011 886 3 5721734; F: 011 886 3 5715408; Email: swchen@che.nthu.edu.tw. Co-Organizers: C. Robert Kao, National Central University, Dept. of Chem. Eng., Chungli City, Taiwan; T: 011 886 3 4227382; F: 011 886 3 4227382; Email: kaocr@hotmail.com; Hyuck Mo Lee, Korea Advanced Institute of Science & Technology, Dept. of Matls. Sci. & Eng., Taejon 305-701 Korea; T: 011 82 42 869 3334; F: 011 82 42 869 3310; Email: hmlee@sorak.kaist.ac.kr; Suzanne E. Mohney, Pennsylvania State University, Dept. of Matls. Sci. & Eng., University Park, PA 16802 USA; T: 814-863-0744; F: 814-865-2917; Email: mohney@ems.psu.edu; Michael R. Notis, Lehigh University, Dept. of Matls. Sci., Bethlehem, PA 18015 USA; T: 610-758-4225; F: 610-758-4244; Email: mrn1@lehigh.edu; Douglas J. Swenson, Michigan Technological University, Dept. of Metallurgical & Matls. Eng., Houghton, MI 49931 USA; T: 906-487-3352; Email: dswenson@mtu.edu. The organizers are planning a to publish the proceedings from this symposium in the *Journal of Electronic Materials*.

Terence E. Mitchell Symposium on the Magic of Materials: Structures and Properties

Sponsored by: ASM International: Materials Science Critical Technology Sector, Structural Materials Division, Jt. Mechanical Behavior of Materials

Abstract due date: 7/15/02

This symposium is being organized to honor Dr. Terry Mitchell for his seminal contributions to materials science in his 40+ years of illustrious career at Cambridge University (UK), Case Western Reserve University and Los Alamos National Laboratory. The theme of the symposium will be structure-property relationships in crystalline materials, with emphasis on defects, crystallography and transmission electron microscopy. Distinguished speakers will be invited from all over the world to present invited talks in topical areas of continued interest where Dr. Mitchell has made significant contributions. Some of these topics include: deformation behavior of fcc and bcc refractory metals, intermetallics, structural ceramics, composites, and metallic multi-layers, defects in ferroelectrics, semiconductors and functional ceramics, solid solution hardening and softening, work hardening, twinning, radiation effects, oxidation, etc. Abstract submission is by invitation only. Submit abstracts electronically at http://cms.tms.org or to: Amit Misra, Los Alamos National Laboratory, Los Alamos, NM 87545 USA; T: 505-667-9860; Email: amisra@lanl.gov. Co-Organizers: Harriet Kung, Los Alamos National Laboratory, Los Alamos, NM 87545 USA; T: 505-665-4005; Email: hkung@lanl.gov; Stuart Maloy, Los Alamos National Laboratory, Los Alamos, NM 87545 USA; T: 505-667-9784; Email: maloy@lanl.gov; Michael Nastasi, Los Alamos National Laboratory, Los Alamos, NM 87545 USA; T: 505-667-7007; Email: nasty@lanl.gov; Ricardo Schwarz, Los Alamos National Laboratory, Los Alamos, NM 87545 USA; T: 505-667-8454; Email: rxzs@lanl.gov

METALLURGICAL EXTRACTION, PROCESSING, SHAPING, FORMING, AND RECYCLING TRACK

Embracing the cornerstone issues of the global primary metals production field, this track provides presenters an opportunity to address issues related to the emergence of materials; the increasing role of the computer in all facets of processing; mineral preparation, handling, extraction, and refining; manufacturing processes such as shaping and forming; recycling and waste minimization; and regulatory matters. Many of the presentations will appear in the *2003 EPD Congress*, the annual volume of the TMS Extraction & Processing Division and which provides coverage of the optimized processing approaches to ferrous and nonferrous metals.

Actinide Materials: Processing, Characterization, and Behavior

Sponsored by: Light Metals Division, Structural Materials Division, Jt. Nuclear Materials Committee, Reactive Metals Committee

Abstract due date: 7/15/02

Actinide materials, especially U and Pu, are the foundation of the nuclear energy fuel cycle. The thermodynamic stability of actinide compounds places them in a chemical processing category with Al, Ti, Mg, and other reactive metals. Even so, the basic behavior and structure of these metals and their compounds is quite complex. In addition, their natural long-term radioactivity creates unique technical challenges for waste disposal. Papers are solicited to discuss the processing, characterization, and behavior of actinide materals in commercial and advanced nuclear fuels, high level nuclear waste forms, and medical applications. Submit abstracts electronically at http://cms.tms.org or to: Sean M. McDeavitt, Argonne National Laboratory, Chem. Techn. Div., Argonne, IL 60439-4837 USA; T: 630-252-4308; F: 630-252-9917; Email: mcdeavitt@cmt.anl.gov. Co-Organizers: Michael F. Stevens, Los Alamos National Laboratory, Los Alamos, NM 87545 USA; T: 505-665-4735; F: 505-667-8021; Email: mfs@lanl.gov. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

Applications and Processing of Powder Metallurgy Refractory Metals and Alloys

Sponsored by: Structural Materials Division, Refractory Metals Committee, Physical Metallurgy Committee

Abstract due date: 7/15/03

This symposium is intended as a forum for the presentation of current research and engineering results in the area of Powder Metallurgy Refractory Metals and Alloys. The organizers expect that the symposium will be divided into sessions as follows:† structural applications, electronics appli-

cations, consolidation processes, mechanical properties, and physical properties. Submit abstracts electronically at http://cms.tms.org or to: John J. Stephens, Sandia National Laboratories, Albuquerque, NM 87185 USA; T: 505-845-9209; F: 505-844-4816; Email: jjsteph@sandia.gov. The organizers are planning to publish the proceedings from this symposium in *JOM*.

General Topics in Waste Treatment and Minimization

Sponsored by: Extraction & Processing Division, Waste Treatment & Minimization Committee

Abstract due date: 7/15/02

This symposium will address pertinent topics in waste treatment and minimization, with subjects to be decided later. Submit abstracts electronically at http://cms.tms.org. The organizers are planning to publish the proceedings from this symposium in *EPD Congress 2003*

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Global Development of Copper and Gold Deposits

Sponsored by: Extraction & Processing Division, Process Mineralogy Committee, Precious Metals Committee

Abstract due date: 7/15/02

The presentations will focus on the various aspects of the exploitation of copper and gold deposits, including, but not limited to, process mineralogy, mineral processing, pyrometallurgy, hydrometallurgy and environmental aspects. Submit abstracts electronically at http://cms.tms.org or to: Steven L. Chryssoulis, Amtel, London, Ontario N6G 4X8 Canada; T: 519-858-5037; F: 519-858-5038; Email: amel@skynet.ca. Co-Organizers: Tzong T. Chen, CANMET, Ottawa, ON K1A 0G1 Canada; T: 613-995-9490; F: 613-996-9673; Email: tchen@nrcan.gc.ca. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

International Symposium on Smelter Maintenance, Productivity and Efficiency

Sponsored by: Extraction & Processing Division, Lead and Zinc Committee, Pyrometallurgy Committee

Abstract due date: 7/1/02

Profitable smelting relies heavily on cost control, high metal recovery and productivity. An international symposium is organised in conjunction with the 2003 Annual Meeting at San Diego, California. Papers are solicited under the following topics: Smelter maintenance: (maintenance practice, planning, accounting, prevention; corrosion, dust-build-ups, accretions, tapholes, break-outs, material standards, documentation); Productivity: (furnace availability, total quality management, furnace integrity, scheduling, furnace cooling, outsourcing of services, start-up, learning curve); Efficiency: (metal recovery, slag handling, practical slag chemistry, reduction, fuming, slag concentrating, electric furnace operation) Submit abstracts electronically at http://cms.tms.org or to: Theo Lehner, Boliden Mineral AB, R^nnsk‰r Smelter, S 932 81 Skelleftehamn, Sweden; F: 46 910 773 138; Email: theo.lehner@boliden.se. Co-Organizers: David B. George-Kennedy, Kennecott Utah Copper Corporation, Salt Lake City, UT 84044-6001 USA; T: 801-252-3158; F: 801-252-3147; Email: geokend@kennecott.com; Alistair Ross, INCO, Ltd., Copper Cliff Smelter Complex, Copper Cliff, Pomino Canada T: 705-682-5213; F: 705-683-6535; Email: AGRoss@Inco.com. The organizers are planning to publish the proceedings from this symposium in *EPD Congress 2003*

Materials Processing Fundamentals

Sponsored by: Extraction & Processing Division, Materials Processing & Manufacturing Division, Jt. Processing Modeling Analysis & Control Committee; and Extraction & Processing Division, Process Fundamentals Committee

Abstract due date: 7/15/02

This symposium will cover all aspects of the fundamentals, synthesis, analysis, design, monitoring, and control of metals, materials, and metallurgical processes and phenomena. Topics include the experimental, analytical, and computer modeling aspects of the physical chemistry, thermodynamics, and transport phenomena in materials and metallurgical processes as well as monitoring and control methodologies involved in these processes. Research relating to processes involving iron and steel, nonferrous metals, or lightweight alloys and topics that relate to process monitoring and control involving laboratory and in-plant validation are especially encouraged. Submit abstracts electronically at http://cms.tms.org or to: Adam Powell, Massachusetts Institute of Technology, Cambridge, MA 02139-4301 USA; T: 617-452-2086; F: 617-253-5418; Email: hazelsct@mit.edu. Co-Organizers: P. N. Anyalebechi, Grand Valley State University, Padnos School of Eng., Grand Rapids, MI 49504-6495 USA; Email: princewill.any-alebechi@alcoa.com. The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting.

Materials Processing Under the Influence of Electrical and Magnetic Fields

Sponsored by: Extraction & Processing Division, Materials Processing & Manufacturing Division, Jt. Processing Modeling Analysis & Control Committee; and Extraction & Processing Division, Process Fundamentals Committee

Abstract due date: 6/30/02

The symposium will cover physical phenomena, analytical and numerical models, numerical algorithms, experimental studies, physical modeling, and the development of new processes related to materials processing under the influence of electric and magnetic fields. Numerical topics may include the comparison of different software packages on the basis of their applicability, reliability, user-friendliness, accuracy, and cost. The symposium will include both presented papers and discussions in a workshop format. Summary and recommendations for future research topics of direct relevance to analytical model developers and numerical simulation software developers will be finalized during a round table discussion in the concluding sessions of the workshop. The objective of the workshop will be to create an environment that will lead to the formation of technical teams to work collaboratively on materials theory and computational algorithms pertinent to materials processing under the influence of electric and magnetic fields involving industry, academia, and national laboratories. Abstracts should not exceed 150 words and contain the name of authors, email and postal address, and phone and fax numbers. Submit abstracts electronically at http://cms.tms.org or to: Joanna R. Groza, University of California, Chem. Eng. Matl. Sci. Dept., Davis, CA 95616 USA; T: 530-752-8825; F: 530-752-9554; Email: jrgroza@ucdavis.edu. Co-Organizers: George S. Dulikravich, The University of Texas at Arlington, (MAIDO) Dept. of Mech. and Aerospace Eng., Arlington, TX 76019 USA; T: 817-272-7376; F: 817-272-5010; Email: gsd@mae.uta.edu; Nagy El-Kaddah, University of Alabama, Dept. of Metall. & Matls. Eng., Tusca-loosa, AL 35487-0202 USA; T: 205-348-1743; F: 205-348-8573; Email: nelkaddah@coe.eng.ua.edu; James W. Evans, University of California, Dept. of Matls. Sci. and Min. Eng., Berkeley, CA 94720 USA; T: 510-642-3807; F: 510-642-9164; Email: evans@socrates.berkeley.edu; Zuhair Munir, University of California, Davis, CA 95616-5294 USA; Email: zamunir@uc-davis.edu; Srinath Viswanathan, Oak Ridge National Laboratory, Oak Ridge, TN 37831-2008 USA; T: 865-576-9917; F: 865-574-4357; Email: viswanathans@ornl.gov. The organizers are planning to publish the proceedings from

this symposium in a volume available at the 2003 TMS Annual Meeting.

Mercury Management

Sponsored by: Extraction & Processing Division, Waste Treatment & Minimization Committee

Abstract due date: 7/15/02

Mercury contamination is widespread. Its cleanup is not trivial. Descriptions of technologies that have been demonstrated to be effective (on the lab scale, pilot scale, and full scale) are solicited. Also, descriptions of specific site contamination and the management protocols utilized in successful cleanup operations (case histories) are solicited. Submit abstracts electronically at http://cms.tms.org or to: Larry Twidwell, Montana Tech, Metallurgical Engineering, Butte, MT 59701 USA; T: 406-496-4208; F: 406-496-4133; Email: ltwidwell@mtech .edu.The organizers are planning to publish the proceedings from this symposium in *EPD Congress 2003*.

Reactive Metals

Sponsored by: Light Metals Division, Reactive Metals Committee

Abstract due date: 7/15/02

The Reactive Metals Symposium, along with carbon technology, aluminum reduction technology, alumina and bauxite, cast shop technology, and recycling technology, collectively form the Light Metals Symposium, where experts from the Light Metals Industry and academia from all over the world meet each other and share information. You are invited to submit papers in the following subject areas: Reactive metals; Advances in molten salt processing. Submit abstracts electronically at http://cms.tms.org or to: Sean M. McDeavitt, Argonne National Laboratory, Chemical Techn. Div., Argonne, IL 60439-4837 USA; T: 630-252-4308; F: 630-252-9917; Email: mcdeavitt@cmt.anl.gov. The organizers are planning to publish the proceedings from this symposium in *Light Metals 2003*.

Recycling ñ General Sessions

Sponsored by: Light Metals Division, Recycling Committee

Abstract due date: 7/15/02

The Recycling Technology Symposium, along with reactive metals, carbon technology, aluminum reduction technology, alumina and bauxite, and cast shop technology, collectively form the Light Metals Symposium, where experts from the Light Metals Industry and academia from all over the world meet each other and share information. You are invited to submit papers in the following subject areas: : Any aspect associated with light metals recycling, including dross processing. Submit abstracts electronically at http://cms.tms.org or to: James C. Daley, Daley & Associates, 1020 W Cactus Wren Dr., Phoenix, AZ 85021 USA, T: 1 602 678 1616; F: 1 602 678 1661; Email: daleyjim@aol.com Co-organizer: Han Spoel, Drosstec, Inc., Toronto, ON M5R 1W8 Canada; T: 416-960-3534; F: 416-960-3534; Email: hspoel@drosstec.com. The organizers are planning to publish the proceedings from this symposium in *Light Metals 2003* and *EPD Congress 2003*.

Residue Handling in Metals Processing

Sponsored by: Extraction & Processing Division, Waste Treatment & Minimization Committee

Abstract due date: 7/15/02

Most metals-producing processes create residue streams, which must be further processed for sale or disposal. This symposium will focus on these residue streams in ferrous and non-ferrous metals processing. Acceptable topics for presentation include generation of residues and source reduction; processing of residues for sale or safe disposal; economic aspects; and environmental issues. Submit abstracts electronically at http://cms.tms.org or to: Thomas P. Battle, DuPont Company, White Pigment and Mineral Production, Edgemoor, DE 19809 USA; T: 302-761-2193; F: 302-761-2275; Email: thomas.p.battle@usa.dupont.com. The organizers are planning to publish the proceedings from this symposium in *EPD Congress 2003*.

Sensors and Control in Materials Processing

Sponsored by: Extraction & Processing Division, Materials Processing & Manufacturing Division, Jt. Processing Modeling Analysis & Control Committee

Abstract due date: 7/15/02

Submit abstracts electronically at http://cms.tms.org or to: Stavros A. Argyropoulos, University of Toronto, Dept. of Matls. Eng., Toronto, Ontario Canada; T: 416-978-5302; F: 416-978-4155; Email: argyro@ecf.utoronto.ca. The organizers are planning to publish the proceedings from this symposium in *EPD Congress 2003.*

Yazawa International Symposium on Metallurgical and Materials Processing: Principles and Technologies

Sponsored by: Extraction & Processing Division, Aqueous Processing Committee, Copper, Nickel, Cobalt Committee, Process Fundamentals Committee, Lead and Zinc Committee, Pyrometallurgy Committee

Abstract due date: 7/15/02

This symposium is organized to share and discuss recent developments in physical chemistry of metallurgical processes and physicochemical principles involved in materials processing. These are the subjects of the lifetime work of Professor Akira Yazawa in whose honor this symposium is named. Many exciting new process technologies have in recent years been developed in the fields of chemical and process metallurgy and materials processing, and many have been adopted by the industry. The international symposium will provide a stimulating forum to critically examine the role of thermochemical and basic physicochemical principles in the development and operation of these new processes. The results of basic and applied research as well as those of plant operations will be covered in this symposium. The specific topics to be covered include but are not limited to thermodynamics of sulfide smelting, thermo and physico-chemical principles relevant to pyrometallurgical and hydrometallurgical plant operations, advances in nonferrous production technologies, thermochemistry of ferrous production, environmental topics related to metals and materials production, new reactor design, control and optimization methods, basic principles of advanced materials processing, advances in materials processing technologies, energy and new raw materials. For detailed symposium information and abstract submissions please check: http://www.FLOGEN.COM/YazawaSymposium. Submit abstracts electronically at http://cms.tms.org or to: Hong Yong Sohn, University of Utah, Dept. of Metall. Eng., Salt Lake City, UT 84112 USA; Email: hysohn@mines.utah.edu. Co-Organizers: Kimio Itagaki, Tohoku University, Institute for Advanced Matls., Sendai 980-8577 Japan; Chikabumi Yamauchi, Nagoya University, Dept. of Matls. Sci. & Eng.; Florian Kongoli, FLOGEN Technologies, Montreal H3S 2CS Canada; T: 514-344-8786 x220; F: 514-344-0361; Email: FKongoli@FLOGEN.COM; The organizers are planning to publish the proceedings from this symposium in a volume available at the 2003 TMS Annual Meeting. Co-Sponsors**:** ASM International; AsociaciÛn Argentina de Materiales/ Materials Research Society of Argentina; AssociaÁ„o Brasileira de Metalurgia e

Materiais; Associazione Italiana di Metallurgia; Australasian Institute of Mining and Metallurgy; Chinese Metals Society; Czech Society for New Materials and Technologies; Dansk Metallurgisk Selskab/ Danish Metallurgical Society; Deutsche Gesellschaft fuer Materialkunde; Dowa Mining Co., Ltd.; European Journal of Mineral Processing and Environmental Protection; Federation of European Materials Societies; Finnish Association of Mining and Metallurgical Engineers; FLOGEN Technologies, Inc.; Institute of Materials (UK); Institution of Mining and Metallurgy; Instituto Argentino de Siderurgia; Instituto de Ingenieros de Minas de Chile; Iron & Steel Institute of Japan; Iron & Steel Society; Japan Institute of Metals; Korean Institute of Metals & Materials; Metallurgical Society of the Canadian Institute of Mining, Metallurgy and Petroleum; Mining and Materials Processing Institute of Japan; Mitsubishi Materials Corporation; Mitsui Mining and Smelting Co., Ltd.; Nippon Mining & Metals Co., Ltd.; Nonferrous Metals Society of China; Outocumpu Oyj, Finland; Slovak Metallurgical Society; Slovensko drustvo za materiale/Slovenian Society of Materials; SociÈtÈ FranÁaise de MÈtallurgie et de MatÈriaux; Society for Mining, Metallurgy, and Exploration; South African Institute of Mining & Metallurgy; Sumitomo Metal Mining Co., Ltd.; Toho Zinc Co., Ltd.

Waste from Metal Plating Industries

Sponsored by: Extraction & Processing Division, Waste Treatment & Minimization Committee

Abstract due date: 7/15/2002

Various kinds of metal plating, Ni, Cr, Cu, Au and Pd etc. are adopted in metal plating industry. Recently, electroless or chemical plating is used in the field of Ni, Cu, Au and Pd plating. A large amount of wasted solution containing various metal ions and reduction agents is discharged from the metal plating industry. The effective and environmentally friendly treatment methods of the solution are needed from environmental and economical aspects. The session will cover the above topics and related areas. Submit abstracts electronically at http://cms.tms.org or to: Junji Shibata Kansai University, Dept. of Chemical Eng., Osaka Japan 564-8680, T: 011-81-66-368-0856, F: 011-81-66-388-8869, Email:shibata@kansai-u.ac.jp

MICRO- AND NANOSCALE TECHNOLOGIES TRACK

Developments in the synthesis, analysis, and application of these small-scale materials will be explored in this track of symposia. Materials in various forms, including thin films, coatings, powders, and bulk materials as well as the practical use of the same (e.g., electronic packaging) should be addressed.

Advances in MEMS and Optical Packaging

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Electronic Packaging and Interconnection Materials Committee

Abstract due date: 7/1/02

The silicon technology that led to the computer revolution and the silicon-oxide optical fiber technology that led to the telecommunications revolution have significantly changed the world in recent years by stimulating the explosion of information flow through internet networks and the increase in productivity. Micro-Electro-Mechanical Systems (MEMS) based on silicon technology are poised for a revolution now by virtue of their potential for significant reduction in size, weight and cost as well as substantial improvement in device density, speed, and precision. MEMS devices provide efficient interfaces between the macro- and micro-world, and are useful for various mechanical, chemical and biological sensors and actuator applications as well as for global optical telecommunication networks. MEMS packaging as well as the optical packaging is still at its infancy, thus dominating the cost of these important technologies. Many issues remain to be resolved, for example, related to the materials choices, fabrication, integration, assembly processes using solder or other packaging materials, reliability aspects affected by materials and processes during handling, wafer level packaging, materials compatibility, out-gassing and vacuum packaging, etc. This symposium will cover the materials and processing issues related to the packaging of MEMS and optical communication devices and systems. Submit abstracts electronically at http://cms.tms.org or to: Sung-Ho Jin, Agere Systems/Lucent Technologies, Bell Labs., Murray Hill, NJ 07974 USA; T: 908-582-4076; F: 908-582-3609; Email: jin@agere.com. Co-Organizers: Darrel R. Frear, Motorola, Tempe, AZ 85284 USA; T: 480-413-6655; F: 480-413-4511; Email: R46897@MSGPHX6.sps.mot.com. The manuscripts will be due at the meeting; however to expedite the review procedure you are encouraged to submit the manuscript (preferably via e-mail to one of the symposium organizers) one month before the meeting. There is no page limitation but the style should conform to that of JEM. The organizers are planning to publish the proceedings from this symposium in the *Journal of Electronic Materials*.

International Symposium on Structures and Properties of Nanocrystalline Materials

Sponsored by: Structural Materials Division and ASM International: Materials Science Critical Technology Sector, Jt. Mechanical Behavior of Materials, Chemistry & Physics of Materials Committee

Abstract due date: 7/15/02

In recent years, a wide range of nanoStructured materials has been processed by a variety of processing routes and methods to engineer desired structures as well as properties. Such nanostructured materials include bulk form: electrodeposited sheets, ECAP rods, ball-milled & consolidated pellets; thin composite films by a variety of deposit techniques. Therefore, the properties of these materials exhibit a much more diversified nature. This symposium will provide a forum to discuss unique microstructure aspects including defect structures, grain boundary structures, interface structures; characterized properties: elastic, anelastic and plastic properties; electrical and magnetic properties; chemical and catalytic properties; and optical properties. Other related topics include computer simulations of microstructures and properties based on micro- and macroscopic models; processing-property relationship, structure-property relationship; and industrial applications. This symposium also calls for abstracts in these subjects stated above and closely related subjects. Submit abstracts electronically at http://cms.tms.org or to: Sung H. Whang, Polytechnic University, Dept. of Mech. Eng., Brooklyn, NY 11201 USA; T: 718-260-3144; F: 718-260-3532; Email: swhang@poly.edu. Co-Organizers: Robert D. Shull, NIST, Magnetic Matls., Gaithersburg, MD 20899-0001 USA; T: 301-975-6035; F: 301-975-4553; Email: shull@nist.gov

Lead-Free Solders and Processing Issues Relevant to Microelectronics Packaging

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Electronic Packaging and Interconnection Materials Committee

Abstract due date: 7/1/02

This symposium will address materials and processing issues related to the use of emerging and established lead-free and lead-bearing solders. Soldering processes, metallization, (board and component finishes) and manufacturing aspects will be addressed for microelectronics applications. Solder materials development for use in optical/optoelectronic and MEMS packaging are also included. Topics considered will consist of materials and manufactur-

ing challenges in solder alloy design, structure-property-processing relationships of bulk solders and solder joints, influence of surface and underbump metallization on solderability and reliability of solder joints, microstructure modeling and control, reliability modeling, and testing methodologies of various classes of electronic packages. The symposium will also cover lead-free materials for metal-semiconductor contacts, alternative interconnect technology for stress management at both the wafer level and the chip to package level, and the issues involved in the design and integration of conductive adhesives in electronic packages. Topics related to lead-free soldering in optoelectronic and microelectronic packages, such as BGA, micro-BGA, chip-scale etc. are also of special interest. Submit abstracts electronically at http://cms.tms.org or to: J. P. Lucas, Michigan State University, East Lansing, MI 48824 USA; T: 517-4322883; F: 517-3539842; Email: lucas@egr.msu.edu. Co-Organizers: Srini Chada, Motorola, Dept. APTC, Fort Lauderdale, FL 33322 USA; T: 954-723-5293; F: 954-723-5554; Email: srinivas.chada@motorola.com; Sung K. Kang, IBM, T. J. Watson Research Center, Yorktown Heights, NY 10598 USA; T: 914-945-3932; F: 914-945-2141; Email: kang@us.ibm.com; C. Robert Kao, National Central University, Dept. of Chem. Eng., Chungli City, Taiwan; T: 011 886 3 4227382; F: 011 886 3 4227382; Email: kaocr@hotmail.com; Kwang-Lung Lin, National Cheng Kung University, Dept. of Matls. Sci. and Eng., Tainan, Taiwan; T: 886-6-275575; F: 886-6-2346290; Email: matkllin@mail.ncku.edu.tw; Jud Ready, MicroCoating Technologies, Atlanta, GA 30341 USA; T: 678-287-3969; F: 678-287-2499; Email: jready@microcoating.com; Jin Yu, KAIST, Ctr. for Elect. Pack. Matls. Korea T: 82-42-869-4214; F: 82-42-869-3310; Email: jinyu@kaist.ac.kr. The deadline for manuscript submission is at the time of the meeting. However, to expedite the review process you are encouraged to submit the manuscript (one original and one copy) one month before the meeting. There is no page limitation but the style should conform to that of JEM. The manuscripts will be peer reviewed and then considered for publication. The organizers are planning to publish the proceedings from this symposium in the *Journal of Electronic Materials*.

Materials and Processes for Submicron Technologiesñlll

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Thin Films & Interfaces Committee, TMS

Abstract due date: 7/15/02

This symposium is the third in a series devoted to advanced research in materials and processes for microelectronic systems comprising submicron-size features. The objective of the symposium is to provide an interactive forum of multidisciplinary discussion on the science and technology of advanced materials, processing, and critical reliability issues in microelectronic device fabrication. Specific topics include, but are not limited to: Metallization: materials and processes for contacts, thin-film barriers and interconnects; film properties related to device performance, process integration, and reliability. Low-Dielectric Constant Materials: characterization; thermal and mechanical property control; process integration challenges in organic and inorganic dielectrics. High-Dielectric Constant Materials: materials design, processing and characterization challenges. Chemical Mechanical Polishing: process modeling and simulation; advanced slurry and pad development; defect characterization and control. Contacts and Silicides Technology: formation, kinetics and stability of silicides; process integration; barrier processing; film property control; rapid thermal processes. Reliability: electromigration; mechanical reliability (e.g. stress voiding, adhesion); corrosion; dielectric breakdown; diffusion-barrier reliability. Advanced Study on Thin Film Microstructures, Surfaces and Interfaces: characterization; defect control; morphology evolution and stability; response to thermal processing. Submit abstracts electronically at http://cms.tms.org or to: Seung H. Kang, Lucent Technologies, Orlando, FL 32819 USA; T: 407-371-3851; F: 407-371-3547; Email: shkang1@agere.com. Co-Organizers: N. (Ravi) M. Ravindra, New Jersey Institute of Technology, Dept. of Physics, Summit, NJ 07901 USA; T: 973-596-3278; F: 973-642-4978; Email: nmravindra@home.com; Mahesh Sanganeria, Novellus Systems, Inc., San Jose, CA 95134 USA. The organizers are planning to publish the proceedings from this symposium in the *Journal of Electronic Materials*.

Science and Technology of Magnetic and Electronic Nanostructures

Sponsored by: Electronic, Magnetic & Photonic Materials Division and Structural Materials Division, Jt. Chemistry & Physics of Materials Committee

Abstract due date: 7/15/02

With potential decrease in electronic device feature sizes from the current sub-micron to the sub-10 nm scale, the electrical, optical, magnetic and other physical properties of these materials must be understood at the nanoscale. They may be significantly different from the properties of the bulk materials. These new properties, particularly those arising from quantum confinement and size effects, will undoubtedly lead to new classes of devices. For example, nanoscale electronics may provide circuits with greater functionality at lower cost, but they will need to replace MOS transistors with alternative quantum elements, such as single electron transistors or molecular switches. This symposium will address fundamental and applied issues pertinent to the science of this class of nanomaterials and nanostructures. The symposium will focus on the confluence of both magnetism and electrical character with microstructure and nanoscale phenomena in broad classes of materials. The primary goal of this symposium is to bring together materials scientists, physicists, chemists and engineers working in the field of magnetism and electronics to explore the interplay between micro (and nano) structure, processing and the manifestations in the physical responses. Of specific interest to this symposium are approaches to create and characterize magnetic and electronic nanostructures, thereby enabling new or better functionality. Submit abstracts electronically at http://cms.tms.org or to: Ramamoorthy Ramesh, University of Maryland, Dept. of Matls. and Nuclear Eng., College Park, MD 20742 USA; T: 301-405-7364; F: 301-314-7136; Email: rr136@umail.umd.edu. Co-Organizers: Y. Austin Chang, University of Wisconsin, Dept. of Matls. Sci. & Eng., Madison, WI 53706-1595 USA; T: 608-262-0389; F: 608-262-0389; Email: chang@engr.wisc.edu; Robert D. Shull, NIST, Magnetic Matls., Gaithersburg, MD 20899-0001 USA; T: 301-975-6035; F: 301-975-4553; Email: shull@nist.gov. The organizers are planning to publish the proceedings from this symposium in a volume available after the 2003 TMS Annual Meeting.

MATERIALS SCIENCE EDUCATION TRACK

This track will present advances in content, approach, and methodology for undergraduate and graduate materials education

Computational Methods in Materials Education

Sponsored by: Education Committee

Abstract due date: 7/15/02

This symposium will discuss the current new courses in computational methods in materials education and improvement of existing courses using new computational methods. Submit abstracts electronically at http://cms.tms.org or to: Zi-Kui Liu, Pennsylvania State University, Matls. Sci. and Eng., State College, PA 16082-5006 USA; T: 814-865-1934; F: 814-863-8675; Email: zikui@psu.edu. Co-Organizers:

Mark Asta, Northwestern University, Dept. of Matls. Sci. and Eng., Evanston, IL 60208-3108 USA; T: 847-491-5940; Email: masta@northwestern.edu; Long-Qing Chen, Pennsylvania State University, Matls. Sci. and Eng. Dept., University Park, PA 16802-5005 USA; T: 814-863-8101; F: 814-865-0016; Email: lqc3@psu.edu

HOT-TOPIC TRACK MATERIALS PRODUCTION AND PROCESSING EFFICIENCIES

Featuring the TMS Materials Processing & Manufacturing Division's Fourth Global Innovations Symposium: Energy Efficient Manufacturing Processes, this spotlight programming track will present technological innovations and advancements that advance the growing global concern of achieving greater production efficiency while simultaneously reducing resource consumption.

The MPMD Fourth Global Innovations Symposium: Energy Efficient Manufacturing Processes

Sponsored by: Materials Processing and Manufacturing Division,

Abstract due date: 7/15/02

Increasing energy prices offer manufacturers an excellent incentive to improve productivity while decreasing production costs. Many times, making a process more energy efficient involves utilizing waste heat or other waste products, leading to a cleaner process as well. The goal of this forum is to explore process improvements that result in energy savings while producing an equal or better product with less waste. One obvious target for improvement is processes involving melting and heating, but all processes for shaping and forming raw materials into finished products are also very energy intensive. This symposium will cover manufacturing processes beginning at initial mineral extraction through packaging and shipping strategies. Some materials are melted several times throughout their processing cycle, and eliminating even one of these processes can result in substantial savings. Even less obvious materials processes and properties that can be improved for energy efficiency include wear, fatigue, hot-cracking, and corrosion of surfaces in manufacturing equipment and machine tools. Many such dies, rolls, cutting tools, and other equipment must be repaired or replaced regularly, and an extension of their useful life can be very cost effective and save significant energy. Near-net shape and additive processes that reduce the need for machining certainly increase energy efficiency as well. Manufacturing processes for metals, ceramics, polymers, electronic materials, and composites are certainly all available for improvements in energy efficiency, and all these materials are used for manufacturing other products. This global symposium highlights the importance of efficiency in manufacturing processes and the potential for advances in this area. Abstracts from authors representing government, industry, and academia are solicited in the following areas: process optimization and control; powder processing; solidification; shaping and forming; surface engineering; and computational process modeling. Submit abstracts electronically at http://cms.tms.org or to: Toni Marechaux, National Research Council, National Materials Advisory Board, Washington, DC 20418 USA; T: 202-334-3505; F: 202-334-3718; Email: tmarecha@nas.edu. Co-Organizers: Iver E. Anderson, Iowa State University, Ames Lab., Ames, IA 50011-3020 USA; T: 515-294-8252; F: 515-294-8727; Email: andersoni@ameslab.gov; Chris Cockrill, DOE Seattle Regional Office, Seattle, WA USA; Email: chris.cockrill@hq.doe.gov. The organizers are planning to publish the proceedings from this symposium in a volume available after the 2003 TMS Annual Meeting. The organizers are planning to publish the proceedings from this symposium.

Increasing Energy Efficiency in Aluminum

Sponsored by: Light Metals Division, Aluminum Committee

Abstract due date: 7/15/02

A presentation of reports on current research projects be performed by Secat, the national laboratories, and universities, and funded by the Department of Energy, Office of Information Technology, and the aluminum production industry, that focus on increasing the energy efficiency of aluminum melting, casting, and processing. Submit abstracts electronically at http://cms.tms.org or to: Subodh K. Das, Secat, Inc., Coldstream Research Campus, Lexington, KY 40511 USA; T: 859-619-8386; F: 859-323-8228; Email: skdas@engr.uky.edu. The organizers are planning to publish the proceedings from this symposium.

GENERAL ABSTRACT INFORMATION

Abstract due date: 8/15/02

General abstract sessions are planned for the 2003 TMS Annual Meeting. You may submit abstracts electronically at http://cms.tms.org. For additional information, please contact: TMS Technical Programming Department, 184 Thorn Hill Road, Warrendale, PA 15086 USA; Telephone: 724-776-9000, ext. 253; Fax: 724-776-3770; E-mail: ckobert@tms.org

Concurrent publication has been proposed for this symposia.

Post-conference publication has been proposed for this symposia.

This symposia will be published in Light Metals 2003.

This symposia will be published in EPD Congress 2003.

This symposia will be published in the Journal of Electronic Materials.

GENERAL ABSTRACT INFORMATION

Please contact:
TMS Technical Programming Department, 184 Thorn Hill Road, Warrendale, PA 15086 USA;
Telephone (724)776-9042, ext. 253; Fax (724)776-3770; Email ckobert@tms.org

AUTHORS

It is recommended that the prospective author electronically submit abstracts to the TMS Conference Management System (CMS) using the following address: http://cms.tms.org. Follow the instructions to access the appropriate year and conference to which you wish to submit. Please call the Programming Services Department for assistance if you need further instructions.

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- ☐ Chemistry and Physics of Materials
- ☐ Coatings and Thin Films
- ☐ Composite Materials
- ☐ Corrosion and Environmental Effects
- ☐ Deformation
- ☐ Electronic Packaging and Interconnection Materials
- ☐ Environmental Effects
- ☐ Extraction and Processing
- ☐ Fatigue
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- ☐ Non-Ferrous Metals
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- ☐ Polymers
- ☐ Powder Metallurgy
- ☐ Powder Technology
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- ☐ Surface Engineering
- ☐ Thin Films and Interfaces
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