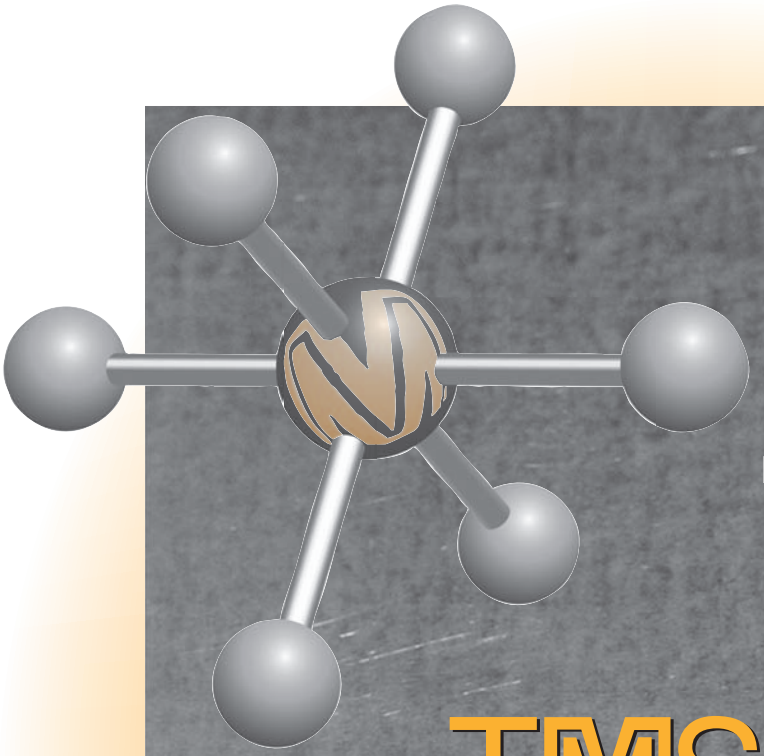

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The TMS 2005 Annual Meeting & Exhibition is the place where attendees can connect timely presentations of scientific research, technological advances, and new product developments to future solutions in the workplace.

The TMS 2005 Annual Meeting & Exhibition will feature more than 50 symposia in the following 3 Conference Tracks:

(1) Materials Theory ↔ Experiment
Connecting theory and experiment is the way in which our materials science knowledge base continues to grow. The TMS Annual Meeting always provides the venue for presentation and healthy discussion of new advances in the field. The 2005 program will include three primary tracks:

- Phases and Phase Transformations
- Multi-scale Mechanical Behavior
- Materials Characterization and Properties

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Understanding the connections between processing and properties is fundamental to the ability of materials engineers to develop and implement improved processes and products. A traditional strength of the TMS Annual Meeting is programming covering the full range of processing from basic extraction through end product manufacturing processes. The themes in this area for 2005 are:

- Aluminum Primary Processing
- Magnesium Technology
- Extractive Processing
- Downstream Metals Processing
- Surface Engineering

(3) Materials ↔ Applications
The connections between materials science and engineering often occur when materials are developed for specific applications. Exploring and understanding the diversity of materials development approaches and complexity in end use requirements provides TMS Annual Meeting attendees with useful knowledge that can be applied to their specific areas of responsibility. In 2005 a wide range of programming will be presented in this area with the themes of:

- Transportation
- Emerging Materials
- Electronic Materials
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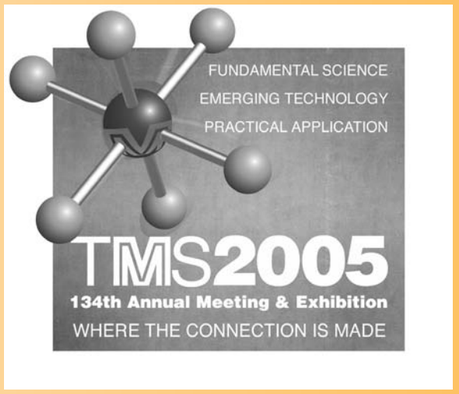
In the pages that follow you will see the planned symposia that focus on current research and future applications of metals and materials.

The meeting will feature programming by:

- TMS Electronic, Magnetic & Photonic Materials Division
- TMS Extraction & Processing Division
- TMS Light Metals Division
- TMS Materials Processing & Manufacturing Division
- TMS Structural Materials Division
- TMS Education Committee
- TMS Young Leaders Committee
- TMS Public & Governmental Affairs Committee
- ASM International's Materials Science Critical Technologies Sector
- International Magnesium Association
- Japanese Institute of Metals



SHORT COURSES
Offered in conjunction with the TMS 2005 Annual Meeting & Exhibition will be a selection of learning-intensive courses designed to enhance your technical and professional expertise. These courses are developed in response to the training and information needs of today's engineering professionals. TMS is accepting proposals for quality course offerings that complement the technical topics. Please contact raabe@tms.org for more information.

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HOW to REGISTER
Registration is easy. An on-line registration form will be available on the meeting web site at http://www.tms.org/AnnualMeeting.html. The form will be posted to the site in August 2004.

WHERE to STAY
The San Francisco Marriott is the TMS headquarters hotel. Special conference rates have been contracted with this hotel and others in the area surrounding the Moscone Center. To receive special rates, use the TMS 2005 housing reservation form that will appear on the meeting web site in August 2004.

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A special opportunity for TMS nonmember registrants has been created to connect all nonmembers with the many benefits of TMS. All nonmember registrants automatically receive a one-year introductory associate membership in TMS for 2005. Membership benefits include subscriptions to *JOM* (print and on-line versions) and *TMS Letters,* and significant discounts on TMS products and services.

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- Placing a booth in the exhibition
- Placing an ad in the official conference publication and at-meeting program: *JOM*
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E-mail: mtgserv@tms.org

Materials Theory ↔ Experiment

PHASES AND PHASE TRANSFORMATIONS

Hume-Rothery Symposium: The Science of Complex Alloys

Sponsored by: Electronic, Magnetic & Photonic Materials Division, EMPMD/SMD-Alloy Phases Committee
Abstract due date: 7/15/2004

This symposium, held in honor of the 2005 Hume-Rothery Award recipient, Uichiro Mizutani, will emphasize both theoretical and experimental aspects of electronic, structural, and hermodynamic properties of complex alloy phases. All participants are invited speakers and have been asked to provide an assessment of our current understanding of the structural properties of complex materials, including quasicrystalline and amorphous alloys. Special emphasis will be put on our understanding of why Nature is able to stabilize such complex atomic arrangements. Most of these structures have been synthesized by using the Hume-Rothery rule that relates fundamental aspects of electronic structure to stability. In recent years, bulk metallic glasses have been synthesized in many multi-component systems. Here again there is a need to understand better why metallic glasses can be stabilized in bulk form within a specific range of alloy compositions. The above features and more recent results related to structurally complex alloy phases will constitute the main theme of this symposium, in the spirit of the work carried out by Uichiro Mizutani. Submit abstracts electronically at http://cms.tms.org/ or to: Patrice E.A. Turchi, Lawrence Livermore National Laboratory, Chemistry & Materials Science, Livermore, CA 94551 USA T: 925-422-9925 F: 925-423-7040 Email: turchi1@llnl.gov. Co-Organizers: Thaddeus B. Massalski, Carnegie Mellon University, Dept of Matls Sci and Engrg, Pittsburgh, PA 15213 T: (412) 963-9595 Email: massalsk@andrew.cmu.edu.

The Armen G. Khachaturyan Symposium on Phase Transformation and Microstructural Evolution in Crystalline Solids

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Materials Processing & Manufacturing Division, EMPMD/SMD-Chemistry & Physics of Materials Committee, MPMD-Computational Materials Science & Engineering-(Jt. ASM-MSCTS), MPMD-Phase Transformations Committee-(Jt. ASM-MSCTS)
Abstract due date: 7/15/2004

This symposium will honor the remarkable contributions of Armen G. Khachaturyan to many fields in materials science in the last 40 years. In particular, his concentration wave theory of ordering in alloys and ceramic compounds has provided a bridge between statistical mechanics of alloys, their symmetry, macroscopic thermodynamics, and diffraction. The theory has become a standard method of theoretical and experimental characterization of atomic rearrangements caused by phase transformations in metals and ceramics. His microelasticity theory has allowed for a better understanding and prediction of many self-assembled quasi-periodical multi-phase and multi-structural domain morphological patterns produced by coherent phase transformations. He and his research associates have also pioneered the field of computer modeling and simulation of coherent phase transformations and microstructural evolution in crystalline solids, including dislocations and other strain-generating nano- and sub-micron defects in structure and elastically inhomogeneous systems. This symposium intends to bring together theoretical, computational and experimental materials scientists to address current issues in microstructural evolution during solid-state reactions and effects of defects (dislocations, surfaces, interfaces, grain boundaries, et. al.) and external stress/electrical/magnetic fields. Submit abstracts electronically at http://cms.tms.org/ or to: Yunzhi Wang, The Ohio State University, Department of Materials Science and Engineering, Columbus, OH 43210 USA T: 614-292-0682 Email: wang.363@osu.edu. Co-Organizers: Long-Qing Chen, Pennsylvania State University, Materials Science and Engineering Department, University Park, PA 16802-5005 USA T: 814-863-8101 F: 814-865-0016 Email: lqc3@psu.edu; J. W. Morris, University of California, Dept of Matls Sci and Engrg, Berkeley, CA 94720 T: (510) 642-3815 F: (510) 549-0498 Email: jwmorris@berkeley.edu.

Phase Stability, Phase Transformation. and Reactive Phase Formation in Electronic Materials IV

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Structural Materials Division, EMPMD/SMD-Alloy Phases Committee
Abstract due date: 7/15/2004

This is the fourth in a series of TMS symposia addressing the stability, transformation and formation of phases during the fabrication, processing and utilization of electronic materials and devices. Topics of interest include: phase stability issues surrounding microelectronics packaging technology (e.g., stability of under bump metallizations, interfacial reactions at solder joints, phase transformations in lead-free solders during reflow and thermal cycling); phase formation and integrated circuit technology (e.g., phase transformations in metal silicide gate materials, phase stability of contacts and interconnects, and diffusion barrier materials); and the phase stability and morphological evolution of novel electronic materials (such as multicomponent III-V semiconductors, electroceramic materials, strained layers and superlattices, and self-assembled structures). Papers on both experimental or theoretical investigations of these and related topics are welcome. Submit abstracts electronically at http://cms.tms.org/ or to: Douglas J. Swenson, Michigan Technological University, Department of Materials Science & Engineering, Houghton, MI 49931 USA T: 906-487-3352 Email: dswenson@mtu.edu. Co-Organizers: Srinivas Chada, Jabil Circuit, Inc., FAR Lab/Advanced Manufacturing Technology, St. Petersburg, FL 33716 USA T: 727-803-3503 F: 727-803-7429 Email: srini_chada@Jabil.com; Sinn-Wen Chen, National Tsing-Hua University, Department of Chemical Engineering, Hsinchu 300 Taiwan T: 011 886 3 5721734 F: 011 886 3 5715408 Email: swchen@che.nthu.edu.tw; C. Robert Kao, National Central University, Department of Chemical and Materials Engineering, Chungli City 32054 Taiwan T: 011 886 3 4227382 F: 011 886 3 4227382 Email: crkao@ncu.edu.tw; Hyuck Mo Lee, Korea Advanced Institute of Science & Technology, Department of Materials Science & Engineering, Taejon 305-701 Korea T: 011 82 42 869 3334 F: 011 82 42 869 3310 Email: hmlee@kaist.ac.kr; Suzanne E. Mohney, Pennsylvania State University, Department of Materials Science & Engineering, University Park, PA 16802 USA T: 814-863-0744 F: 814-865-2917 Email: mohney@ems.psu.edu; Katsuaki Suganuma, Osaka University, Dept of Nanomaterials and Env Conscious Tech, Ibaraki, Osaka 567-0047 Japan .

Phase Transformations Within Small-Size Systems

Sponsored by: Materials Processing & Manufacturing Division, MPMD-Phase Transformation Committee-(Jt. ASM-MSCTS), EMPMD/SMD-Chemistry & Physics of Materials Committee, EMPMD-Nanomaterials Committee
Abstract due date: 7/15/2004

The reduction in length scale of materials to the nanometric range brings about fundamental changes that lead to novel and unusual phenomena, very different from their coarse-grained counterparts. Examples relevant to solid-solid phase transformations within small grains or particles include the size-dependent extension of solid solubility and alteration of phase boundaries and phase equilibria; suppression of spinodal decomposition, precipitation, long range ordering and martensitic reactions, etc., to name a few. These size-dependent changes often lead to novel properties (e.g., high magneto crystalline anisotropy). Achieving a fundamental understanding of size effects on the thermodynamics, kinetics and mechanisms of phase transformations is crucial and progress is beginning to be made in recent years.This symposium will bring together persons from academia, government laboratories and industry to discuss advances made in the general area of phase transformations within small-size materials systems. Emphasis is on 3-dimensional, nano-size particles and matrix grains, with one or two sessions devoted to thin films (including electrodeposited materials). Topics to be covered include: thermodynamics and phase equilibria; spinodal decomposition; order-disorder transitions; precipitation, allotropic and displacive transformations; magnetic and ferromagnetic transitions; nanopowder metallurgy; devitrification of metallic glass; surface effects and characterization. Submit abstracts electronically at http://cms.tms.org/ or to: Vijay K. Vasudevan, University of Cincinnati, Department of Materials Science and Engineering, Cincinnati, OH 45221-0012 USA T: 513 556 3103 F: 513 556 3773 Email: VASUDEVK@UCMAIL.UC.EDU. Co-Organizers: Robert D. Shull, NIST, Magnetic Materials, Gaithersburg, MD 20899-8552 USA T: 301-975-6035 F: 301-975-4553 Email: shull@nist.gov; George Spanos, Naval Research Laboratory, Physical Metallurgy Branch, Washington, DC 20375-5000 USA T: 202 767 5799 F: 202 767 2623 Email: spanos@anvil.nrl.navy.mil.

Multicomponent Multiphase Diffusion Symposium in Honor of John E. Morral

Sponsored by: Materials Processing & Manufacturing Division, Structural Materials Division, EMPMD/SMD-Alloy Phases Committee, MPMD-Phase Transformation Committee-(Jt. ASM-MSCTS)
Abstract due date: 7/15/2004

Throughout his career, John Morral has dedicated his work to the understanding and application of multicomponent diffusion. This symposium, in honor of John Morral's 65th birthday, will highlight both experimental and theoretical work in a variety of multicomponent multiphase diffusion problems. This work is increasingly important in improving industrial materials processing and development. In addition to invited speakers, contributed papers on mutlicomponent diffusion and microstructure evolution are solicited. Highlighted topics are to include diffusion kinetics of high temperature coatings and processing, zig-zag diffusion paths, internal oxidation, carburizing, nitriding, and alloy heat treatment. Submit abstracts electronically at http://cms.tms.org/ or to: Carelyn E. Campbell, NIST, Metallurgy Division, Gaithersburg, MD 20899-8555 USA T: (301) 975-4920 Email: carelyn.campbell@nist.gov. Co-Organizers: Ursula R. Kattner, National Institute of Standards and Technology, Metallurgy Division, Gaithersburg 20899-8555; Afina Lupulescu, Rensselaer Polytechnic Institute, Materials Science & Engineering (CII-9217), Troy, NY 12180-3590; Yongho Sohn, University of Central Florida, Advanced Matls Processing and Analysis Cntr & Mech, Matls and Aerospace Engrg, Orlando, FL 32816-2455 T: 407-882-1181 Email: ysohn@mail.ucf.edu.

Computational Thermodynamics and Phase Transformations

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Materials Processing & Manufacturing Division, Structural Materials Division, EMPMD/SMD-Chemistry & Physics of Materials Committee, MPMD-Computational Materials Science & Engineering-(Jt. ASM-MSCTS)
Abstract due date: 7/1/2004

Phase equilibria, phase transformations, and microstructural evolution pervade most materials processing technologies. Computational modeling and simulation can yield significant cost savings by mitigating the need to perform time-consuming laboratory experiments to test a new material, process, or design. This symposium is the fourth in a series of annual TMS symposia focusing on computational thermodynamics and kinetics of phase transformations. The intent is to assemble materials scientists in both computational and experimental disciplines to assess the current status of computational models and simulation techniques at different time and length scales. Attention will be given to the mechanistic fundamentals and practical applications of phase and microstructure transformation in advanced materials including metals, ceramics, and semiconductors. Of particular interest are computational models that integrate two or more different approaches, analyses that compare the relative merits of various simulation techniques, and validation of simulation results from experimental data. Six sessions are anticipated with several invited speakers in each.

Topics of relevance include, but are not limited to:

- Classical and first principles atomistic simulation techniques.
- Thermodynamic properties of equilibrium and nonequilibrium phases.
- Fundamental properties of surfaces and interfaces.
- Kinetics of grain growth, recrystallization, and phase coarsening.
- Effects of interface properties, impurities, and deformation on microstructural evolution.
- Novel approaches to simulating phase transformations and microstructural evolution.

Submit abstracts electronically at http://cms.tms.org/ or to: Corbett C. Battaile, Sandia National Laboratories, Materials and Process Modeling Department, Albuquerque, NM 87185-1411 T: 505-844-7039 Email: ccbatta@sandia.gov. Co-Organizers: Christopher Mark Wolverton, Ford Motor Company, Scientific Research Laboratory, Dearborn, MI 48121-2053 USA F: 734-944-0243 Email: cwolvert@ford.com.

MULTISCALE MECHANICAL BEHAVIOR

Mechanical Behavior of Thin Films and Small Structures

Sponsored by: Structural Materials Division, SMD-Mechanical Behavior of Materials-(Jt. ASM-MSCTS), MPMD-Nanomechanical Materials Behavior
Abstract due date: 7/15/2004

In small systems such as thin films or micro and nanoelectromechanical systems (MEMS and NEMS), much of their volume is comprised of free surfaces, interfaces and grain boundaries. The mechanical behavior of these small systems can be vastly different from their bulk counterparts. Often this difference arises from the interplay of basic mechanical mechanisms that do not change the underlying properties of a material, but simply change which properties are important. For instance, size-effects can be important when component dimensions approach a microstructural, electrochemical, or mechanical length scale. This behavior can critically influence the design, performance, and reliability of thin films and small structures used in many technological applications, such as microelectronic and photonic devices, tribological coatings, information storage media, MEMS, NEMS, and coatings for biomedical devices. This symposium will provide a forum for researchers involved in experimental or theoretical investigations into the mechanical behavior of thin films, MEMS and NEMS and other small structures.

The symposium will focus on experimental, theoretical and computational studies related to thin films, MEMS, NEMS and other small structures. These studies will include, but are not limited to, the following subject areas: Thin film mechanics, fatigue, fracture, delamination, deformation, plasticity, creep, electromigration and other mass transfer effects, stability, reliability, in situ techniques, advances in nanomechanical testing techniques, tribological properties including adhesion, friction, wear, and surface chemistry/topography, and theoretical, computational and analytical modeling of mechanical properties in small dimensions. Submit abstracts electronically at http://cms.tms.org/ or to: Xinghang Zhang, Los Alamos National Laboratory, Matls Sci & Tech Div, Los Alamos, NM 87545 USA T: 505-665-6685 F: 505-667-8021 Email: zhangx@lanl.gov. Co-Organizers: Brad L. Boyce, Sandia National Laboratory, Matls and Processes Sciences Cntr, Albuquerque, NM 87185; Evan Ma, John Hopkins University, Dept of Matls Sci & Engrg, Baltimore, MD 21218

T: 410-516-8601 F: 410-516-5293 Email: ema@jhu.edu; Andrew Minor, Lawrence Berkeley National Laboratory, National Center for Electron Microscopy, Berkeley, CA 94720 USA T: 510-495-2749 F: 510-486-5888; Christopher L. Muhlstein, The Pennsylvania State University, Dept of Matls Scie & Eng, University Park, PA 16802; Judy Schneider, Mississippi State University, Dept of Mech Engrg, Mississippi State, MS 39762 T: 662-325-9154 F: 662-325-7223 Email: schneider@me.msstate.edu.

Computational Aspects of Mechanical Properties of Materials

Sponsored by: Materials Processing and Manufacturing Division, MPMD-Computational Materials Science & Engineering-(Jt. ASM-MSCTS)

Abstract due date: 7/15/2004

The objectives of this symposium is to review recent advances in the applications ofcomputational methods and materials sciences principles to simulating or predicting mechanical behavior of materials. Particular interests are on theoretical computation or simulation of mechanical properties of materials over multi-length or time scales and the comparison of theoretical results against experimental data or observations. Submit abstracts electronically at http://cms.tms.org/ or to: K. M. Chang, West Virginia University, Mechanical & Aerospace Engineering, Morgantown, WV 26506 USA T: 304-293-3111x ext 2335 F: 304-293-6689 Email: chang@cemr.wvu.edu. Co-Organizers: Diana Farkas, Virginia Polytechnic Institute and State University, Department of Materials Science and Engineering, Blacksburg, VA 24061 USA T: 540-231-4742 F: 540-231-8919 Email: diana@vt.edu.

Micromechanics of Advanced Materials II (Symposium in Honor of James C.M. Li's 80th Birthday)

Sponsored by: Structural Materials Division, ASM International: Materials Science Critical Technology Sector, SMD-Mechanical Behavior of Materials-(Jt. ASM-MSCTS)

Abstract due date: 7/15/2004

Driven by the development of advanced technological material systems, such as microelectromechanical systems (MEMS), multilayer interconnect for ULSI, quantum well and nanostructural devices for communication as well as high performance composites and superalloys, micromechanics of materials has become a major research area in the materials science and engineering. The first symposium on "Micromechanics of Advanced Materials" was organized in Fall 1995 in honor of Professor James C.M. Li's 70th birthday. The three and half days symposium drew a total 85 (41 invited) papers from all over the world covering subjects from basic dislocation mechanics, micromechanics of localized deformation, fatigue and fracture to interfacial degradation, and in material structures from thin films, multilayers to composites. Since the micromechanics of materials controls the structural integrity and hence the reliability of all complex advanced structures and devices, it is both technologically and timely important to propese the second dymposium onthis topics in 2005 at the same time to celebrate Professor James C.M. Li's 80th birthday. The outcome for the second symposium is expected to be better than the first one. We propose to organize an eight-session symposium on "Micromechanics of Advanced Materials II" in honor of Dr. James C.M. Li's 80th birthday, who made significant contributions in all areas of micromechanics of materials. We hope to draw all Professor Li's long time colleagues, friends and students in the fields of micromechanics and materials science to join this symposium. There will be many invited talks as in the first symposium.Some examples of what could be included in the proposed sessions are, 1) mechanical properties of small dimensions; 2) experimental methods and studies of micromechanics of localized deformation; 3) thermodynamics and rate theory of micromechanical processes; 4) micromechanics of fracture and fatigues; 5) contact adhesion of smooth and rough surfaces; 6) micro-cutting and machining; 7) residual stresses in micro-systems and 8) Micro-mechanical packaging. Submit abstracts electronically at http://cms.tms.org/ or to: Fuqian Yang, University of Kentucky, Department of Chemical and Materials Engineering, Lexington, KY 40506 USA T: 859-257-2994 F: 859-323-1929 Email: fyang0@engr.uky.edu. Co-Organizers: C. C. Chau, The Dow Chemical Company, Midland, MI 48674 USA T: 989-636-9032 F: 989-636-0231 Email: ccchou@dow.com; Sung Nee George Chu, Agere Systems, Murray Hill, NJ 07974 USA T: 908-582-7318 F: 908-582-7660 Email: sngchu@agere.com; Teh-Ming Kung, Eastman Kodak Company, Rochester, NY 14650 USA T: 716-477-3673 F: 716-588-9402 Email: tmkung@kodak.com; Peter K. Liaw, University of Tennessee, Department of Materials Science and Engineering, Knoxville, TN 37996-2200 USA T: 865-974-6356 F: 865-974-4115 Email: pliaw@utk.edu.

MATERIALS CHARACTERIZATION AND PROPERTIES

Characterization of Minerals, Metals and Materials

Sponsored by: Extraction & Processing Division, EPD-Process Mineralogy Committee

Abstract due date: 7/15/2004

The symposium will provide an update to the current progress in characterization studies in minerals, metals and materials industry. The scope includes current industrial applications, research and developments, and innovative fundamental researches. Submit abstracts electronically at http://cms.tms.org/ or to: Tzong T. Chen, CANMET, Ottawa, Ontario K1A 0G1 Canada T: 613-995-9490 F: 613-996-9673 Email: tchen@nrcan.gc.ca. Co-Organizers: Ann Hagni, Eagle-Picher Technologies LLC, Boron Department, Quapaw, OK 74363 USA T: 918-673-2201, ext. 245 F: 918-673-1052 Email: epianalyt@epiboron.com; J. Y. Hwang, Michigan Technological University, Institute of Materials Processing, Houghton, MI 49931-1295 USA T: 906-487-2600 F: 906-487-2921 Email: jhwang@mtu.edu.

Neutron Scattering in Materials Research

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Jt. EMPMD/SMD-Chemistry & Physics of Materials Committee

Abstract due date: 7/15/2004

The Spallation Neutron Source in Oak Ridge is the world's largest science construction project, and its mission is materials research. The capabilities of the other U.S. neutron sources have been improving steadily. Nevertheless, only a small U.S. community uses these facilities for materials research, in part because the capabilities and availabilities of these facilities are not well known. This symposium will cover neutron scattering methods of materials research including: powder neutron diffraction and single crystal diffraction, engineering neutron diffraction, small-angle neutron scattering, neutron reflectometry, and inelastic scattering. Invited talks will emphasize the new and future capabilities of these experimental methods for materials research. Contributed presentations are welcome in any of these fields. Submit abstracts electronically at http://cms.tms.org/ or to: Brent T. Fultz, California Institute of Technology, Department of Materials Science, Pasadena, CA 91125 USA T: 818-395-2170 F: 818-795-6132 Email: brf@hyperfine.caltech.edu. Co-Organizers: Michael Atzmon, University of Michigan, Dept of Matls Sci & Engrg, Ann Arbor, MI 48109 T: 734-764-6888 Email: atzmon@umich.edu.

Neutron Diffraction Characterization of Mechanical Behavior

Sponsored by: ASM International: Materials Science Critical Technology Sector, Structural Materials Division, SMD-Mechanical Behavior of Materials-(Jt. ASM-MSCTS)

Abstract due date: 7/15/2004

Application of neutron diffraction in engineering materials characterization becomes increasingly prevalent due to its unique ability to provide microscopic insights to the mechanical behavior of advanced materials and components. We propose to organize a four-session symposium on neutron diffraction characterization of mechanical behavior of alloys, ceramics, and their composites. The symposium will provide an international forum for the presentation and discussion of recent experimental results. Specific topics will include

(1) polycrystalline deformation mechanisms,
(2) mechanical behavior of composites,
(3) residual stress measurements, and
(4) advances in instrumentation and data acquisition/analysis scheme.

The symposium is intended to bring together neutron diffraction scientists and potential users to further enhance the neutron diffraction research activities. Both invited and contributed papers will be published in the form of proceedings. Submit abstracts electronically at http://cms.tms.org/ or to: Hahn Choo, The University of Tennessee, Knoxville, Department of Materials Science and Engineering, Knoxville, TN 37996 USA T: 865-974-5336 F: 865-974-4115 Email: hchoo@utk.edu. Co-Organizers: Camden R. Hubbard, Oak Ridge National Laboratory, Metals and Ceramics Division, Oak Ridge, TN 37831 USA T: 865-574-4472 F: 865-483-8086 Email: hubbardcr@ornl.gov; Peter K. Liaw, University of Tennessee, Department of Materials Science and Engineering, Knoxville, TN 37996-2200 USA T: 865-974-6356 F: 865-974-4115 Email: pliaw@utk.edu; Xunli Wang, Oak Ridge National Laboratory, Spallation Neutron Source, Oak Ridge, TN 37831 USA T: 865-574-9164 F: 865-241-5177 Email: wangxl@ornl.gov.

Corrosion Sensors and Monitoring

Sponsored by: Structural Materials Division, SMD-Corrosion and Environmental Effects Committee-(Jt. ASM-MSCTS)

Abstract due date: 7/15/2004

The annual cost resulting from corrosion for US Navy structures alone has been estimated to be as high as $1 billion. Early warning of corrosion or coating degradation through the use of advanced sensors and monitoring techniques can make a substantial implact on the ability to preserve structural integrity. This approach can also lead to reductions in the risk of fatigue failure that is initiated by corrosion damage. Environmental information from monitoring systems also allows operators to optimize local maintenance schedules by focusing effort where it is most required. The purpose of this symposium is to bring engineers and scientists together to present and discuss new strategies and technologies for corrosion detection and monitoring. Topics will include but not be limited to electrochemical noise methods, sensor arrays, scanning electrode techniques, and optical methods. Submit abstracts electronically at http://cms.tms.org/ or to: James C. Earthman, University of California, Department of Chemical and Materials Science, Irvine, CA 92697-2575 USA T: 949-824-5018 F: 949-824-2541 Email: earthman@uci.edu. Co-Organizers: Raúl B. Rebak, Lawrence Livermore National Laboratory, Livermore, CA 94550 USA T: 925-422-1854 Email: rebak1@llnl.gov.

Microstructural Processes in Irradiated Materials

Sponsored by: Structural Materials Division, SMD-Nuclear Materials Committee-(Jt. ASM-MSCTS)

Abstract due date: 7/15/2004

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 sixth 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. Submit abstracts electronically at http://cms.tms.org/ or to: Brian D. Wirth, Lawrence Livermore National Laboratory, Livermore, CA 94551 USA T: 925-424-9822 Email: wirth4@llnl.gov. Co-Organizers: Charlotte Becquart, Universite de Lille I, Laboratoier de Metallurgie Physique Et Genie des Materiaux, Villenueve s'Ascq, Cedex 59655 France Email: Charlotte.Becquart@univ-lille1.fr; 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 Email: sneadll@ornl.gov.

Processing ↔ Properties

ALUMINUM

Alumina and Bauxite

Sponsored by: Light Metals Division, LMD-Aluminum Committee

Abstract due date: 7/15/2004

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. Submit abstracts electronically at http://cms.tms.org/ or to: Dag Olsen, Hydro Aluminium AS, Porsgrunn 3907 Norway Email: dag.olsen@hydro.com. Co-Organizers: Travis Galloway, Century Aluminum, Hawesville, KY 42348 USA T: 270-927-6921, Ext 257 F: 270-927-9058 Email: tgalloway@centuryky.com; Halvor Kvande, Norsk Hydro ASA, Oslo N-0240 Norway T: 011 47 22 53 9155 F: 011 47 22 53 7778 Email: halvor.kvande@hydro.com.

Aluminum Reduction Technology

Sponsored by: Light Metals Division, LMD-Aluminum Committee

Abstract due date: 7/15/2004

The Aluminum Reduction Technology Symposium, along with alumina and bauxite, cast shop technology, carbon technology, recycling technology, reactive metals, and potroom operations - potroom improvements, 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: Tor Bjarne Pedersen, Elkem ASA, Farsund 4551 Norway T: 011-47-3839-9240 Email: tor-bjarne.pedersen@elkem.no. Co-Organizers: Tom Alcorn, Noranda Aluminum Inc., New Madrid, MO 63869 USA T: (573) 643-2361 Ext 2242 F: (573) 643-6750 Email: Alcornt@noralnm.com.

Carbon Technology
Sponsored by: Light Metals Division, LMD-Aluminum Committee
Abstract due date: 7/15/2004

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: Todd W. Dixon, Conoco Phillips Venco, Sulphur, LA 70665-7666 T: (337) 794-6554 Email: Todd. W. Dixon@conocophillips.com. Co-Organizers: Markus Meier, R&D Carbon, Sierre CH 3960 Switzerland T: 41-2-745-92929 Email: meier@rd-carbon.com.

Cast Shop Technology
Sponsored by: Light Metals Division, LMD-Aluminum Committee
Abstract due date: 7/15/2004

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: Gerd Ulrich Gruen, Hydro Aluminium AS, Bonn 53117 Germany T: 011-49-228-552-2123 Email: gerd-ulrich.gruen@hydro.com. Co-Organizers: Corleen Chesonis, Alcoa Inc., Alcoa Technical Center, Alcoa Center, PA 15069 USA T: 724-337-4794 F: 724-337-4063 Email: corleen.chesonis@alcoa.com.

MAGNESIUM TECHNOLOGY

Magnesium Technology 2005
Sponsored by: Light Metals Division, International Magnesium Association, LMD-Magnesium Committee
Abstract due date: 7/15/2004

This symposium, sponsored by the Magnesium Committee of the Light Metals Division of TMS and the International Magnesium Association will cover various topics of magnesium technology including Primary production and market; Recycling and environmental issues; Alloy development; Phase transformations; Manufacturing processes; Mechanical and physical properties; Cast and wrought alloys; Welding and joining; Corrosion and Surface Finishing; and Applications and research programs. Submit abstracts electronically at http://cms.tms.org/ or to: Ramaswami Neelameggham, US Magnesium LLC, Salt Lake City, UT 84116 USA T: 801-532-1522 280 F: 801-596-1132 Email: rneelameggham@usmagnesium.com. Co-Organizers: Howard I. Kaplan, US Magnesium LLC, Salt Lake City, UT 84116 USA T: 801-532-2043 ext 567 F: 801-532-2043 x542 Email: hkaplan@usmagnesium.com.

EXTRACTIVE PROCESSING

Converter and Fire Refining Practices
Sponsored by: Extraction & Processing Division, EPD-Pyrometallurgy Committee
Abstract due date: 7/15/2004

Recent developments in continuous and batch converting practices. Influence on fire refining as a result of these updates are also to be discussed. Vessel design and control and optimization techniques can form part of this review. Submit abstracts electronically at http://cms.tms.org/ or to: Alistair Ross, INCO, Ltd., Copper Cliff Smelter Complex, Copper Cliff, Pomino Canada T: 705-682-5213 F: 705-683-6535 Email: AGRoss@Inco.com.

Extractive Metallurgy
Sponsored by: Extraction & Processing Division, EPD-Aqueous Processing Committee, EPD-Pyrometallurgy Committee, EPD-Waste Treatment & Minimization Committee
Abstract due date: 6/30/2004

This symposium will discuss general topics in Pyrometallurgy, Aqueous Processing, and Waste Treatment and Minimization. This includes the science, technology, and industrial practice of the processing of ores and the treatment and minimization of wastes. Submit abstracts electronically at http://cms.tms.org/ or to: Thomas P. Battle, DuPont Titanium Technologies, Wilmington, DE 19880-0352 USA T: 302 695-9321 F: 302-695-1219 Email: thomas.p.battle@usa.dupont.com. Co-Organizers: Edgar E. Vidal, Colorado School of Mines, Golden, CO 80401-1887 USA T: 303-273-3543 Email: evidal@mines.edu; Courtney A. Young, Montana Tech of the University of Montana, Metallurgical Engineering, Butte, MT 59701 USA T: 406-496-4158 F: 406-496-4133 Email: cyoung@mtech.edu.

Materials Processing Fundamentals
Sponsored by: Extraction & Processing Division, Materials Processing & Manufacturing Division, EPD-Process Fundamentals Committee, MPMD/EPD-Process Modeling Analysis & Control Committee
Abstract due date: 7/15/2004

This symposium will cover all aspects of the fundamentals, synthesis, analysis, design, onitoring, 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 or in-plant validation are especially encouraged. Submit abstracts electronically at http://cms.tms.org/ or to: Princewill N. Anyalebechi, Grand Valley State University, L. V. Eberhard Center, Grand Rapids, MI 49504-6495 USA Email: anyalebp@gvsu.edu. Co-Organizers: Adam C. Powell, Massachusetts Institute of Technology, Department of Materials Science and Engineering, Cambridge, MA 02139-4307 USA T: 617-452-2086 F: 617-253-5418 Email: hazelsct@mit.edu.

Arsenic Metallurgy: Fundamentals & Applications
Sponsored by: Extraction & Processing Division, EPD-Copper, Nickel, Cobalt Committee, EPD-Process Fundamentals Committee, EPD-Pyrometallurgy Committee, LMD/EPD-Recycling Committee
Abstract due date: 7/15/2004

The International Symposium presents modern technologies/ fundamentals available that are necessary for further advances in arsenic metallurgy. Arsenic has been a problem associated with the extraction of nonferrous metals since the bronze age. During the past decade a combination of both lower grade ores and environmental concerns has resulted in accelerated technological developments to meet this arsenic challenge. Of particular interest has been the treatment of arsenical precious metals feed stocks. Submit abstracts electronically at http://cms.tms.org/ or to: Ramana G. Reddy, University of Alabama, Department of Metals and Materials Engineering, Tuscaloosa, AL 35487-0202 USA T: 205-348-4246 F: 205-348-2164 Email: rreddy@coe.eng.ua.edu. Co-Organizers: V. Ramachandran, Scottsdale, AZ 85262-1352 USA F: 480-575-5449 Email: ramvasanti@aol.com.

Precious Metals: Au, Ag, Pt, Pd, Os, Rh, Ir, Ru
Sponsored by: Extraction & Processing Division, Light Metals Division, EPD-Aqueous Processing Committee, EPD-Precious Metals Committee, EPD-Pyrometallurgy Committee, Jt. LMD/EPD-Recycling Committee
Abstract due date: 7/15/2004

Primary and secondary production processing and recycling of the precious metals. Submit abstracts electronically at http://cms.tms.org/ or to: Richard S. Kunter, Behre Dolbear Company, Golden, CO 80401-9420 USA T: 303-526-1868 F: 303-526-1718 Email: rskunter@aol.com.

Reactive Metals
Sponsored by: LMD-Reactive Metals Committee
Abstract due date: 7/15/2004

Papers are solicited on all apects of the extraction, separation, purification, preparation, production and application of reactive metals (those that typically require molten salt processing), including but not limited to alkali metals (Li, Na, K), alkaline-earth metals (Be, Ca), groups 3-6 refractory metals (Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W), rare earths, and actinoids. Submit abstracts electronically at http://cms.tms.org/ or to: John N. Hryn, Argonne National Laboratory, Argonne, IL 60439-4815 USA T: 630-252-5894 F: 630-252-1342 Email: hryn@anl.gov.

Metallurgical Technology for Waste Minimization
Sponsored by: Extraction & Processing Division, EPD-Waste Treatment & Minimization Committee
Abstract due date: 7/15/2004

Many hydrometallurgical and pyrometallurgical technologies have been developed in the metal refining processes. On the other hand, various kinds of wastes are discharged from electric, electronic and non-ferrous metal industries. These wastes contain metal values such as Cu, Zn, Ni and precious metals to be recovered by a suitable separation method. Best matching between wastes and metallurgical technologies is important to realize waste minimization. The session will cover various applications of metallurgical technologies to waste minimization and the related area. Submit abstracts electronically at http://cms.tms.org/ or to: Junji Shibata, Kansai University, Department of Chemical Engineering, Osaka 564-8680 Japan T: 011-81-66-368-0856 F: 011-81-66-388-8869 Email: shibata@kansai-u.ac.jp. Co-Organizers: Toru Okabe, Baylor College of Dentistry, Texas A & M Health Science Center, Department of Biomaterials Science, Dallas, TX 75246 USA T: 214-828-8190 F: 214-828-8458 Email: TOkabe@tambcd.edu; Edgar E. Vidal, Colorado School of Mines, Golden, CO 80401-1887 USA T: 303-273-3543 Email: evidal@mines.edu.

DOWNSTREAM METALS PROCESSING

Friction Stir Welding and Processing III
Sponsored by: Materials Processing & Manufacturing Division, MPMD-Shaping and Forming Committee
Abstract due date: 7/15/2004

This conference will highlight recent advances in friction stir welding and processing. Submit abstracts electronically at http://cms.tms.org/ or to: Kumar V. Jata, Air Force Research Laboratory, Materials & Manufacturing Directorate, WPAFB, OH 45433 USA T: 937-255-1304 F: 937-255-3007 Email: kumar.jata@wpafb.af.mil. Co-Organizers: Thomas J. Lienert, Los Alamos National Laboratory, Los Alamos, NM 87545 USA T: (505) 665-6042 F: (505) 667-8021 Email: lienert@lanl.gov; Murray W. Mahoney, Rockwell Science Center, Thousand Oaks, CA 91360 USA T: 805-373-4248 F: 805-373-4775 Email: mwmahoney@rsc.rockwell.com; Rajiv S. Mishra, University of Missouri, Metallurgical Engineering, Rolla, MO 65409-0340 USA T: 573-341-6361 F: 573-341-6934 Email: rsmishra@umr.edu.

Frontiers in Solidification Science
Sponsored by: Materials Processing & Manufacturing Division, MPMD-Computational Materials Science & Engineering-(Jt. ASM-MSCTS), MPMD-Solidification Committee
Abstract due date: 7/15/2004

This symposium will focus on emerging developments in solidification Science and the associated experimental, analytical, and computational techniques used for their investigation. The objective is to bring to the forefront those questions which are critical to the advancement of the field and to discuss the benefits and limitations of various new approaches. Topics of interest include novel experimental and theoretical approaches leading to the advancement of Solidification Science in the areas of morphological stability and selection, nucleation phenomena, chemical partitioning and segregation, microstructural evolution, multiple length-scale phenomena, intrinsic properties of crystal-melt interfaces, impurity effects at crystal-melt interfaces, growth mechanisms and interface kinetics. Several contributed abstracts will be selected for oral presentation. Others will be selected for poster presentations. All posters will be presented at a formal poster session/reception, which will be held Monday evening before the Solidification Committee meeting. All authors (invited talks, contributed talks, and posters) are requested to contribute a written manuscript. Submit abstracts electronically at http://cms.tms.org/ or to: Ralph E. Napolitano, Iowa State University, Ames Laboratory, Department of Materials Science and Engineering, Ames, IA 50011 USA T: 515-294-9101 F: 515-294-4291 Email: ralphn@iastate.edu. Co-Organizers: James R. Morris, Ames Laboratory, Iowa State University, Ames, IA 50011-3020 USA T: 515-294-8872 F: 515-294-0689 Email: jrmorris@ameslab.gov.

John Campbell Honorary Symposium on Shaped Casting of Metals
Sponsored by: Light Metals Division, LMD-Aluminum Committee
Abstract due date: 7/15/2004

Prof. John Campbell has made many contributions to the understanding of process-structure-property relationships in shaped casting of metals. To celebrate his contributions, I propose the scope to include (but not be limited to)

- Liquid metal quality
- Filling and feeding systems
- Process modeling for shaped castings
- Structure-Property relationships
- Performance of shaped castings

Submit abstracts electronically at http://cms.tms.org/ or to: Murat Tiryakioglu, Robert Morris Univ, Moon Township, PA 15108 USA T: (412) 262-8292 F: (412) 604-2593 Email: tiryakioglu@robert-morris.edu. Co-Organizers: Paul Crepeau, General Motors Corporation, MC/486-710-251, Pontiac, MI 48340-2920 USA T: 248-857-1664 F: 248-857-9130 Email: paul.n.crepeau@gm.com.

The Langdon Symposium: Flow and Forming of Crystalline Materials
Sponsored by: Materials Processing & Manufacturing Division, Structural Materials Division, MPMD-Shaping and Forming Committee, SMD-Mechanical Behavior of Materials-(Jt. ASM-MSCTS)
Abstract due date: 7/1/2004

This symposium is designed to honor Prof. Terence G. Langdon on the occasion of his 65th birthday, by bringing together many of his former students, research colleagues, friends and all interested in

a symposium devoted to his research interests over the past 40 years. It will have three inter-related thrust areas associated with flow and forming: 1) Creep (including the creep behavior of metals, ceramics and composites; creep mechanisms; the role of grain boundary sliding; microstructures in creep). 2) Superplasticity (including mechanisms of flow; factors influencing ductility; the role of cavitation; superplastic forming; industrial applications). 3) Severe plastic deformation - SPD (including equal-channel angular pressing and other SPD techniques; microstructural development; mechanical properties and superplastic flow after SPD; mechanisms associated with SPD processing). Submit abstracts electronically at http://cms.tms.org/ or to: Yuntian Ted Zhu, Los Alamos National Laboratory, Materials Science and Technology Division, Los Alamos, NM 87545 USA T: 505-667-4029 F: 505-667-2264 Email: yzhu@lanl.gov. Co-Organizers: P. B. Berbon, Rockwell Scientific Company, Thousand Oaks, CA 91360 USA T: 805 373 4331 F: 805 373 4268 Email: pbberbon@rsc.rockwell.com; Atul H. Chokshi, Indian Institute of Science, Department of Metallurgy, Bangalore 560 012 India Email: achokshi@metalrg.iisc.ernet.in; Z. Horita, Kyushu University, Department of Materials Science and Engineering, Fukuoka 812-8581 Japan T: 81-92-642-3668 F: 81-92-632-0434 Email: horita@zaiko.kyushu-u.ac.jp; Sai V. Raj, NASA Glenn Research Center, Materials Division, Cleveland, OH 44135 USA T: 216 433 8195 F: 216 433 5544 Email: sai.v.raj@grc.nasa.gov; K. Xia, University of Melbourne, Department of Mechanical and Manufacturing Engineering, Victoria 3010 Australia T: +61-3-8344-6664 F: +61-3-9347-8784 Email: k.xia@unimelb.edu.au.

Rapid Prototyping and Manufacturing

Sponsored by: Structural Materials Division, EMPMD-Superconducting and Magnetic Materials Committee, SMD-Composite Materials Committee-(Jt. ASM-MSCTS), SMD-Structural Materials Committee

Abstract due date: 7/15/2004

This symposium will highlight recent advances in the technology of rapid prototyping and solid freeform fabrication. Submit abstracts electronically at http://cms.tms.org/ or to: Bimal K. Kad, University of California, Ames Laboratory, La Jolla, CA 92093-0085 USA T: 858-534-7059 F: 858-534-6373 Email: bkad@ucsd.edu. Co-Organizers: David L. Bourell, University of Texas, Mechanical Engineering Department, Austin, TX 78712-1063 USA T: 512-471-3170 F: 512-471-7681 Email: dbourell@mail.utexas.edu; Richard J. Grylls, Optomec, Inc., Albuquerque, NM 87109; Canan U. Hardwicke, General Electric Company, GE Company Research and Development, Niskayuna, NY 12309 USA T: 518-387-6291 F: 518-387-6232 Email: hardwicke@crdge.com.

Recycling - General Sessions

Sponsored by: Extraction & Processing Division, Light Metals Division, LMD/EPD-Recycling Committee

Abstract due date: 7/15/2004

Sessions will cover innovative research work, advances in ongoing research, and general industrial practices from recycling of materials. Reports of work in other fields, including optimization of physical, aqueous, and thermal processing of scraps and waste; environmental and economic impacts; material selection and design based on recyclability; life-cycle analysis of materials; properties; and applications of recovered materials are welcomed. Submit abstracts electronically at http://cms.tms.org Submit abstracts electronically at http://cms.tms.org/ or to: Mark E. Schlesinger, University of Missouri, Department of Metallurgical Engineering, Rolla, MO 65409-0001 USA T: 573-341-4791 F: 573-341-6934 Email: mes@umr.edu.

SURFACE ENGINEERING

Surface Engineering in Materials Science-III

Sponsored by: Materials Processing and Manufacturing Division, MPMD-Surface Engineering Committee

Abstract due date: 6/20/2004

The Surface Engineering Symposium in Materials Science III will focus on the scientific issues related to Surface Engineering phenomena in synthesis, characterization, and application for a wide variety of 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: A. Agarwal, Plasma Processes, Inc., Huntsville, AL 25811-1558 USA . Co-Organizers: Narendra B. Dahotre, University of Tennessee-Knoxville, Department of Materials Science & Engineering, Knoxville, TN 37932 USA T: 865-974-0523 F: 865-974-0530 Email: ndahotre@utsi.edu; John J. Moore, Colorado School of Mines, Department of Metallurgy and Materials Engineering, Golden, CO 80401 USA T: 303-273-3770 F: 303-279-9527 Email: jjmoore@mines.edu; Sudipta Seal, University of Central Florida, Advanced Materials Processing and Analysis Center and Mechanical, Materials and Aerospace Engineering, Oviedo, FL 32765-7962 USA T: 407-823-5277 F: 407-823-0208 Email: sseal@pegasus.cc.ucf.edu.

Superalloys and Coatings for High Temperature Applications

Sponsored by: Structural Materials Division, SMD-High Temperature Alloys Committee

Abstract due date: 7/15/2004

This symposium will provide a forum for the discussion of: (i) the degradation mechanisms which occur in superalloys, including oxidation and corrosion, and their effect on mechanical properties (ii) coatings for the superalloys, including overlays and thermal barrier systems, and (iii) issues concerning the compatibility of superalloys with coatings, particularly bond coat technologies. Submit abstracts electronically at http://cms.tms.org/ or to: Roger C. Reed, The University of British Columbia, Department of Metals and Materials Engineering, Vancouver, British Columbia V6T 1Z4 Canada T: 604-822-2738 F: 604-822-3619 Email: roger.reed@cmpe.ubc.ca. Co-Organizers: Richard S. Bellows, Solar Turbines, Inc., Materials and Process Engineering, San Diego, CA 92186-5376 USA T: 619-237-8121 F: 619-544-2830 Email: bellows_richard_s@solarturbines.com; Qiang (Charles) Feng, University of Michigan, Dept of Materials Science and Engineering, Ann Arbor, MI 48109 USA ; Tim Gabb, NASA Glenn Research Center, Cleveland, OH 44135 USA ; Bruce Pint, Oak Ridge National Laboratory, Oak Ridge, TN 37831 USA .

Texture and Microstructure in Thin Films and Coatings

Sponsored by: ASM International: Materials Science Critical Technology Sector, ASM/MSCTS-Texture & Anisotropy Committee

Abstract due date: 7/15/2004

Modern industry employs films and coatings for a wide variety of applications including microelectronics, electronic storage media, thermal barriers, corrosion protection, and for various additional applications. This symposium aims to discuss specific issues of microstructure and crystallographic texture development and evolution in films and coatings. (Processing-structure and structure-properties relationships will be addressed in connection with structural evolution). The purpose of this symposium is to provide an opportunity for researchers in industry, laboratories and academia to discuss relevant issues of processing of films and structural evolution in electronic and magnetic films. The problems of design of structure and texture in films for optimum properties and performance will be discussed. The presentations on coatings and surface modification methods to improve the high temperature oxidation resistance, wear, hardness, corrosion, thermal conductivity and friction are also planned. A joint session with the symposium on Refractory Metals for Electronic Applications is planned. Submit abstracts electronically at http://cms.tms.org/ or to: David P. Field, Washington State University, Pullman, WA 99164-2920 USA T: 509-335-3524 F: 509-335-4662 Email: field@mme.wsu.edu. Co-Organizers: Chris A. Michaluk, Williams Advanced Materials, Gilbertsville, PA 19525 USA T: 610-369-8313 Email: christopher_michaluk@beminc.com; John E. Sanchez, Advanced Micro Devices, Sunnyvale, CA 94088 USA T: 408-749-2253 F: 408-749-3851 Email: jsanchez@unitysemi.com; J. A. Szpunar, McGill University, Department of Metallurgical Engineering, Montreal, Quebec H3A 2A7 Canada T: 5143984372 F: 5143984492 Email: Jerzy@minmet.lan.mcgill.CA.

Functional Thin Films for Sensors

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

Abstract due date: 7/15/2004

Functionalized thin films for various sensing applications are attracting growing interest due to their fascinating properties and unique behavior in various environments. The transduction schemes for these new materials often involve new chemical and physical phenomena associated with size confinement, microstructure, phase domain distribution, etc. Some examples include quantized excitation or emission, metal-insulator transition, nonlinear optical properties, very high gas adsorption rates, chemical and physical selectivity. The ability to controllably synthesize these thin film structures is key to advancing sensor science and technology (e.g., gas sensors, chemical sensors, light detectors, non invasive sensors). Functional thin films are readily incorporated in prototypes and devices demonstrating performance far exceeding that of existing sensor products. Multi-parameter porous silicon sensors, metal ion sensors based on self-assembled monolayers and uncooled IR thin film detectors are noteworthy examples of such devices.

Despite the existing wealth of knowledge in thin film science covering all aspects of this area (design, synthesis, applications, characterization), numerous challenges arise as new materials, device concepts and processes are introduced. The development of economically viable and practically useful functional thin films requires a great deal of inventiveness and creativity. Collective effort in the thin film community, covering all realms of expertise, is essential for tackling such challenges and making significant scientific and technological advancements. This symposium aims to foster such activities by providing opportunities for intensive discussions and exchange of ideas. Multiple sessions, each having a specific topic are planned. These topics will include, but will not be not be limited to:

- The physics and applications of sensor thin films (gas sensing, chemical sensing, optical sensors, magnetic sensors, etc)
- Chemical methods for synthesizing functional thin films for sensors
- Self assembly
- New concepts for thin films electronic, photonic, and magnetic structures and devices

Submit abstracts electronically at http://cms.tms.org/ or to: Anis Zribi, General Electric Global Research Center, Niskayuna, NY 12309 USA T: 518-387-4616 F: 518-387-5997 Email: zribi@crd.ge.com. Co-Organizers: Jeffrey Fortin, GE Global Research, Niskayuna, NY 12309 T: 518-387-7047 Email: jeffrey.fortin@research.ge.com; Seung H. Kang, Agere Systems, Device and Module R&D, Allentown, PA 18109 USA Email: shkang1@agere.com; Choongun U. Kim, UT Arlington Email: choongun@uta.edu; N. (Ravi) M. Ravindra, New Jersey Institute of Technology, Department of Physics, Newark, NJ 07102 USA T: 973-596-3278 F: 973-642-4978 Email: nmravindra@comcast.net; Gerald Schultz, GE Infrastructure, Wilmington, MA 01887-4498 T: 781-938-7070 Ext 269 Email: Gerald.Schultz@ge.com.

Materials ↔ Applications

TRANSPORTATION

6th Global Innovations Symposium: Trends in Materials and Manufacturing Technologies for Transportation Industries

Sponsored by: Materials Processing and Manufacturing Division, MPMD-Computational Materials Science & Engineering-(Jt. ASM-MSCTS), MPMD-Nanomechanical Materials Behavior, MPMD-Phase Transformation Committee-(Jt. ASM-MSCTS), MPMD-Powder Materials Committee, MPMD-Shaping and Forming Committee, MPMD-Solidification Committee, MPMD-Surface Engineering Committee, MPMD/EPD-Process Modeling Analysis & Control Committee

Abstract due date: 7/15/2004

The symposium will focus on the latest advances and developments in materials and manufacturing technologies used in the Transportation Industry. It is intended to provide the industrial and research communities a forum for the technical exchange of recent advances in all aspects of processing, fabrication, structure-property relations, evaluation, applications of advanced materials and manufacturing technologies as they relate to the Transportation Industries. Topics will include high performance materials and innovative manufacturing processes for a wide variety of applications in the automotive, aerospace, aviation and ground transportation fields.

Topics of relevance include, but are not limited to:

- Advanced materials (metals, polymers, compacted powders, composites and ceramics)
- Innovative manufacturing processes (warm forming, hydroforming, casting, superplastic forming, adhesive bonding, advanced welding and joining)
- Microstructures, phase transformations (age hardening), and texture
- Thermo-mechanical processing (rolling, extrusion, forging)
- Shaping, forming, joining, welding, coating
- Modeling of constitutive relationships, simulation of plastic deformation
- Material consistency, mechanical properties, manufacturability
- Performance assessment, material qualification
- Powder metallurgy
- Nanomechanical behavior

Submit abstracts electronically at http://cms.tms.org/ or to: Thomas R. Bieler, Michigan State University, Department of Chemical Engineering and Materials Science, East Lansing, MI 48824-1226 USA T: 517-353-9767 F: 517-432-1105 Email: bieler@egr.msu.edu. Co-Organizers: John E. Carsley, General Motors Corp, Warren, MI T: (586) 986-2928 Email: john.carsley@gm.com; Hamish Fraser, Ohio State University, Department of Materials Science and Engineering, Columbus, OH 43210-1179 USA T: 614-292-2708 Email: fraser@mse.eng.ohio-state.edu; John E. Smugeresky, Sandia National Laboratories, Department 8724, Livermore, CA 94551-0969 USA T: 925-294-2910 F: 925-294-3410 Email: smug@sandia.gov.

Automotive Alloys 2005
Sponsored by: Light Metals Division, LMD-Aluminum Committee
Abstract due date: 7/15/2004

Automotive Alloys 2005 symposium is seeking 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: 859-514-4989 F: 859-514-4988 Email: skdas@secat.net.

Beta Titanium Alloys of the 00's
Sponsored by: Structural Materials Division, SMD-Titanium Committee
Abstract due date: 7/15/2004

It will cover advances in the technology of beta alloys in the last decade - 3rd in a series on this subject. Will be covering alloy development, physical metallurgy, heat treatment, fabrication and processing and applications of this alloy system - advances in the last decade. It will include beta-rich alpha-beta alloys. Submit abstracts electronically at http://cms.tms.org/ or to: Rod Boyer, Boeing Commercial Airplane Group, Seattle, WA 98124-2207 USA T: 206-965-2461 F: 206-965-1440 Email: rodney.r.boyer@boeing.com. Co-Organizers: Robert F. Denkenberger, Ladish Co, Inc, Cudahy, WI 53110-8902 USA Email: rdenkenberger@ladishco.com; John Fanning, TIMET, Henderson, NV 89009 USA Email: john.fanning@timet.com; Henry J. Rack, Clemson University, School of Chemical & Materials Science, Clemson, SC 29634-0921 USA T: 864-656-5636 F: 864-656-4461 Email: rackh@ces.clemson.edu.

Powder Metallurgy Research and Development in the Transportation Industry
Sponsored by: Materials Processing and Manufacturing Division, MPMD-Powder Materials Committee
Abstract due date: 7/15/2004

Powder Metallurgy Research and Development in the Transportation Industry for Current and Future Applications. Symposium will be in conjunction with the 6th Global Innovations and cover topics relating to powder materials in aerospace, automotive and other transportation industries. Submit abstracts electronically at http://cms.tms.org/ or to: James W. Sears, South Dakota School of Mines, Advanced Materials Program, Rapid City, SD 57701 USA T: 605-394-2477 F: 605-394-2405 Email: james.sears@sdsmt.edu. Co-Organizers: Iver E. Anderson, Iowa State University, Ames Laboratory, Ames, IA 50011-3020 USA T: 515-294-8252 F: 515-294-8727 Email: andersoni@ameslab.gov; Eugene A. Olesvsky, San Diego State University, College of Engineering, San Diego, CA 92182-1323.

EMERGING MATERIALS

Applications and Fundamentals of High Aspect Ratio Nanomaterials
Sponsored by: Electronic, Magnetic & Photonic Materials Division, EMPMD-Nanomaterials Committee
Abstract due date: 7/15/2004

This symposium will address the applications and fundamental physics and chemistry of high aspect ratio nanomaterials. High aspect ratio nanomaterials include nanotubes, nanowires, nanobelts, nanorods, etc. These materials may be of any composition. The nanomaterials may be carbon-based, silicon-based or a variety of functional materials such as complex magnetic, ferroelectric and piezoelectric oxides, functional intermetallics such as ferromagnetic shape memory alloys, or complex magnetic materials for spintronics.

Topics of interest related to high aspect ratio nanomaterials include, but are not limited to, controlled and directed growth; physics and chemistry or other fundamental properties; theoretical modeling studies; their use in sensing, electronic, magnetic, biologic or other scientific applications; synergistic growth or use as building blocks for complex or hybrid systems. Papers on experimental and theoretical investigations of related topics are welcome. Specifically excluded from this call for papers are zero-dimensional nanomaterials such as nanopowders, quantum dots, etc. as they will be the topic of a future symposium. Submit abstracts electronically at http://cms.tms.org/ or to: Jud Ready, Georgia Tech Research Institute - EOEML, Atlanta, GA 30332-0826 USA T: 404-385-4497 Email: jud.ready@gtri.gatech.edu . Co-Organizers: Seung H. Kang, Agere Systems, Device and Module R&D, Allentown, PA 18109 USA Email: shkang1@agere.com; Lourdes G. Salamanca-Riba, University of Maryland, Materials Sci and Eng Dept, College Park, MD 20742-2115; Nagarajan Valanoor, Forschungzentrum Juelich, IFF and Institute for Electronic Materials, Juelich, Germany D52425 Email: valanoor@IWE.RWTH-Aachen.de.

Bulk Metallic Glasses
Sponsored by: Structural Materials Division, SMD-Mechanical Behavior of Materials-(Jt. ASM-MSCTS)
Abstract due date: 7/15/2004

In the last decade, new approaches to fabricating metallic glasses (i.e., by utilizing unique combinations of elements to form metallic-glass alloys) have resulted in the required cooling rate dropping from 10 5 °C/s to as low as 1 °C/s, and the speciment size increasing from 0.05mm to as large as 80mm. Because of the large sizes possible with this exciting technology, the metallic glasses are called BMGs.

Mechanical behavior of BMGs is among the new, exciting fields of research that are fully illustrating their advantages over crystalline alloys. Generally, BMGs have higher fracture strengths, fracture toughnesses, and elasticities than their crystalline counterparts. There is great interest in BMGs for use in biomedical, structural, and mechanical applications. Submit abstracts electronically at http://cms.tms.org/ or to: Peter K. Liaw, University of Tennessee, Department of Materials Science and Engineering, Knoxville, TN 37996-2200 USA T: 865-974-6356 F: 865-974-4115 Email: pliaw@utk.edu. Co-Organizers: Raymond A. Buchanan, University of Tennessee, Department of Materials Science and Engineering, Knoxville, TN 37996-2200 USA T: 865-974-4858 F: 865-974-4115 Email: rab1@utk.edu.

Frontiers in Thin Film Growth and Nanostructured Materials: A Symposium in Honor of Prof. Jagdish Narayan
Sponsored by: Electronic, Magnetic & Photonic Materials Division, ASM/MSCTS-Materials & Processing
Abstract due date: 7/15/2004

This symposium will honor Prof. Jay Narayan for his pioneering research contributions to materials research related to beam processing and characterization of semiconductors, superconductors and nanostructured materials. For the past three decades, Dr Narayan has made outstanding contributions to the material science and engineering community as an educator, researcher, teacher, inventor and leader. This symposium will focus on applications of cutting edge materials processing techniques and characterization methods that facilitate the convergence of thin films and nano materials technology in data storage, computing, sensing, medicine, pharmaceuticals, biomedical devices, chemical and energy and other novel applications. We propose to schedule several plenary lectures in the development of next generation advanced materials structures and characterization techniques.

Papers are solicited in the following areas, but are not limited to:
Nano and thin film Technology- Information Technology Convergence
- Processes for magnetics, Photonics, electronics
- Nanoscale Devices

Nanotechnology- Medical Technology Based Convergence
- Nanstructured Surfaces and Interfaces
- Nanostructured Medical Devices

Nanotechnology- Structural Materials Based Convergence
- Metallic Nanoparticles,
- NanoComposites and Nanolaminates

Nanotechnology- Chemical Based Materials Convergence
- Energetic Materials Systems
- Nanoslurries, Pastes, etc.

Nanoscale Characterization Techniques
- Interface and Surface Characterization in Nanostructured Materials
- Nanomechanical Characterization Techniques

Submit abstracts electronically at http://cms.tms.org/ or to: Sungho Jin, University of California-San Diego, Department of Mechanical & Aerospace Engineering, La Jolla, CA 92093-0411 USA T: 858-534-4903 F: 858-534-5698 Email: jin@ucsd.edu. Co-Organizers: Orin Wayne Holland, University of North Texax, Dept of Physics, Denton, TX 76203 T: 940-369-8079 Email: wholland@unt.edu; Stephen Pennycook, Oak Ridge Natl Lab, Sold State Division, Oak Ridge, TN 37831 T: 423-574-5504 Email: pennycooksj@ornl.gov; Rajiv K. Singh, University of Texas at Austin, Austin, TX 78758-4455 T: (512) 471-4670 Email: singh@mer.utexas.edu.

Biological Materials Science and Engineering
Sponsored by: Structural Materials Division, SMD-Mechanical Behavior of Materials-(Jt. ASM-MSCTS)
Abstract due date: 7/15/2004

The interaction of materials and biological systems is emerging as a new frontier in Materials Science and Engineering. The Biology-Materials connection is a fertile field of research with limitless possibilities. The constituents of biological systems are biological materials whereas biomaterials are synthetic materials developed for and used in the body. The structures and properties of biological materials have an unmatched breath and complexity. The structure-property relationships in these materials are only starting to be established at the present time. Present thrusts toward developing novel biomaterials with unique tailored properties and improved biocompatibility are yielding exciting concepts. Biomimetics is a newly emerging interdisciplinary field in which lessons learned from biology form the basis for novel material concepts. This new field of biomimetics investigates biological structures, establishing relationships between properties and structures in order to develop methods of processing and microstructural design for new materials. It is giving rise to new materials concepts, including multifunctional and hierarchically-structured materials, and new materials synthesis/processing approaches. Many properties of biological materials are far beyond those that can be achieved in synthetic materials with present technologies. Biological organisms produce complex composites that are hierarchically organized in terms of composition and microstructure, containing both inorganic and organic components in complicated mixtures. These totally organism-controlled materials are synthesized at ambient temperature and atmospheric conditions. The unique microstructures in biological composites and the resulting properties have been, until recently, unknown to Materials Scientists, but are now beginning to stimulate creativity in the development of future synthetic materials.The symposium will encompass the following themes: Biological materials, Biomaterials (Bioimplants), Biomimetics.

Submit abstracts electronically at http://cms.tms.org/ or to: Marc Andre Meyers, University of California-San Diego, Department of Mechanical and Aerospace Engineering, La Jolla, CA 92093-0411 USA T: 858-534-4719 F: 858-534-5698 Email: mameyers@ucsd.edu. Co-Organizers: Sungho Jin, University of California-San Diego, Department of Mechanical & Aerospace Engineering, La Jolla, CA 92093-0411 USA T: 858-534-4903 F: 858-534-5698 Email: jin@ucsd.edu; Roger J. Narayan, Georgia Tech, School of Materials Science and Engineering, Atlanta, GA 30332-0245 USA T: 404-894-2823 Email: roger.narayan@mse.gatech.edu.

Polymer Nanocomposites -Their Science, Technology and Applications
Sponsored by: TMS, SMD-Composite Materials Committee-(Jt. ASM-MSCTS)
Abstract due date: 7/15/2004

This four-session symposium will focus on the science and technology of polymer-based nanocomposites. Both fully dense materials and nanocomposite foams are included. It is intended to present a cross-section of the state-of-the-art regarding production, properties and applications of these materials. Contributions are solicited in, but not limited to the following areas: synthesis techniques; nanoparticle and nanofibre fillers; surface functionalization; matrix / filler optimization; properties (e.g. thermal, electrical, optical, diffusion; mechanical, chemical, etc); and characterization techniques. Secondary properties such as fatigue, service temperature range, flame retarding, density, and acoustic absorption are also important. Existing and potential applications for nanocomposites, in particular those which take advantage of the multifunctional properties which can be obtained with these materials are especially welcomed. Submit abstracts electronically at http://cms.tms.org/ or to: Steven J. Savage, Swedish Defence Research Agency (FOI), Division of Sensor Technology/Department of Functional Materials, Linkoeping SE-581 11 Sweden Email: steven.savage@foi.se. Co-Organizers: Ulf W. Gedde, The Royal Institute of Technology (KTH), Department of Fiber and Polymer Technology, Stockholm SE-100 44 Sweden ; Judy Schneider, Mississippi State University, Dept of Mech Engrg, Mississippi State, MS 39762 T: 662-325-9154 F: 662-325-7223 Email: schneider@me.msstate.edu.

ELECTRONIC MATERIALS

Lead Free Solder Implementation: Reliability, Alloy Development, New Technology
Sponsored by: Electronic, Magnetic & Photonic Materials Division, EMPMD-Electronic Packaging and Interconnection Materials Committee
Abstract due date: 7/15/2004

This symposium will focus on the implementation of lead free solder alloys in the manufacture of electronic assemblies. Papers which address the long-term reliability of solder joints and electronic assemblies are especially welcome. Topics in this area could include: long term thermal cycling, damage accumulation, property deterioration, and statistical analysis techniques. Solder alloy development is also of interest. Topics in this area could include: modifications to Sn-Ag-X alloys, alternatives to Sn-Ag-X alloys, materials and manufacturing challenges in solder alloy design, structure-property-processing relationships of bulk solders and solder joints, alloy development for optical/Optoelectronic and MEMS packaging, influence of surface and underbump metallization on solderability and integrity of solder joints, microstructure modeling and control, and testing methodologies of various kinds of electronic packages. Presentations will also focus on new technologies and techniques. These could include: soldering processes, metallization (board and component finishes), alternative interconnect technologies for stress management at both the wafer level, and chip to package level, and the issues involved in the design and integration of conductive adhesives in electronic packaging. Submit abstracts electronically at http://cms.tms.org/ or to: Mark A. Palmer, Kettering University, IMEB, Flint, MI 48504-4898 USA T: (810) 762-7973 F: (810) 762-9924 Email: mpalmer@kettering.edu. Co-Organizers: Srinivas Chada, Jabil Circuit, Inc., FAR Lab/Advanced Manufacturing Technology, St. Petersburg, FL 33716 USA T: 727-803-3503 F: 727-803-7429 Email: srini_chada@Jabil.com; Nikhilesh Chawla, Arizona State University, Department of Chemical and Materials Engineering, Ira A. Fulton School of Engineering, Tempe, AZ 85287-6006 USA T: 480-965-2402 F: 480-965-0037 Email: Nikhilesh.Chawla@asu.edu; Sinn-Wen Chen, National Tsing-Hua University, Department of Chemical Engineering, Hsinchu 300 Taiwan T: 011 886 3 5721734 F: 011 886 3 5715408 Email: swchen@che.nthu.edu.tw; 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; J. P. Lucas, Michigan State University, Chemical Engineering and Materials Science, East Lansing, MI 48824 USA T: 5174322883 F: 5173539842 Email: lucas@egr.msu.edu; Laura J. Turbini, University of Toronto, Center for Microelectronic Assembly & Packaging, Toronto, ON M5S 3E4 Canada T: 416-946-7329 F: 416-946-3628 Email: turbini@ecf.utoronto.ca.

Refractory Metals in Electronic Applications

Sponsored by: Electronic, Magnetic & Photonic Materials Division, Structural Materials Division, ASM International: Materials Science Critical Technology Sector, ASM/MSCTS-Texture & Anisotropy Committee, EMPMD-Thin Films & Interfaces Committee, SMD-Refractory Metals Committee, EMPMD-Electronic Packaging and Interconnection Materials Committee

Abstract due date: 7/15/2004

Refractory metals (Cr, Mo, W, Ta, Nb, Zr and Ti) have electrical, thermo-mechanical and chemical properties that are uniquely applied in electronic material applications as well as in production of electronic materials. This symposium will review the unique properties and applications of refractory metals including (1). Electronic packaging/ heat sinks, (2). Thin films for integrated circuits, displays and wiring, and (3). Electronic processing.

The unique properties include low thermal expansion, high stiffness, electrical conductivity and chemical stability. The purpose of this symposium is to provide a venue to expand industrial and research knowledge-base to improve the applications of refractory metals in electronic materials with their unique properties and characteristics. Submit abstracts electronically at http://cms.tms.org/ or to: Gary A. Rozak, Fabricated Products, Cleveland, OH 44117 USA T: 216-692-3990 Email: gary.rozak@hcstarckus.com. Co-Organizers: Srinivas Chada, Jabil Circuit, Inc., FAR Lab/Advanced Manufacturing Technology, St. Petersburg, FL 33716 USA T: 727-803-3503 F: 727-803-7429 Email: srini_chada@Jabil.com; David P. Field, Washington State University, Pullman, WA 99164-2920 USA T: 509-335-3524 F: 509-335-4662 Email: field@mme.wsu.edu; Chris A. Michaluk, Williams Advanced Materials, Gilbertsville, PA 19525 USA T: 610-369-8313 Email: christopher_michaluk@beminc.com; N. (Ravi) M. Ravindra, New Jersey Institute of Technology, Department of Physics, Newark, NJ 07102 USA T: 973-596-3278 F: 973-642-4978 Email: nmravindra@comcast.net.

OTHER APPLICATION AREAS

Aluminum Alloys For Packaging

Sponsored by: Light Metals Division, LMD-Aluminum Committee

Abstract due date: 7/15/2004

Papers related to the science,engineering, technology, aluminum and customer plant implementation of the production and applications of aluminum alloys for packaging and container applications. Submit abstracts electronically at http://cms.tms.org/ or to: Subodh K. Das, Secat, Inc., Coldstream Research Campus, Lexington, KY 40511 USA T: 859-514-4989 F: 859-514-4988 Email: skdas@secat.net. Co-Organizers: Gyan Jha, ARCO Aluminum Inc, Louisville, KY 40223-4032 T: (502)566-5783 Email: Gyan.jha@arcoaluminum.com.

Materials Issues for Advanced Nuclear Systems

Sponsored by: Structural Materials Division, SMD-Nuclear Materials Committee-(Jt. ASM-MSCTS)

Abstract due date: 7/15/2004

This symposium encompasses materials development or characterization related to advanced nuclear systems. This includes, but is not limited to Generation IV reactors and space nuclear power and propulsion. Submit abstracts electronically at http://cms.tms.org/ or to: Robert J. Hanrahan, Los Alamos National Laboratory, Los Alamos, NM 87545 USA T: 505-667-9560 F: 505-667-5268 Email: hanrahan@lanl.gov. Co-Organizers: Sean M. McDeavitt, Argonne National Laboratory, Chemical Technology Division Materials Development Section, Argonne, IL 60439-4837 USA T: 630-252-4308 F: 630-252-9917 Email: mcdeavitt@cmt.anl.gov.

Rare Earths, Science, Technology, and Applications V

Sponsored by: LMD-Reactive Metals Committee

Abstract due date: 7/15/2004

This 5th symposium on rare earths will highlight the advances since the 4th symposium held in 2000. The primary symposium topics include resources, separation and processing, melts and metal reduction, alloys, batteries and materials chemistry, magnets, and applications in pigments, catalysts, refrigeration, solid oxide fuels, hydrogen storage and hydrides, superconductors, thermoelectric and piezoelectric materials. Submit abstracts electronically at http://cms.tms.org/ or to: Renato G. Bautista, University of Nevada, Department of Chemical and Metal Engineering, Reno, NV 89557-0136 USA T: 775-784-1602 F: 775-784-4764 Email: bautista@quake.seismo.unr.edu. Co-Organizers: Dhanesh Chandra, University of Nevada, Metallurgical & Materials Engineering, Reno, NV 89557 USA T: 775-784-4960 F: 775-784-4316 Email: dchandra@unr.edu.

General Abstract Session

Sponsored by: TMS

Abstract due date: July 15, 2004

The TMS Annual Meeting Programming Committee invites you to make plans now to present your research as part of its extensive program of general abstract sessions. In an effort to present a more comprehensive view of current work being carried on in materials science research and industry, particularly new and emerging technologies and techniques, TMS is soliciting general abstract submissions for sessions related to the following areas: alloy phases, aluminum, chemistry and physics of materials, composite materials, corrosion and environmental effects, electronic packaging and inter-connection materials, polymers, powder metallurgy, precious metals, processing fundamentals, reactive metals, recycling, refractory metals, shaping and forming, solidification, superconducting materials, surface engineering, thin films and interfaces.Submit abstracts electronically at http://cms.tms.org/ or to: Thomas P. Battle, DuPont Titanium Technologies, Wilmington, DE 19880 USA T: 302 695-9321 F: 302-761-2275 Email: thomas.p.battle@usa.dupont.com.

General Poster Session

Sponsored by: TMS

Abstract due date: August 15, 2004

The TMS Annual Meeting Programming Committee invites you to make plans now to present your research as part of its general poster session. In an effort to present a more comprehensive view of current work being carried on in materials science research and industry, particularly new and emerging technologies and techniques, TMS is soliciting poster submissions for sessions related to the following areas: alloy phases, aluminum, chemistry and physics of materials, composite materials, corrosion and environmental effects, electronic packaging and inter-connection materials, polymers, powder metallurgy, precious metals, processing fundamentals, reactive metals, recycling, refractory metals, shaping and forming, solidification, superconducting materials, surface engineering, thin films and interfaces.Submit abstracts electronically at http://cms.tms.org/ or to: Thomas P. Battle, DuPont Titanium Technologies, Wilmington, DE 19880 USA T: 302-761-2193 F: 302-761-2275 Email: thomas.p.battle@usa.dupont.com.

Commercial Poster Session

Sponsored by TMS

Abstract due date: 11/15/04

The Commercial Poster Session will provide an opportunity for technical exchange between TMS meeting participants and suppliers of products, processes, and services of interest to the participants. Posters may be used to present an overview or detailed specifications for current products and services, or as an update on developing technological improvements and new product launches.

The poster session will take place in the exhibition hall during the regularly scheduled exhibit hours.

Requirements for participation:

- A poster title and abstract must be submitted to the Commercial Poster Session by November 15, 2004. Submit abstract electronically at http://cms.tms.org or to: TMS, Warrendale, PA 15086 USA T: 724-776-9000 F: 724-776-3770 Email: raabe@tms.org.
- The poster must be two dimensional and fit within a 4' X 8" area.
- A representative must be available at the poster for discussion during specified Poster sessions/receptions, tentatively scheduled for Monday and Tuesday evening, 5:00-7:00 pm.
- The Program Committee reserves the right to accept or reject posters based on an evaluation of benefit and interest to TMS Annual Meeting participants. Decisions will be provided one month after the abstract submission deadline.

ABSTRACT SUBMISSION INSTRUCTIONS:

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.

TMS Technical Programming Department
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Telephone (724) 776-9000, ext. 212
Fax (724) 776-3770
Email raabe@tms.org

Announcing TMS Featured Presentations...

a new program recognizing outstanding research that bridges the boundaries of materials science and engineering

TMS will recognize 12 outstanding presentations during the 2005 TMS Annual Meeting & Exhibition as *TMS Featured Presentations*. The *Featured Presentations* will be selected and acknowledged from the more than 1,800 contributed papers that are expected. To be considered for this honor, a presentation must have relevance to all TMS constituencies (industry/academia/government), be global in nature, and have a technological overview or emerging trends theme.

Additional requirements of the selected *Feature Presentations* are:

1. The presenter must make the presentation twice during the meeting – During the symposium to which it was submitted, and again at a special *TMS Featured Presentations* session later in the week.
2. The presenter must also provide a comprehensive paper, suitable for publication, by the established deadline.

The selected presenters will receive a certificate and be invited to attend the TMS Dinner and Awards Presentation where they will be recognized for their contribution. They will also receive recognition in the meeting program, session signage, and be provided a special badge ribbon that identifies them as a *Featured Presenter*.

One Featured Presentation will be selected from each of the bulleted theme areas listed below.

Materials Theory ↔ Experiment
- Phases and Phase Transformations
- Multi-scale Mechanical Behavior
- Materials Characterization and Properties

Processing ↔ Properties
- Aluminum
- Magnesium Technology
- Extractive Processing
- Downstream Metals Processing
- Surface Engineering

Science ↔ Engineering
- Transportation
- Emerging Materials
- Electronic Materials
- Other Application Areas

Submit your abstract to one of the symposia listed in this call-for-papers today and assure yourself of being considered for selection as a 2005 TMS Annual Meeting & Exhibition Featured Presenter.

ABSTRACT SUBMISSION INSTRUCTIONS:

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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