

Conference Report

29th IMS CONVENTION

The International Metallographic Society (IMS) has announced the 29th Annual Convention to be held on July 21-24, 1996, at the Pittsburgh Hilton and Towers, Pittsburgh, PA. The Convention will include two symposia with invited speakers, a three day technical conference, a commercial exposition and a display of the winning entries from the 1996 International Metallographic Contest. Nationally and internationally known experts in materials analysis will present keynote addresses during the 1996 Convention.

Two symposia, "Microstructural Development, Phase Equilibria and Properties," sponsored jointly by IMS and the Alloy Phase Diagram International Commission, and "Advances in Specimen Preparation Techniques for Materials Analysis," sponsored by IMS, will kick-off the IMS Convention on July 21, 1996. The three day technical conference, with the theme "Microstructure: Key to Advances in Materials," will include sessions on: tailoring microstructures for enhancement of properties, success with failures, applications of image analysis and modeling to materials characterization, microstructural aspects of environmental degradation of materials, P/M alloys: structure and properties, surface coatings and modifications, materials characterization issues: standards and quality control, microstructural characterization of novel materials, theory and microstructure of phase transformations, and advances in specimen preparation techniques. The technical meeting sessions will include an interactive session for authors to informally discuss their research on a one-on-one basis with attendees, and a new "Research in Progress: Latest Developments" session.

All papers presented at the technical meeting will be published in the *Microstructural Science* series of IMS proceedings. To receive a copy of the IMS Convention Advance Program, contact ASM International, Member Services Center, Materials Park, Ohio 44073-0002; Tel: 216/338-5151, ext. 700; fax: 216/338-4634.

ITSA Spring Meeting

The International Thermal Spray Association Spring meeting is from April 25-28 at the Rio Suites Hotel & Casino, Las Vegas. ITSA is dedicated "To provide its membership with prestige, business opportunities, technical support and a social network that contributes to the growth and education of the thermal spray industry as a whole." For more information about the ITSA or the Spring meeting contact: Joanne Scott & Associates, 400 Hebron Avenue, Glastonbury, CT 06033. Tel: (860) 657-3440; fax: (860) 657-2252.

Surfaces in Biomaterials

At Surfaces in Biomaterials '96 (September 4-6, 1996), researchers from a variety of disciplines will convene to exchange information and ideas. The goal of this symposium is to explore interfacial structure property relationships in biomaterials. The information presented will provide attendees with a better understanding of preparation, modification, and characterization associated with biomaterials and biomedical and diagnostic devices. The program will include lectures presented by invited experts. Technical sessions will focus on applied aspects of biomaterials and diagnostic devices with a strong emphasis on the following topics: Surface Modification, Novel Surface Techniques, Cardiovascular Devices, Protein-Surface Interaction, Orthopaedic and Dental, and Cell-Surface Interactions.

Contact: Surfaces in Biomaterials Foundation, c/o ARDEL Management, Inc., PO Box 26111, Minneapolis, MN 55426-0111.

Multiphase Flows and Heat Transfer in Materials Processing

The Multiphase Flow Committee of the Fluids Engineering Division and the Committee on Heat Transfer and Materials Processing and Manufacturing (K-15) of the Heat Transfer Division are organizing a symposium on Multiphase Flow and Heat Transfer in Materials Processing. The purpose of the Symposium is to provide a forum for the presentation of current activities in current and emerging technologies, novel and promising processes and possible directions of future activities.

The submitted papers should address the significance of multiphase flow and heat transfer in state-of-the-art and new manufacturing and materials processing techniques. Of particular interest is the role multiphase mechanics and heat transfer can play in the optimization of current and emerging technologies. Typical topics may include: spray forming and coating; plasma and chemical vapor deposition; processing of polymer-fiber composites; thermal processing; casting of metal matrix composites; plasma etching; plasma arc cutting; spin coating; welding; sputter deposition; jet cutting; powder metallurgy; spray cooling; laser processing; and generating nanocrystalline materials.

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SSPC Meeting Highlights Thermal Spray

The November SSPC 1995 International Conference and Exhibition meeting in Dallas, Texas included three symposia on thermal spray. The aim of these symposia was “—to explore the advantages of thermal spray and find out how it can save you and your organization money and time”. The program details and short abstracts are listed below.

Session on “Evaluating Thermal Spray Technologies (Part I)” Chair: Robert A. Sulit (Duralcan USA, San Diego, CA).

- “Thermal Spray Technology: Alternative/Compliment to Organic Coatings” by T. Bernecki (Northwestern University, Evanston, IL). Provided in this paper is an overview of the thermal spray technology, description and performance of thermal spray coatings, flame and arc-spray equipment, processes, production rates and life-cycle costs.
- “Comparing the Performance of Metallized and Conventional Low VOC Coatings Applied to Steel” by J. W. Peart (Federal Highway Administration, McLean, VA), R. A. Kogler, Jr., (Federal Highway Administration, Arlington, VA), and C. L. Farschon, (Ocean City Research Corporation, Ocean City, NJ). A test program exposing steel test panels to accelerated laboratory tests and to three separate natural marine environments using various generic low VOC coatings is probed.
- “Thermal Spray Coatings for Marine Corrosion Control” by R. Brenna (Naval Surface Warfare Center, Annapolis, MD). The development of and current practices in the US Navy for the use of thermal spray techniques for corrosion control and component restoration are reviewed.
- “Thermal Spray Polymer Coatings for Corrosion Applications” by R. J. DuMola (Eutectic Corporation, Charlotte, NC). This paper reviews the status of thermally applied polymer coatings and presents technical, environmental and application data on a number of candidate powders.

Session on “Evaluating Thermal Spray Technologies (Part II)” Co-chairs: R. A. Sulit (Duralcan USA, San Diego, CA) and K. DuPlissie (Platt Brothers & Company, Waterbury, CT).

- “Thermal Spray Equipment and Process for Infrastructure and Civil Works” by D. E. Crawmer (Miller Thermal, Inc., Appleton, WI). An overview of state of the art thermal spray equipment including flame, arc, and high deposition arc guns applicable to infrastructure and civil works projects is provided.
- “Application of Thermal Sprayed Coatings—Practical Considerations” by R. Avery (Dynamic Coatings Corporation, Houston, TX). Specification of thermal-sprayed coatings brings significant practical advantages to both applicator and customer. The use of thermal-spray coatings in an application shop is discussed in comparison to conventional liquid coating systems.
- “Quality Control of Thermal Spray Coatings for Long-term Performance” by T. Cunningham (Transocean Anti-Corrosion, Inc., Houston, TX). The issues and methods which determine the effective application of thermal-sprayed coatings are examined and quality control solutions to maximize performance and reduce life-time costs are suggested.
- “Thermal Spray Coatings for River Dams and Locks” by T. Race (United States Army, Champaign, IL). The US Army Corps of Engineers conducted an initial assessment of thermal sprayed coatings in 1986. Metallized coating performance, cost, and applications from the Corp’s assessment are high-lighted.
- “Cooperative Bridge Coating Processing (Painting Subordinated Metallizing)” by H. A. Beale (Applied Coatings International, Columbus, OH) and G. Svoboda (Abhe & Svoboda, Inc., Prior Lake, MN). Explore why infrastructure owners are noticing the longer service life and lower life-cycle cost of zinc and aluminum (and zinc-aluminum) thermal spray coatings with a paint top-coat-sealer.
- “Factors Affecting the Bonding of Arc-Sprayed Zinc to Concrete” by B. S. Covino, Jr., S. J. Bullard, G. R. Holcomb and S. D. Cramer (US Bureau of Mines, Albany, OR) and G. E. McGill and C. B. Cryer (Oregon Department of Transportation, Salem, OR). Factors affecting the service life of large area zinc anodes used in impressed current cathodic protection (CP) systems for steel-reinforced concrete bridges are investigated.
- “Blundering Toward Success with Metal Spray Systems” by J. Brodar (Salt River Project, Phoenix, AZ). A collection of situations, experiences, and case histories discussing failures and successes drawn from over 70 years of utilizing thermal metal spraying is discussed.

Session on “Evaluating Thermal Spray Technologies (Part III)” Chair: K. DuPlissie (Platt Brothers & Company, Waterbury, CT).

- “Metallized Bridges in Virginia” by T. W. Neal (Richmond, VA) and T. Call (Douglas Call Company, Inc., Virginia Beach, VA). A summary of specifications for and application methods used, locations, performance, lessons learned, and outlook for the future of metallized coatings is presented.
- “Application of Arc-Sprayed Zinc Anode for ICCP System on a Concrete Bridge and Arc Sprayed Zinc Coating on Steel Bridge Structures” by M. Kane (Interstate Coatings, Inc., Seattle, WA). An overview of the application of arc-sprayed zinc anode for the impressed current cathodic protection system on the Yaquina Bay Bridge highlights this presentation.
- “Arc-Sprayed Zinc Coatings for Sacrificial Protection of Steel Reinforced Concrete” by J. Costa (Corrosion Restoration Technologies, Jupiter, FL)