Conference Report

3rd International Conference on High-Temperature Intermetallics

The 3rd International Conference on High-Temperature Intermetallics, sponsored by ASM International, will be held at the Hyatt Islandia in San Diego, CA from 16-19 May 1994. More than 170 papers will be presented in 13 sessions addressing alloy design, mechanical properties, microstructure, processing, environmental effects, and industrial applications. Also, issues such as fracture toughness, environmental impact and new approaches for processing will be examined at the meeting.

The event will be of interest to those researching, teaching, and processing intermetallics. Conference organizers are D.P. Pope, University of Pennsylvania, Philadelphia PA; S.H. Whang, Polytechnic University, Brooklyn NY; and C.T. Liu, Oak Ridge National Laboratory, Oak Ridge, TN. A complete conference proceedings, to be published by Elsevier Science Publishers B.V. in the Journal of Materials Science and Engineering, will be available after the event. (Refer to calendar section for more details.)

Biomedical Applications Workshop

The second annual "Ceramics in Biomedical Applications" workshop will be held at Alfred University, Alfred, NY, 8-10 June 1994. Invited speakers from the United States, Germany, and the United Kingdom will present papers on the state-of-the-art use of ceramics and glass in medical and dental applications.

The use of ceramics and glass in medicine is a growing field with a promising future. Ceramics have potential as hard tissue replacement (arthroplasty), sensor devices, filtering devices, nerve sheathing; new concepts in mechanical bonding (reticulated ceramics), laser surgery etc. Considerable industrial interest has also been shown in bioactive and bioresorbable materials for a number of purposes including bone growth and repair, drug delivery and radiation therapy.

The goal of this workshop is to provide a format for open dialogue between industry, medical/dental and university communities. The format of the workshop is threefold: invited speaker presentations, poster presentations, and a panel discussion. (Refer to calendar section for more details.)

Workshop on the Plasma Science and Technology Initiative

A community-wide dialogue is underway to consider options and elements of a new Plasma Science and Technology Initiative. A special session at the IEEE International Conference on Plasma Science (ICOPS'94, Sante Fe, NM, 6-8 June) will be the first working forum to begin preparing a plan for the initiative based on results of the dialogue to date [bulletin board plasma-init.umd-edu]. If possible, a proposal should be ready for consideration by NSF early in 1995. This "grass-roots" planning activity will lead to a proposal for an initiative (perhaps $300M over 10 years with a $20-30M proof-of-concept precursor) for which NSF could play a lead role.

Desired elements are (1) take advantage of plasmas as an ideal system for mesoscale research with links to all scale lengths, (2) synergism of basic and applied research with strong potential for technology transition to industry (e.g., material processing, microwave, nanoscale systems), (3) "big" science and technology implications (4) complementary to fusion program and providing for the possibility of a revitalization of plasma science and technology, and (5) a highly interdisciplinary activity with strong education linkages. A plenary session on the initiative is scheduled Wednesday afternoon (8 June) and the workshop is on Thursday 9 June. (Refer to calendar section for more details.)

Evaluating Coatings for Environmental Compliance

The conference will be held on 13-15 June 1994, at the Buena Vista Palace at Walt Disney World Village, Lake Buena Vista, FL. This conference is intended for coating specifiers; testing and research laboratories; coating, resin, and pigment manufacturers; maintenance, materials, and corrosion engineers; and procurement personnel from public and private facility owners.

Prospective authors are invited to submit original papers on the following topics: Assessing or Mitigating the Effects of Soluble Salts; New Methods and Approaches for Accelerated Testing; Evaluating Water-Borne Zinc Rich Coatings;

Performance of Coatings Meeting VOC Limits; Durability of Overcoating for Lead Coated Structures; Impact of VOC Rules for Architectural and Industrial Maintenance Coatings; Non-Destructive Methods for Evaluating Coating Degradation; Advances in Electrochemical Impedance Spectroscopy for Coating Performance; and Advances in Statistical Methods for Evaluating Coating Performance.

Environmental Regulations (e.g., VOC and lead abatement) are having major impacts on selection and performance of industrial protective coatings. EPA's new rule on industrial maintenance coatings to be announced in early 1994 will limit VOCs to 350 g/L, which is significantly below currently used systems. By 1996, the expected implementation date, formulators and end-users will need to have tested and selected compliant systems. Regulations are also affecting strategies for maintaining lead-painted bridges. Alternate materials are being sought for recoating existing structures previously coated with lead paint and those surfaces contaminated with soluble salts.

The keys to identifying, selecting, and evaluating new coatings are effective accelerated laboratory and field test procedures, along with means for characterizing the coating condition, both in situ and under laboratory conditions. This conference will focus on critical technologies needed to successfully evaluate protective coatings under the above conditions. These include the following:

- The influence of soluble salts on coating lifetime and the effectiveness of detecting and removing these salts.
- Advances in cyclic corrosion and weathering testing and use of electrochemical impedance spectroscopy to characterize aged coatings.
- Detecting early failure using computer visual, and infrared images, other non-destructive evaluation (NDE) methods or changes in fundamental coating properties.
- Elucidating factors which influence compatibility, adhesion, and other interlayer interactions and integrity of repainting existing paints.

The conference will also feature Steel Structures Painting Council (SSPC) tutorials on subjects such as: Lead Paint Removal and Abatement Tutorial; Environmental Regulation Impacting the Protective Coating Industry; Coating Failure Analysis; and Developing a Coating Performance Evaluation; and Testing Programs. (Refer to calendar section for more details.)

Thermal Spray Conference, Boston, Massachusetts

NTSC '94, to be held 20-24 June 1994, in Boston, MA, will feature six special symposia targeted at specific industries together with a general technical program to inform engineers about the capabilities and potential benefits of using thermal spray technology to solve materials problems. The targeted industries include aerospace, automotive, power generation, petrochemical, infrastructural maintenance, and biomedical. Organizers and members demanded the specialized programming, as thermal processing is being recognized in a growing number of industries for its ability to economically apply materials using a wide range of processing capabilities.

The conference will feature more than 200 papers addressing the latest developments in thermal spray research, equipment, raw materials, coating systems, processing, new markets and applications. The general programming topics include: systems control; diagnostics; reactive spraying; commercial; spray forming; reduced pressure spraying; post treatment; testing of coatings; wear of coatings; process development; materials; HVOF (high-velocity oxy-fuel) coatings; modeling; coating characterization; applications; carbide coatings; mechanical properties; process/coating interrelations; and structure/property relationships.

Also being held during the event will be the Thermal Spray Exposition, 21-23 June. The exposition will feature more than 70 exhibitors displaying the newest technologies, products and services in thermal spray processes and equipment. In conjunction with the Thermal Spray Exposition, the exhibitors will provide complimentary Technology Briefings, designed to bring attendees up-to-date on the newest products, services, applications, equipment, and materials in the aerospace, biomedical, automotive, power generation, petrochemical, and infrastructure maintenance industries.

Intensive courses will also be held on "Thermal Spray Technology" and "Metallography of Plasma Spray Coated Materials." A workshop will address the "Basics of Thermal Spray." (Refer to calendar section for more details.)

49th Sea Horse Institute Meeting

This Sea Horse Institute meeting (8-11 August 1994, Wrightsville, NC) is organized by the LaQue Center for Corrosion Technology, Inc. for open discussion and free exchange of information on materials technology applications for marine and other natural water environments. These applications pertain to metals, non-metals, composites, coatings, and other corrosion-control techniques.

Technical discussion topics include: coatings, biofouling, corrosion, materials for seawater handling systems, microbiologically influenced corrosion, cathodic protection, biofouling control techniques, atmospheric corrosion, and other related subjects attendees may wish to raise.

An informal forum encourages open discussion among the attendees, permitting free exchange of information on applications' problems and successes, recent results of testing and research, and the need for further research. Formal presentations are neither solicited nor permitted. There are no published preprints or proceedings of the meeting. (Refer to calendar section for more details.)

Surfaces in Biomaterials '94

Surfaces in Biomaterials '94 (8-10 September 1994, Scottsdale Princess Resort, Scottsdale, AZ) is designed for industrial engineers, research scientists and academicians working in the field of biomaterials, biomedical or diagnostic research. Surfaces in Biomaterials '94 will stress applied research and problem solving applications, as well as clinical issues. The program will include topics such as materials research, surface modification, biocompatibility, and surface characterization and is designed for industrial engineers, research scientists and academicians working in the field of biomaterials, biomedical, or diagnostic research.

The "Surfaces in Biomaterials Foundation" exists to ensure the sponsorship of future Workshop and Symposia, further the exchange of information and ideas within the surface science and biomedical communities, help in the understanding of interfacial problems common to many researchers and development engineers, and provide a forum which allows interaction and dissemination of surface and interfacial information.

The goal of the Symposium is to explore interfacial, structure, and 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 Symposium program will include 8 lectures presented by invited experts. (Refer to calendar section for more details.)

Thermal Spray Processing of Composites

A special session on the Thermal Spray Processing of Composites will be held during ASTM/TSM Materials Week '94 (Rosemont, IL, 3-6 October 1994). Co-sponsored by the ASM's Composites Division and Thermal Spray Division, programming will cover thermal spray fabrication of composite structures (continuous fiber, chopped fiber, particulate and laminate composites); composite coatings; non-composite coatings for composite structures; process and product modeling; and thermal sprayed composite applications. (Refer to calendar section for more details.)

Coating Systems for Bridges and Steel Structures

The Fourth World Congress on Coating Systems for Bridges and Steel Structures, 1-3 February 1995, will be held at the Marriott Airport Hotel, St. Louis, MO.

In the past ten years significant progress has been made by the coating industry and those affiliated with it, toward meeting the challenges of this environmentally conscious era. New coating systems have emerged; new techniques for removal and applications have been developed; and the research goes on, with a goal of beautifying and protecting bridges, steel structures and other sources, with coatings that are safe and free from any harmful agents. The objective of the Fourth World Congress on Coating Systems for Bridges and Steel Structures is to detail the most recent advances in all these areas, by bringing together research and development; contractors; paint and equipment manufacturers; testing laboratories; and law makers and enforcers, to share new systems and techniques, successes and failures.

Original papers are requested on the following subjects:

1. New Techniques for Lead Paint Removal, Containment, and Disposal, including Worker Protection
2. Overcoating Lead-Coated Bridges: Practices and Results
3. Testing and Evaluation of VOC Compliant Coatings
4. Assessing Structural and Environmental Conditions for Bridge Coatings
5. Advances in Techniques and Strategies for Long-Term Bridge Protection
6. Cost-Effective Materials and Procedures for Shop-Coating
7. Regulations and Legislation: The Effect on Bridge Painting
8. Case Histories - Successes and Failures With New Systems/Techniques and Practical Approaches for Preventing Failure
9. New High Transfer Efficiency Paint Application Methods
10. New Paint Technologies
11. New Ideas for Financing Bridge Painting and Repair

(Refer to calendar section for more details.)

Call For Papers And First Announcement ITSC '95
The 14th International Thermal Spray Conference and Exibition

"Current Status and Evolving Trends for the 21st Century," 22-26 May 1995, International Conference Center, Kobe, JAPAN. Sponsored by: High Temperature Society of Japan. Co-sponsored by Japan Welding Society; Japan Thermal Spray Society; Japan Thermal Sprayer's Association; Thermal Spray Division of ASM International; American Welding Society; International Thermal Spray Association; and Deutscher Verband für Schweisstechnik e.V.

ITSC is the world's largest international conference in the field of thermal spraying. Coming to Asia for the first time in 1995, the next conference will be held in Kobe, Japan. Thermal spraying is one of the most important materials processing technologies today, and there is a clear need for further research and development to achieve harmony between the natural environment and mankind's needs. This conference will explore the current status and future trends in thermal spraying technology as it continues to evolve toward the 21st century.

In Japan, thermal spraying technology is applied in a wide range of fields, from aircraft and automobile production to steel manufacturing and energy. As one of the highlights of this conference, a symposium is planned that will discuss the latest topics relating to the application of thermal spraying in these many industrial fields. And, to provide ample opportunity to obtain the most up-to-date information relating to the fields in which thermal spraying is employed, technical sessions, commercial sessions, poster sessions, and many technical visits and exhibitions are also planned. We are inviting the presentation of relevant reports and exhibits at the symposium, as well as at the technical sessions and other events.

One of the highlights of ITSC'95 will be a symposium on "Application of the Latest Thermal Spraying Technology." Reports on the following topics are invited for presentation at the symposium: Automobiles; Steelmaking Processes; Energy; Chemical Industry; Electrical and Electronics; Jet Engines; Infrastructure; Biomaterials; Paper and Printing Industries; Design and Arts; and others.

Technical sessions are being planned to provide clear and concise explanations of the relevance of this technology, including related peripheral technologies from the thermal spraying process itself to the phenomena of thermal spraying as well as the structure and properties of the coatings obtained. These technical sessions include New Thermal Spraying Devices and Processes; Explanation and Evaluation of Thermal Spraying Phenomena; Microstructure of Coatings; Coating Properties; Methods of Evaluating Coating Properties; Improving Coatings by Combining Processes; The Design and Coating Properties of Thermal Spraying Materials; Powders and Powder Metallurgy; Thermal Spraying Processing and Quality Control; Robots and Automation; Health, Safety and Environmental Conditions and others.

Commercial sessions are being planned to introduce new products and techniques related to thermal spraying devices and materials, as well as the latest technical information.

Poster presentations are also being planned to enhance the discussions at the symposium, technical sessions, and commercial sessions. Reports presented in the poster sessions will also be included in the publication of the conference proceedings. Applications for presentation slots in the poster sessions require submission of an abstract.

Languages: English will be used at the conference, with simultaneous two-way translation between English and Japanese.

Abstract Submission: Abstracts of 300 words or less must be typed and submitted no later than 1 May 1994. Each abstract must include the affiliation, address, telephone, fax, and/or telex numbers of the principal author and five key words for placement in appropriate session and also for listing in the indexes provided for the proceedings. Abstracts should be sent to: Ms. Akiko Tamesada, ITSC'95 Secretary, High Temperature Society of Japan, c/o Welding Research Institute of Osaka University, 11-1 Mihogaoka, Ibaraki, Osaka 567, Japan. Telephone: 81-6-877-5111 (Ext-3610) Telefax: 81-6-878-3110 Telex: 05286220 AAB:5286220 JWRIJ.

Paper drafts will be due by 1 October 1994, and camera-ready manuscripts will be due by 1 February 1995 according to a format which will be mailed later. Manuscripts will be reviewed and published in the conference proceedings available at the event. All papers will be considered for "Awards of Excellence" from the High Temperature Society of Japan.

An international exhibition is being organized of commercially available equipment and other hardware, as well as software products and services in the area of thermal spray technology. Companies which are interested in taking part in this exhibition are invited to contact the ITSC'95 Secretary for further information.

A number of technical visits to places of interest within the scope of ITSC'95, including companies and research centers applying Japan's most advanced manufacturing technologies, will be organized during the conference. Also planned are a number of social programs, such as historical tours of the ancient cities of Kyoto and Nara, demonstrations and exhibitions of traditional Japanese arts and culture, and an enjoyable evening spent on a sunset cruise of Osaka Bay.

Organizing Committee:

Chairman: Yoshiaki Arata, President (High Temperature Society of Japan), Emeritus Professor (Osaka University), Academician (The Japan Academy).

Vice Chairmen: Akira Nakahira, Chairman (International and National Advisory Committee), President (Tocalo Co., Ltd.); Atsushi Hasui, President (Japan Thermal Spraying Society), Professor (Iwaki Meisei University); Mikio Kuroda, Chairman (Japan Thermal Sprayer's Association), Managing Director (Fujiki Kosan Corp.); Shizuo Mukae, President (Japan Welding Society), President (Kyushu Institute of Technology).

Steering Committee Chairman: Hiroshi Maruo, Professor (Osaka University).
Program Committee Chairman: Akira Ohmori, Associate Professor (Osaka University).

(Refer to calendar section for more details.)

NTSC'95 Conference

You are invited to present a paper at ASM International's 8th National Thermal Spray Conference (NTSC'95) to be held 11-15 September, Houston, TX. This event is accepting papers on advances and applications in thermal spray technology, and in addition, is seeking papers and presentations relevant to solving problems in the Petroleum and Petrochemical Industry. Technical sessions, commercial session, case studies, tutorial workshops, and special research topical sessions are sought. Sessions are planned in, but not limited to, the following areas: *Thermal Spray Technology and Applications* (including Deposition Process; Coating Characterization; Commercial Session; Coating Properties; Wear Coatings; Infrastructure Applications; Process Characterization; Modeling Diagnostics; Pre/Post Processing; Materials; Synthesis & Forming; and Science & Technology) and *Petroleum and Petrochemical Industry Focus* (Polymer Processing; Polymer Coatings; Oil & Gas Production; Refining; Chemical Processing; Transportation & Storage; Pumps & Valves; Repair & Maintenance; and Corrosion/Wear). Responding to the continuing interest in commercial developments, submissions are invited for commercial sessions.

Poster sessions will be organized to accommodate any overflow of papers. Late abstract submissions will be specifically considered for these poster sessions, so authors are encouraged to be prompt. Authors of papers selected for poster presentation will be notified by mail. Poster papers will be included in the conference proceedings.

Abstracts of about 150 words are due no later than 11 January 1995 and must include: company name, address, telephone and fax numbers for all authors, and five key words for placement in an appropriate session. Manuscripts will be due by 1 April 1995 and will be reviewed and published in a conference proceedings available at the event. All papers will be considered for "Awards of Excellence." (Refer to calendar section for more details.)