



Preface

The 31st International Conference on Metallurgical Coatings and Thin Films, sponsored by the Advanced Surface Engineering Division of the AVS Science and Technology Society was held April 19–23, 2004 in San Diego, California. An outstanding technical programme was presented consisting of 38 technical sessions containing 329 Oral and 216 Poster presentations. Seventy six internationally recognised experts presented invited lectures in the various symposia. Over 640 delegates registered, along with a further 100 representatives of the companies which exhibited at the Conference.

The Plenary presentation at the Conference was given by Professor Millie S Dresselhaus, and was entitled “Carbon Nanomaterials as they Relate to Energy Production and Storage”. This Proceedings contains 209 papers that were peer reviewed by at least two expert referees and accepted on the basis of technical merit and timeliness of submission. As has been the practice since 1987, the accepted papers are also being published in special issues of the archival journals *Surface and Coatings Technology* or *Thin Solid Films*. Papers from Symposium A (Coatings for Use at High Temperatures), Symposium B (Hard Coatings and Vapor Deposition Technologies), Symposium E (Tribological Coatings/Surface Modifications), Symposium G (Applications, Manufacturing and Equipment) and the Topical Symposium (TS) are being published in *Surface and Coatings Technology*. Papers from Symposium C (Optical Thin Films), Symposium D (Diamond and Related Materials), Symposium F (Advances in Coating and Thin Film Characterisation) and Symposium H (Advanced Materials in Microelectronics) are being published in *Thin Solid Films*.

The organisation of a conference and assembly of a Proceedings of this magnitude require the dedicated effort of many people, most of whom are volunteers. The General Chair this year was Prof Lars Hultman, who was responsible for coordinating all activities related to the Conference. The Executive and Program Committees for ICMCTF2004 are named in the following pages, and their efforts are gratefully acknowledged. In addition, the generous support of the companies exhibiting at the conference, also listed separately, is recognised, as are the efforts of Bob Finnegan in managing the exhibition.

Specifically related to the Proceedings, the Editors would like to thank Prof Brian Holloway the Program Chair, and all of the Symposia Chairs for assisting in the identification of qualified referees. We would also like to acknowledge the hundreds of referees themselves for their timely submission of quality reviews.

Finally, on behalf of the entire conference, we would like to express our appreciation to Phyllis Greene, Conference Manager, for handling local arrangements and ensuring that the conference ran smoothly in San Diego, and to Mary Gray, Conference Administrator, for processing the abstracts, distributing the manuscripts to referees, and processing the pre-registrations.

Preceding Editors:
Allan Matthews
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