



## Preface

## 2008 ICMCTF

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The 35th International Conference on Metallurgical Coatings and Thin Films (ICMCTF) sponsored by the Advanced Surface Engineering Division (ASED) of the American Vacuum Society (AVS) was held from April 28 to May 2, 2008 in San Diego, California.

The technical program consisted of 60 technical sessions containing 351 oral and 209 poster presentations. The Conference was opened on Monday morning with a Plenary Lecture by Prof. William D. Nix from the Department of Materials Science and Engineering, Stanford University, Stanford, CA, entitled “Mechanical Properties of Thin Films and Coatings : Understanding and Controlling the Residual Stresses”. Invited lectures in 8 symposia and 3 topical sessions have been given by 75 internationally recognized experts. In addition, the program included various special highlights. Three tutorials were held on “Stress and Strain in Polycrystalline Thin Films” by G.C.A.M. Janssen, “High Power Impulse Magnetron Sputtering (HIPIMS) Technology” by A.P. Ehasarian, and “Art and Skills of Successful Scientific Manuscript Preparation” by R.L. Boxman. Five Focused Topic Sessions were dedicated to “In-Situ, 2D Curvature and Stress Monitoring with the k-Space kSA MOS System” by E. Chason, “Nanomechanical Testing – Cutting Edge Research in Thin Film Characterization” by D. Vodnick, “Mechanical Property Measurements of Thin Films and Coatings” by N. Jennett, “New Developments in XRD Characterization on Thin Film Materials” by N. Yang, and “Scratching More than the Surface : Using Scratch Testing in Innovative Ways” by N. Randall. The ICMCTF 2008 Forum entitled “A Scientific Perspective on the Energy Challenge” by N.D. Shinn was focused on imminent research challenges of industrial applications. More than 741 delegates registered from 43 countries, along with further 82 representatives of the companies, which exhibited at the Conference.

The winners of the R.F. Bunshah Annual Award and Annual ICMCTF Graduate Student Awards were awarded for the Conference. The recipient of the R.F. Bunshah Award was Dr. Stephen M. Rossnagel, IBM Thomas J. Watson Research Center, Yorktown Heights, NY, who is recognized for his research and development achievements in various innovations in sputtering, such as hollow cathode-enhanced magne-

tron and collimating sputtering, gas rarefaction phenomena in magnetron deposition systems, development of ionized magnetron sputtering (or I-PVD) and plasma-enhanced atomic layer deposition (ALD). Based on the quality of the written research summaries, resumes, evaluation letters in addition to the quality and professionalism of the oral presentations and discussions the Gold Medal of the ICMCTF Graduate Student Award went to Mr. Martin Moser from Leoben University, Austria, for his research achievement on “Stabilization of Cubic  $(\text{Ti}_{1-x}\text{Al}_x)_{1-y}\text{Y}_y\text{N}$  Thin Films by Bipolar Pulsed DC Magnetron Sputtering”. The Silver Medal went to Mr. Etienne Bousser from Ecole Polytechnique, Montreal, Canada, for his research achievement on “Effect of Microstructure on the Erosion Resistance of Cr–Si–N Coatings”. The Bronze Medal went to Mr. Martin Pfeiler from Leoben University, Austria, for his research achievement on “Arc Evaporated Ti–Al–Ta–N Coatings: the Effect of Bias Voltage and Ta on High-Temperature Tribological Properties”.

The electronic submission of manuscripts via the Elsevier Editorial System (EES), the selection of reviewers, and evaluation of manuscripts submitted for publication in the Proceedings volumes were strictly identical to those adopted for manuscripts submitted for publication in international scientific journals as regular papers. Under these circumstances, the scientific quality of ICMCTF manuscripts is equivalent to the quality of regular papers. As has been the practice since 1987, the accepted manuscripts are published in 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 Technology), Symposium E (Tribology and Mechanical Behavior of Coatings and Thin Films), Symposium G (Applications, Manufacturing and Equipment), Topical Session TS-1 (The Atomistic of Thin Film Growth : Computational and Experimental Studies), Topical Session TS-2 (Coatings for Fuel Cells), and Topical Session TS-3 (Bioactive Coatings and Surface Biofunctionalization) are being published in *Surface and Coatings Technology*. Papers from Symposium C (Optical thin films), Symposium D (Carbon and Nitride Materials: Synthesis–Structure–Property Relationships), Symposium F (Advanced Characterization of Coatings and Thin Films), and Symposium H (New Horizons in Coatings and Thin Films) are being published in *Thin Solid Films*. 166

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papers were reviewed by at least two expert reviewers and accepted on the basis of technical merit and timeliness of submission.

The organization of a conference and assembly of Proceedings volumes of this magnitude require the dedicated effort of many people, most of whom are volunteers. The *General Chairman* this year was *Prof. Jochen Schneider* from the RWTH Aachen University, Germany, who was responsible for coordinating all activities related to the Conference. The Executive and Program Committee Members for the 2008 ICMCTF are named in the following pages, and their efforts are gratefully acknowledged. In addition, the generous support of the 41 companies exhibiting at the Conference, also listed separately, is recognized, as are the efforts of *Bob Finnegan* from the American Institute of Physics, Melville, NY, in managing the exhibition.

The Editors would like to offer special thanks to the *Program Chairman*, *Dr. Jörg Patscheider* from the Materials Science and Technology Research Institute (EMPA), Dübendorf, Switzerland, and all of the Symposia Chairs for assisting in the organization of symposia

and technical sessions. We would also like to acknowledge the hundreds of reviewers for their timely submission of quality reports. Last, but may be most important, we want to express our thanks to all presenters and authors for their contributions.

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 and pre-registrations.

The next ICMCTF will be held in San Diego, California, April 27 to May 1, 2009. The ASED committee has appointed *Dr. Jörg Patscheider*, Materials Science and Technology Research Institute (EMPA), Dübendorf, Switzerland and *Dr. Kathryn Wahl*, U.S. Naval Research Laboratory, Washington DC, as General Chairman and Program Chairman, respectively.

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