

TECHNICAL SESSIONS

Key to Session/Paper Numbers

- A** Coatings for Use at High Temperature
- B** Hard Coatings and Vapor Deposition Technology
- C** Optical Thin Films
- D** Carbon and Nitride Materials: Synthesis-Structure-Property Relationships
- E** Tribology and Mechanical Behavior of Coatings and Thin Films
- F** Advanced Characterization of Coatings & Thin Films
- G** Applications, Manufacturing, and Equipment
- H** New Horizons in Coatings and Thin Films
- TS1** The Atomistics of Thin Film Growth: Computational and Experimental Studies
- TS2** Coatings for Fuel Cells
- TS3** Bioactive Coatings and Surface Biofunctionalization

Program Numbers are listed with the symposium letter first, the session number second, and the number of the paper last (i.e., A1-1-1 = Symposium A, session 1 denotes the half day session in which the talk is being presented, morning or afternoon, and the paper number slot is -1). Sessions sponsored by two divisions are labeled with both acronyms (i.e., C2/E5, E5/C2).

SYMPOSIUM SCHEDULE POINTERS:

- ❖ All morning sessions begin at 8:00 am (except Monday, when the sessions begin at 10:00 am following the 8:00 am Plenary Session).
- ❖ All afternoon sessions begin at 1:30 pm, following the lunch break that starts at 12:10 pm.
- ❖ Invited speakers, (marked invited in the program) have 40 minutes; contributed speakers have a 20-minute limit.

IF YOU ARE MAKING AN ORAL PRESENTATION:

All technical session rooms are equipped with computers, LCD projectors, screens, laser pointers and microphones. Please test your presentation materials to be certain they are compatible with the equipment being provided in the technical sessions. The Presenter's Preview Room is located in the Terrace Salon Two. Please allow ample time for this; preferably the day before you are scheduled to present – not immediately before your talk. The hours are Sunday, 3:30 - 6:30 pm and Monday – Thursday, 8:00 am - 5:30 pm.

IF YOU ARE MAKING A POSTER PRESENTATION:

Boards will be available the morning of the scheduled presentation, and must be removed by 9:00 p.m. that evening. An informal sign having the paper number, title and author listing will aid you in the location of which board your poster is to be displayed. Poster Presenters need to be at the side of their presentation during the entire Poster Session; this is to encourage discussions with interested persons attending the session.

Monday Morning, April 28, 2008

Hard Coatings and Vapor Deposition Technology Room: Royal Palm 1-3 - Session B3-1 CVD Coatings and Technologies Moderators: H. Holzschuh, Walter AG, M. Pons, INP Grenoble		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B6-1 Hard and Multifunctional Nano-Structured Coatings Moderators: P.H. Mayrhofer, Montanuniversität Leoben, J.J. Moore, Colorado School of Mines, M. Stüber, Forschungszentrum Karlsruhe, IMF I	
10:00 am	B3-1-1 Reinforced Carbon Foams Prepared by Chemical Vapor Infiltration : a Process Modeling Approach, C. GABORIEAU, S. DELETTREZ, University Bordeaux 1, France, G. CHOLLON, F. LANGLAIS, CNRS, France, G.L. VIGNOLES, University Bordeaux 1, France	B6-1-1 Invited	Self-Organization of Structure Defects in Super-Hard Nanocomposites, D. RAFAJA, TU Bergakademie Freiberg, Germany
10:20 am	B3-1-2 Simulation of Preform Morphological Evolution During Chemical Vapor Infiltration to Obtain Infiltrability Properties, CH. MULAT, P. BAYLOU, CH. GERMAIN, G.L. VIGNOLES, University Bordeaux 1, France	Invited talk continued.	
10:40 am	B3-1-3 Invited Nanostructured Multilayer Metallurgical Coatings Grown by Atmospheric Pressure DLI-CVD: Application to Chromium Carbides and Nitrides, F. MAURY, CNRS/INPT/UPS, France, A. DOUARD, ArcelorMittal Stainless, France	B6-1-3	Combined Effects of Wear and Oxidation of Mixed Arc-Evaporated / Magnetron Sputtered CrSiN Coatings Deposited on Steel, A. MEGE-REVIL, P. STEYER, INSA de Lyon, France, V. RACHPECH, J.F. PIERSON, Ecole des Mines de Nancy - LSGS, France, J. FONTAINE, M. GUIBERT, Ecole Centrale de Lyon - LTDS, France, C. ESNOUF, INSA de Lyon, France
11:00 am	Invited talk continued.	B6-1-4	Growth and Mechanical Properties of Nanocomposite Cr-Si-N Films by a Hybrid Coating System, Q. WANG, K.H. KIM, Pusan National University, Korea
11:20 am	B3-1-5 Thermodynamic Simulation of Atmospheric DLI-CVD Processes for the Growth of Chromium Based Hard Coatings Using Bis(benzene)Chromium as Molecular Source, A. DOUARD, ArcelorMittal Stainless, France, C. BERNARD, SIMAP, INPGrenoble/CNRS/UJF, France, F. MAURY, CNRS/INPT/UPS, France	B6-1-5	Electronic Structure, Mechanical and Structural Properties of Al-Si-N Nanocomposite Coatings, A. PÉLISSON, H.-J. HUG, J. PATSCHEIDER, Empa, Swiss Federal Laboratories for Materials Testing and Research, Switzerland
11:40 am		B6-1-6	Influence of Si and Al Content on the Oxidation Kinetics of Arc Evaporated Al-Cr-N Thin Films, C. TRITREMMEL, University of Leoben, Austria, P.H. MAYRHOFER, Montanuniversität Leoben, Austria, C. MITTERER, University of Leoben, Austria, M. LECHTHALER, Oerlikon Balzers, Liechtenstein, P. POLCIK, Plansee GmbH, Germany
		Focused Topic Session k-Space 12:15 – 1:15 pm	

Monday Morning, April 28, 2008

Tribology & Mechanical Behavior of Coatings & Thin Films Room: California - Session E1-1 Friction and Wear of Coatings: Lubrication, Surface Effects and Modeling - Moderators: E. Broitman, Carnegie Mellon Univ., O.L. Eryilmaz, Argonne National Laboratory, A. Fernández-Camacho, Institute de Ciencia de Materiales de Sevilla		Advanced Characterization of Coatings & Thin Films Room: Royal Palm 4-6 - Session F1-1 Advances in Characterization of Coatings and Thin Films Moderators: G. Dehm, Austrian Academy of Sciences, C. Scheu, Montanuniversität Leoben	
10:00 am	E1-1-1 Influence of the Nitriding and TiAlN Coating Thickness on the Mechanical and Tribological Properties of Duplex Coating Systems on H13 Die Steel, L. SUZUKI, Neodent CO, Brazil, J. LIN, J.J. MOORE, Colorado School of Mines, R. TORRES, Catholic University of Parana, Brazil	10:00 am	F1-1-1 Invited Advanced Analysis Methods for Advanced Coatings: The Use of Ions, Photons and Electrons, P. SCHAAF, University of Göttingen, Germany
10:20 am	E1-1-2 Friction and Galling Properties of Coatings and Surface Treatments for Cold Forming Applications, B. PODGORNIK, J. VIZINTIN, University of Ljubljana, Slovenia, S. HOGMARK, Uppsala University, Sweden	10:20 am	Invited talk continued.
10:40 am	E1-1-3 Invited Surface-Nano-Texturing by Aluminum-Induced Crystallization of Amorphous Silicon, R. PREMACHANDRAN NAIR, H. WANG, M. ZOU, University of Arkansas	10:40 am	F1-1-3 Microstructural and Compositional Studies of TiAlSiN Nanostructured Coatings, V. GODINHO, T.C. ROJAS, Instituto de Ciencia de Materiales de Sevilla CSIC-US, Spain, F.J. FERRER, J. GARCIA-LOPÉZ, Centro Nacional de Aceleradores CSIC-US, Spain, A. JUSTO, Instituto de Ciencia de Materiales de Sevilla CSIC-US, Spain, M.P. DELPLANCKE-OGLETREE, Université Libre de Bruxelles, Belgium, A. FERNÁNDEZ-CAMACHO, Instituto de Ciencia de Materiales de Sevilla CSIC-US, Spain
11:00 am	Invited talk continued.	11:00 am	F1-1-4 Characterisation of Silica Films Deposited on Titanium Substrates: Analysis of Surface Chemistry, Morphology and Functional Hydroxyl Groups, E.J. SZILI, Flinders University / University of South Australia, S. KUMAR, R.ST.C. SMART, University of South Australia, N.H. VOELCKER, Flinders University, Australia
11:20 am	E1-1-5 Abrasive Wear Resistance of Ti _{1-x} Al _x N Hard Coatings Deposited by a Vacuum Arc System with Lateral Rotating Cathodes, X.Z. DING, C.T. BUI, X.T. ZENG, Singapore Institute of Manufacturing Technology, Singapore	11:20 am	F1-1-5 PVD-Grown Photocatalytic TiO ₂ Thin Films on Polymer Substrates for Sensors and Actuators Applications, C.J. TAVARES, S.M. MARQUES, S. LANCEROS-MENDEZ, V. SENCADAS, C.M. COSTA, University of Minho, Portugal, E. ALVES, N. FRANCO, N.P. BARRADAS, Instituto Tecnológico Nuclear, Portugal, A.J. FERNANDES, University of Aveiro, Portugal
11:40 am	E1-1-6 Arc Evaporated Ti-Al-Ta-N Coatings: the Effect of Bias Voltage and Ta on High-Temperature Tribological Properties, M. PFEILER, Materials Center Leoben Forschung GmbH, Austria, G.A. FONTALVO, University of Leoben, Austria, J. WAGNER, Materials Center Leoben Forschung GmbH, Austria, K. KUTSCHEJ, University of Leoben, Austria, M. PENOY, Ceratizit Luxembourg S.á.r.l., Mamer, Luxembourg, C. MICHOTTE, Ceratizit Luxembourg S.á.r.l., Mamer, Luxembourg, C. MITTERER, University of Leoben, Austria, M. KATHREIN, Ceratizit Austria GmbH, Austria "Graduate Student Finalist"	11:40 am	F1-1-6 SEM and Raman Study of Anatase Nano-Structures, V. VISHNYAKOV, N. MAHDJOUR, N. ALLEN, P. KELLY, Manchester Metropolitan University, United Kingdom, C. BYGOTT, J. STRATTON, Millennium Chemicals, United Kingdom
Focused Topic Session Hysitron, Inc. 12:15 – 1:15 pm			

Monday Morning, April 28, 2008

Applications, Manufacturing, and Equipment Room: Sunset - Session G6-1 Surface Pre-Treatment, Coating Post-Treatment and Treatment Process Integration Moderators: K. Bobzin, RWTH Aachen University, A. Leyland, University of Sheffield		Bioactive Coatings and Surface Biofunctionalization Room: Sunrise - Session TS3-1 Bioactive Coatings and Surface Biofunctionalization Moderators: S. Kumar, University of South Australia, D.V. Shtansky, State Technological University/Moscow Institute of Steel and Alloys	
10:00 am	G6-1-1 Invited Approaches to High Performance Coating Solutions by Means of Hybrid PVD and Duplex Process Technologies, G. ERKENS, J. VETTER, J. MUELLER, Sulzer Metaplas GmbH, Germany	TS3-1-1 Invited Surface Functionalization of Surgical Implants for Cell Guidance and Control, I. GOTMAN, Technion - Israel Institute of Technology, Israel	
10:20 am	Invited talk continued.	Invited talk continued.	
10:40 am	G6-1-3 Performance of Arc Coated Carbide Drills in Dependence of Post-Treatment-Techniques, S. SATTEL, E. STUMPP, S. FRITZ, I. GARRN, Guehring oHG, Germany	TS3-1-4 Smart Modification of Magnetron Sputtered TiN Surfaces for Stimulated Differentiation, M. MANSO SILVAN, Universidad Autónoma de Madrid, Spain, C. RODRÍGUEZ NAVAS, Departamento de Biología Molecular, CBMSO-UAM, Spain, J. MARTÍNEZ DUART, Departamento de Física Aplicada UAM, Spain, J.P. GARCÍA RUIZ, Departamento de Biología Molecular, CBMSO-UAM, Spain	
11:00 am	G6-1-4 Improvements in High Performance Cutting Due to Cutting Edge Design, D. BIERMANN, I. TERWEY, Technische Universität Dortmund, Germany	TS3-1-5 Invited Surface Immobilization and Characterization of Biomolecules, D.G. CASTNER, University of Washington	
11:20 am	G6-1-5 Mechanical Post-Treatment of CVD Coated Cemented Cutting Tools for Increased Toughness and Failure Resistance, H. HOLZSCHUH, Walter AG, Germany, M. KLAUS, CH. GENZEL, Hahn-Meitner-Institut Berlin, Germany	Invited talk continued.	

Monday Afternoon, April 28, 2008

Hard Coatings and Vapor Deposition Technology Room: Royal Palm 1-3 - Session B3-2 CVD Coatings and Technologies Moderators: H. Holzschuh, Walter AG, M. Pons, INP Grenoble		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B6-2 Hard and Multifunctional Nano-Structured Coatings Moderators: P.H. Mayrhofer, Montanuniversität Leoben, J.J. Moore, Colorado School of Mines, M. Stüber, Forschungszentrum Karlsruhe, IMF I	
1:30 pm	B3-2-3 Investigation of the Low Temperature Atmospheric Plasma System for Deposition Photocatalytic TiO ₂ Thin Film, W.-J. LIU, Y.-L. LAI, I-Shou University, Taiwan	B6-2-1 Invited	Realising the Potential of Thin Hard Coatings for Tribological Exploitation, P.A. DEARNLEY, University of Leeds, United Kingdom
1:50 pm	B3-2-4 Invited Recent Advances in CVD of α -Al ₂ O ₃ for Tool Coatings, S. RUPPI, Seco Tools AB, Sweden	Invited talk continued.	
2:10 pm	Invited talk continued.		B6-2-3 Multilayered Adaptive Coatings for Friction and Wear Reduction Under High Temperature Cycling, A.A. VOEVODIN, Air Force Research Laboratory, C. MURATORE, Air Force Research Laboratory (AFRL/RXBT)/UTC, Inc., J. HU, University of Dayton Research Institute, J.G. JONES, Air Force Research Laboratory (AFRL/RXBT)
2:30 pm	B3-2-6 CVD-Al ₂ O ₃ -Coatings - Correlations Between Structure and Properties, M. HÖHN, I. ENDLER, Fraunhofer Institut Keramische Technologien und Systeme (IKTS), Germany, R. PITONAK, Boehlerit, Austria, S. RUPPI, Seco Tools, Sweden, M. SCHNEIDER, Mapal, Germany, H. VAN DEN BERG, H. WESTPHAL, Kennametal Technologies GmbH, Germany	B6-2-4	Microstructure and Tribological Properties of CrN-Ag Nanocomposite Coatings, C.P. MULLIGAN, Benet Laboratories, U.S. Army Armament Research, T.A. BLANCHET, D. GALL, Rensselaer Polytechnic Institute
2:50 pm	B3-2-7 Improvement of Coating Adhesion by WC Interfacial Layer for Coated Cemented Carbide, A.O. OSADA, H.H. HOMMA, E.N. NAKAMURA, S.T. TSUCHIYA, Mitsubishi Materials Corporation, Japan	B6-2-5	Mechanical and Tribological Properties of CrN/Ag and CrSiN/Ag Nano scale Multilayers Deposited by Reactive Magnetron Sputtering, M. BARAKET, D. MERCS, LERMPS-UTBM, France, V. DEMANGE, LSGS-Ecole des Mines Nancy, France, C. CODDET, LERMPS-UTBM, France
3:10 pm	B3-2-8 Novel Aluminium-Rich Ti_{1-x}Al_xN Coatings by LPCVD , I. ENDLER, M. HÖHN, M. HERRMANN, Fraunhofer Institut Keramische Technologien und Systeme (IKTS), Germany, R. PITONAK, Boehlerit, Austria, S. RUPPI, Seco Tools, Sweden, M. SCHNEIDER, Mapal, Germany, H. VAN DEN BERG, H. WESTPHAL, Kennametal Technologies GmbH, Germany	B6-2-7	Microstructural Design of Ternary nc-TiC/a-C Based Nanocomposite Coatings Through Alloying With Second Metallic Element, E LEWIN, O. WILHELMSSON, M. LINDQUIST, B. ANDRÉ, M. RÅSANDER, B. SANYAL, O. ERIKSSON, U. WIKLUND, U. JANSSON, Uppsala University, Sweden
3:30 pm	B3-2-10 Microstructural Investigation of MTCVD Ti(C,N) Coatings, S. CANOVIC, Chalmers University of Technology, Sweden, S. RUPPI, Seco Tools AB, Sweden, M. HALVARSSON, Chalmers University of Technology, Sweden	B6-2-8	Structure and Properties of Nanocomposite and Multilayered TiCrBN/WSe _x Coatings Deposited by Ion Implantation Assisted Sputtering of TiCrB and WSe ₂ Targets, D.V. SHTANSKY, A.N. SHEVEYKO, D.I. SOROKIN, State Technological University/Moscow Institute of Steel and Alloys, Russia, L.C. LEV, B.N. MAVRIN, PH.V. KIRYUKHANTSEV-KORNEEV,
3:50 pm	B3-2-11 Influence of the Deposition Temperature on Mechanical and Tribological Properties of Si-C:H Coatings on Nitrided and Postoxidized Steel Deposited by DC-PACVD, C. FORSICH, D. HEIM, University of Applied Sciences, Austria, T. MUELLER, Rubig GmbH & Co KG Anlagentechnik, Austria	B6-2-9	Nanocomposite and Nanolayered PVD Hard Coatings in Industrial Research and Application, J. VETTER, G. ERKENS, J. MUELLER, Sulzer Metaplas GmbH, Germany
4:10 pm	B3-2-12 New Methodologies for Enhancing the Nucleation, Growth Rate, and Quality of Nanocrystalline Diamond Films , P.J. HEANEY, C.D. TORRES, University of Wisconsin, Madison, A.V. SUMANT, Argonne National Laboratory, A.R. KONICEK, M. HAMILTON, R.W. CARPICK, University of Pennsylvania, F.E. PFEFFERKORN, University of Wisconsin, Madison	B6-2-10	Effect of Alloying Element (Si, Y) on Properties of Arc-Deposited (TiCrAl)N Coating, K. YAMAMOTO, S. KUJIME, Kobe Steel Ltd., Japan, G. FOX-RABINOVICH, McMaster University, Canada
	Welcome Reception Atlas Foyer 6:00 – 7:00 pm		2008 ICMCTF Forum The Energy Challenge 4:50 – 6:00 pm

Tuesday Morning, April 29, 2008

Coatings for Use at High Temperature Room: Sunrise - Session A1-1 Coatings to Resist High Temperature Oxidation and Wear Moderators: B.A. Pint, Oak Ridge National Laboratory, K. Stiller, Chalmers University of Technology		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B6-3 Hard and Multifunctional Nano-Structured Coatings Moderators: P.H. Mayrhofer, Montanuniversität Leoben, J.J. Moore, Colorado School of Mines, M. Stüber, Forschungszentrum Karlsruhe, IMF I	
8:00 am	A1-1-1 Invited Development of High Temperature Coatings and TBC Bond Coats for Gas Turbine Engines, Y. CADORET, SNECMA, France	B6-3-1 Invited Nanostructured Crystalline/Amorphous Composite Films for Multifunctional Hard-Coatings, K.H. KIM, Pusan National University, Korea	
8:20 am	Invited talk continued.	Invited talk continued.	
8:40 am	A1-1-4 High Temperature Resistant Coatings Made by HVOF Spraying of Small-Size Alloy Particles in Suspension, X. MA, J. ROTH, Inframat Corporation, D. GANDY, G. FREDERI, Electric Power Research Institute	B6-3-3 Structure and Properties of Ti-B-C-N Nanocomposite Coatings Prepared by Pulsed Closed Field Unbalanced Magnetron Sputtering (P-CFUBMS), J. LIN, B. MISHRA, J.J. MOORE, Colorado School of Mines, M. PINKAS, Nuclear Research Center, Israel, W.D. SPROUL, Reactive Sputtering, Inc.	
9:00 am	A1-1-5 Microstructural Stability of fcc- γ +B2- β Coatings on Substrate in Ni-Cr-Al System - A Phase Field Model Study, R. MOHANTY, Y. SOHN, University of Central Florida	B6-3-4 Nanoparticles Disperse- Strengthened Coatings Produced by Chemical Reaction Assisted Pulse Electrospark Deposition (CRAPED), E.A. LEVASHOV, V.V. KURBATKINA, State Technological University/Moscow Institute of Steel and Alloys, Russia, L.C. LEV, E.I. ZAMULAEVA, A.E. KUDRYASHOV, P.V. VAKAEV, YU.S. POGOZHEV	
9:20 am	A1-1-6 Growth Strains in α -Al ₂ O ₃ Thermally Grown on γ -Phase NiPtAl(Hf) Alloys, B.W. VEAL, A.P. PAULIKAS, Argonne National Laboratory, B. GLEESON, University of Pittsburgh	B6-3-5 Microstructure and Oxidation Resistance of Ti-B-C, Ti-B-C-N, and Ti-B-C-N-Si Films Deposited by Unbalanced Magnetron Sputtering, I.-W. PARK, J.J. MOORE, B. MISHRA, Colorado School of Mines, A.A. VOEVODIN, Air Force Research Laboratory, K.H. KIM, Pusan National University, Korea, E.A. LEVASHOV, State Technological University/Moscow Institute of Steel and Alloys, Russia	
9:40 am	A1-1-8 The Effect of Platinum Content on Gamma/Gamma-Prime Diffusion Coatings, J.A. HAYNES, B.A. PINT, Oak Ridge National Laboratory, Y. ZHANG, Tennessee Technological University, I.G. WRIGHT, Oak Ridge National Laboratory	B6-3-6 Microstructure and Mechanical Properties of Cr-B-N and Cr-B-Al-N Coatings Deposited by Unbalanced Magnetron Sputtering, W.C. MOERBE, Colorado School of Mines	
10:00 am	BREAK	B6-3-8 TiN/AlN Nanomultilayer Coatings With Different Thickness Ratio, M. SETOYAMA, Sumitomo Electric Industries, Ltd., Japan	
10:20 am	A1-1-9 Interdiffusion Behavior of Pt-Diffused $\gamma+\gamma'$ Coatings on Ni-Base Superalloys, Y. ZHANG, L. LIU, Tennessee Technological University, B.A. PINT, J.A. HAYNES, Oak Ridge National Laboratory, B.T. HAZEL, B.A. NAGARAJ, GE Aircraft Engines	B6-3-9 Effect of Carbon on TiAlCN Coating by Reactive Magnetron Sputtering, X. ZHANG, Southeast University/Colorado School of Mines, China, J. JIANG, Y. ZENG, Southeast University, China, J. LIN, J.J. MOORE, Colorado School of Mines	
10:40 am	A1-1-10 Volatilisation Studies on Iron Aluminide Coatings for Supercritical Steam Turbine Applications by TG-Mass Spectrometry, F.J. BOLIVAR, S.I. CASTAÑEDA, L. SÁNCHEZ, M.P. HIERRO, F.J. PÉREZ, UCM, Spain	B6-3-10 Magnetron Sputtered Nanocrystalline, Metastable (V,Al)(C,N) Hard Coatings, S. ULRICH, M. STÜBER, C. ZIEBERT, H. HOLLECK, Forschungszentrum Karlsruhe, IMF I, Germany	
11:00 am	A1-1-11 Observation of High Temperature Phase Transformation in the Aluminide Cr-Mo Steel Using EBSD, W.-J. CHENG, C.-J. WANG, National Taiwan University of Science and Technology, Taiwan		
11:20 am	A1-1-12 Maxthal as Candidate for Oxidation Resistant Coatings, M. SONESTEDT, K. STILLER, Chalmers University of Technology, Sweden, J.-P. PALMQUIST, M. SUNDBERG, R&D Kanthal AB, Sweden, J. FRODELIUS, H. HÖGBERG, L. HULTMAN, Linköping University, Sweden		
11:40 am	A1-1-3 Characterisation and High Temperature Oxidation Behaviour of HVOF Sprayed NiCrAl Coatings, M.R. RAMESH, S. PRAKASH, S.K. NATH, Indian Institute of Technology Roorkee, India		
	Exhibition Opens Today Town & Country/San Diego Rooms 11:00 am – 7:00 pm	Exhibition Opens Today Town & Country/San Diego Rooms 11:00 am – 7:00 pm	

Tuesday Morning, April 29, 2008

Optical Thin Films Room: Royal Palm 1-3 - Session C2-1 Optical Thin Films for Active Devices and Microsystems Moderators: M. Cremona, PUC-Rio, T. Yamamoto, Kochi University of Technology		Tribology and Mechanical Behavior of Coatings and Thin Films - Room: California - Session E1-3 Friction and Wear of Coatings: Lubrication, Surface Effects and Modeling - Moderators: E. Broitman, Carnegie Mellon University, A. Fernández-Camacho, Instituto de Ciencia de Materiales de Sevilla CSIC-US, J.R. Lince, The Aerospace Corporation	
8:00 am	C2-1-1 Invited Recent Advances on Amorphous Oxide Based Thin Film Transistors, E. FORTUNATO, P. BARQUINHA, L. PEREIRA, G. GONÇALVES, R. MARTINS, CENIMAT/I3N, Portugal	E1-3-1 Invited Tribology of Hard Coatings Alloys Deposited by Thermal Methods: Applications to Industrial Components, R.H. CONDE, G.E. CARR, INTEMA, Universidad de Mar del Plata, Argentina	
8:20 am	Invited talk continued.	Invited talk continued.	
8:40 am	C2-1-3 High Performance Transparent Conducting Oxide for Application of Flexible Organic Solar Cell, J.-W. KANG, D.-G. KIM, J.-K. KIM, Korea Institute of Materials Science (KIMS), Korea, H.-K. KIM, Kumoh National Institute of Technology, Korea, J. KIM, Korea University, Korea	E1-3-3 Endurance of a Solid Lubricant Subjected to High Temperature Fretting Wear, C. MARY, S. FOUVRY, J.-M. MARTIN, Ecole Centrale de Lyon, France, B BONNET, Snecma, Site de Villaroche, France	
9:00 am	C2-1-4 Bacterial Cellulose Membranes as Flexible Substrate for Organic Light Emitting Devices, C. LEGNANI, W.G. QUIRINO, Inmetro - National Institute of Metrology, Standardization and Industrial Quality, Brazil, M. CREMONA, PUC-Rio, Brazil, C. VILANI, H. BARUD, C.A. ACHETE, S.J.L. RIBEIRO, V.L. CALIL	E1-3-4 Smart Tribological Coatings With Wear Sensing Capability, C. MURATORE, Air Force Research Laboratory (AFRL/RXBT)/UTC, Inc., D.R. CLARKE, University of California, Santa Barbara, J.G. JONES, Air Force Research Laboratory (AFRL/RXBT), A.A. VOEVODIN, Air Force Research Laboratory	
9:20 am	C2-1-6 Electrochromically Switched, Gas-Reservoir Metal Hydride Devices with Application to Energy-Efficient Windows, A. ANDERS, J.L. SLACK, T.J. RICHARDSON, Lawrence Berkeley National Laboratory	E1-3-5 Lubricous ZnO/Al ₂ O ₃ Nanolaminates Grown by Atomic Layer Deposition: Composition, Microstructure and Tribological Behavior, M.C. ROMANES, T.W. SCHARF, The University of North Texas	
9:40 am	C2-1-7 PL and EL Characteristics in Various Bi-Activated Niobate-Based Oxide Phosphor Thin Films, H. FUKADA, S. MTSUI, K. SAHARA, T. MIYATA, T. MINAMI, Kanazawa Institute of Technology, Japan	E1-3-6 HVOF Sprayed WC-Co as Hard Interlayer for DLC Films, G. BOLELLI, L. LUSVARGHI, F. PIGHETTI MANTINI, University of Modena and Reggio Emilia, Italy, F. PITACCO, H. VOLZ, Protec Surface Technologies S.r.l., Italy, M. BARLETTA, Università di Roma Tor Vergata, Italy	
10:00 am	C2-1-8 Electrical and Optical Behaviors of Cu ₂ O-Ag-Cu ₂ O Multilayered Thin Films, P.W. KUO, National Chung Hsing University, Taiwan, J.H. HSIEH, Mingchi University of Technology, Taiwan, W. WU, National Chung Hsing University, Taiwan	E1-3-8 Tribological and Mechanical Properties of HFCVD Diamond-Coated WC-Co Substrates With Different Cr Interlayers, C.-C. CHOU, National Taiwan Ocean University, Taiwan, J.-W. LEE, Tung Nan University, Taiwan, Y.I. CHEN, National Taiwan Ocean University, Taiwan, J.-S. YANG, Tung Nan University, Taiwan	
10:20 am	C2-1-9 Spray Pyrolysis Deposition and Electrochemical Properties of WO ₃ -Based Films, K. TESHIMA, M. FUJISAWA, Shinshu University, Japan, Y. INOUE, Nagoya University, Japan, T. SUZUKI, Shinshu University, Japan, O. TAKAI, Nagoya University, Japan, S. OISHI, Shinshu University, Japan		
10:40 am	C2-1-10 Application of Low Resistivity Ga-Doped ZnO Films to 1-3 GHz Electromagnetic Interference Shielding, T. YAMADA, A. MIYAKE, H. MAKINO, N. YAMAMOTO, T. YAMAMOTO, Kochi University of Technology, Japan		
11:00 am	C2-1-11 Self Assembled Pb _{1-x} Fe _x Se Nanoparticle / Si Heterojunctions, A. BHARDWAJ, P. SRIVASTAVA, H.K. SEHGAL, India Institute of Technology Delhi, India		
	Exhibition Opens Today Town & Country/San Diego Rooms 11:00 am – 7:00 pm	Exhibition Opens Today Town & Country/San Diego Rooms 11:00 am – 7:00 pm	

Tuesday Morning, April 29, 2008

Advanced Characterization of Coatings & Thin Films Room: Royal Palm 4-6 - Session F3/E5 Nanotribology Instrumentation and Diagnostics Moderator: S.T. Patton, University of Dayton Research Institute		Applications, Manufacturing, and Equipment Room: Sunset - Session G3 Atmospheric Plasma, Hollow Cathode, and Hybrid Plasma Processing Moderator: L. Bárdos, Uppsala University	
8:00 am	F3/E5-1 Investigation of Creep Behaviour With a New Innovative Nanoindentation Tester, N. CONTE, R. CONSIGLIO, N.X. RANDALL, CSM Instruments, Switzerland	G3-1 Invited	Hollow Cathode Arc Activated Reactive High Rate Deposition - State of the Art and New Developments, H. MORGNER, Fraunhofer-Institut Elektronenstrahl- und Plasmatechnik, Germany, CHR. METZNER, Fraunhofer Institut Elektronenstrahl- und Plasmatechnik, Germany
8:20 am	F3/E5-2 Bio-Derived Bimetallic Hybrid Nanostructures for Surface Modification in MEMS Switch Contacts, S.T. PATTON, University of Dayton Research Institute, J. SLOCIK, R. NAIK, A.A. VOEVODIN, Air Force Research Laboratory	Invited talk continued.	
8:40 am	F3/E5-3 Lubrication Mechanism of Pulsed Laser Deposited MoS ₂ -Te Composite Films at Moderate High Temperatures, J.J. HU, J.E. BULTMAN, J.S. ZABINSKI, A.A. VOEVODIN, Air Force Research Laboratory	G3-4	Optimal Dimensions of the Atmospheric Hollow Cathodes, L. BÁRDOS, D. SÖDERSTRÖM, H. BARÁNKOVÁ, Uppsala University, Sweden
9:00 am	F3/E5-4 The Unusually Low Hardness and Modulus of Detonation and Cold Sprayed Coatings: Underlying Mechanisms, G. SUNDARAJAN, International Advanced Research Centre for Powder Metallurgy and New Materials, India	G3-5	Chemical and Morphological Modification of Polymers Under a Helium-Oxygen Dielectric Barrier Discharge, D.D. PAPPAS, A.A. BUJANDA, J.A. ORLICKI, R.E. JENSEN, United States Army Research Laboratory
9:20 am	F3/E5-5 Invited Fundamental Aspects of Nanotribology: How is Energy Dissipated in Friction?, M. SALMERON, Lawrence Berkeley National Laboratory	G3-6	Deposition of Transparent Conductive Indium and Tin Oxides by Atmospheric Pressure Plasma, R.A. SAILER, A. WAGNER, N. KLAVERKAMP, C. SCHMIT, D.L. SCHULZ, North Dakota State University
9:40 am	Invited talk continued.		G3-7
		Effects of the DC Bias in a Molten Silicon Bath on its Purification by a RF Thermal Plasma., M. BENMANSOUR, S. ROUSSEAU, Université Pierre et Marie Curie, France, D. MORVAN, Laboratoire de Génie des Procédés Plasmas et Traitements de Surfaces, France, J. AMOUROUX, Université Pierre et Marie Curie, France	
10:00 am			G3-8
		Controlling Deposition Rates in an Atmospheric Pressure Plasma System, J.D. ALBAUGH, L. O'NEILL, C. O'SULLIVAN, Dow Corning	
10:20 am			G3-9
		Synthesis of Amorphous Carbon Film on Polymer Substrates Under Atmospheric Pressure, H. KODAMA, K. TAKANO, S. SUEMITSU, Kanagawa Academy of Science and Technology, Japan, A. HOTTA, T. SUZUKI, Keio University, Japan	
10:40 am			G3-10
		Deposition of Functional Coatings Using an Atmospheric Pressure Dielectric Barrier Discharge, A.J. BECK, University of Sheffield, United Kingdom, R.D. SHORT, University of South Australia, A. MATTHEWS, University of Sheffield, United Kingdom	
11:00 am			G3-11
		Atmospheric Pressure Plasma CVD of Silicon Nitride Films for Solar Cells, C.C. AMATO-WIERDA, S. HU, University of New Hampshire, P.S. RAGHAVAN, C. CHARTIER, Y.P. WAN, C KHATTAK, GT Solar, Inc. Merrimack, NH	
11:20 am			G3-12
		Atmospheric-Pressure Plasma Pretreatment for Direct Bonding of Silicon and Glass Wafers at Low Temperatures, M. EICHLER, Fraunhofer Institute for Surface Engineering and Thin Films IST, Germany, B. MICHEL, Tech Univ Braunschweig, M. THOMAS, Fraunhofer Inst for Surf Eng. and TF, IST, M. GABRIEL, Suss MicroTec, C.-P. KLAGES, Fraunhofer Inst of Surf Eng and TF	
11:40 am			G3-3
		Metallic and Reactive Sputter Deposition Using a Ti- Hollow Cathode Discharge, V.H. BAGGIO-SCHIED, Genneral-Command of Aerospace Technology, Brazil	
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Tuesday Afternoon, April 29, 2008

Coatings for Use at High Temperature Room: Sunrise - Session A1-2 Coatings to Resist High Temperature Oxidation and Wear Moderators: B.A. Pint, Oak Ridge National Laboratory, K. Stiller, Chalmers University of Technology		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B6-4 Hard and Multifunctional Nano-Structured Coatings Moderators: P.H. Mayrhofer, Montanuniversität Leoben, J.J. Moore, Colorado School of Mines, M. Stüber, Forschungszentrum Karlsruhe, IMF I	
1:30 pm	A1-2-1 Invited Formation of Novel Overlay Coatings for Heat Resistant Alloys, M.L. WEAVER, The University of Alabama	B6-4-1 Invited A Comparative Study of Nitride and Oxide Based Coatings for High Performance Machining, F. PAPA, R. TIETEMA, T. KRUG, Hauzer Techno Coating BV, Netherlands	
1:50 pm	Invited talk continued.	Invited talk continued.	
2:10 pm	A1-2-3 Thermal Stability of Magnetron Sputtered Si-B-C-N Materials at Temperatures up to 1700°C, P. ZEMAN, J. CAPEK, R. CERSTVY, J. VLCEK, University of West Bohemia, Czech Republic	B6-4-3 Addition of Oxygen in Structural and Mechanical Properties of Nitride Based Nanocomposite Coatings, A. KARIMI, Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland, M. MORSTEIN, P. KARVANKOVA, A. LÜMKEMANN, T. CSELLE, Platit Ag, Switzerland	
2:30 pm	A1-2-4 Novel CrAlYN/CrN Superlattice Coatings Deposited by the Combined High Power Impulse Sputtering/ Unbalanced Magnetron Sputtering Technique for Environmental Protection of γ -TiAl Alloys, P.E.H. HOVSEPIAN, A.P. EHIASSIAN, Sheffield Hallam Univ, UKB. BRAUN, German Aerospace Centre, Germany, H.L. DU, Univ of Northumbria, UK, J. WALKER, Univ of Sheffield, UK	B6-4-4 Chromium Oxide and Oxynitride Coatings Deposited by Reactive Pulsed dc Magnetron Sputtering, P. EKLUND, University of Aarhus, Denmark, N.-J. MIKKELSEN, CemeCon Scandinavia A/S, Denmark, M. SRIDHARAN, University of Aarhus, Denmark, E. BIENK, CemeCon Scandinavia A/S, Denmark, J. BØTTIGER, University of Aarhus, Denmark	
2:50 pm	A1-2-5 Thermal Stability and Oxidation Behaviour of CrAlN, AlTiN and Nonocomposite Coatings, J.A. GARCÍA, AIN, Centre of Advanced Surface Engineering, Spain, I. AZKONA, Metalestaki, M.J. DÍAZ DE CERIO, R. MARTÍNEZ, R.J. RODRÍGUEZ, AIN, Centre of Adv Surf Eng, R. ESCOBAR, ICMM, Inst de ciencia de Matis de Madrid -CSIC, J.M. ALBELLA, ICMM. Inst de ciencia de Matis de Madrid-CSIC	B6-4-5 Interfacial Fracture Toughness of Transition Metal Nitrides, C.K.Y. CHEN, M. BIELAWSKI, National Research Council Canada	
3:10 pm	BREAK	B6-4-6 Hard Amorphous Si-B-C-N Films with Ultra-High Thermal Stability, J. VLCEK, J. HOUSKA, S. HREBEN, J. CAPEK, P. ZEMAN, R. CERSTVY, University of West Bohemia, Czech Republic	
3:30 pm	A1-2-6 A Study of High Temperature Oxidation Behaviors of Cr-Si-N Nanocomposite Thin Films at 1000°C, J.-W. LEE, Y.C. CHANG, J.-S. YANG, Tung Nan University, Taiwan	B6-4-7 Dense Nanostructured Coatings Deposited By The Solution Precursor Plasma Spray Process, M. GELL, E.H. JORDAN, M. TEICHOLZ, D. CHEN, University of Connecticut, X. MA, J. ROTH, Inframat Corporation	
3:50 pm	A1-2-8 Tribological Performance of Duplex Treated Ion Nitriding and PVD, M.R. CRUZ, CTM Centre Tecnològic, Spain, M.H. STAIA, Universidad Central de Venezuela, J. CARO, CTM Centre Tecnològic, Spain	B6-4-8 Biomimetic Polymer-Ceramic Multi-Functional Nanocomposites, A.R. WAITE, (AFRL/RXBT)/University of Dayton/UTC, Inc., J.G. JONES, (AFRL/RXBT), C. MURATORE, (AFRL/RXBT)/UTC, Inc., H. JIANG, (AFRL/RXPJE)/Materials Sci. & Tech. Applications, LLC, J. ENLOW, (AFRL/RXPJE)/UES, Inc., T.J. BUNNING, (AFRL/RXPJE), A.A. VOEVODIN, (AFRL/RXBT)	
4:10 pm	A1-2-11 High Temperature Thermal Stability of Oxi-Ceramic Coatings Deposited by Large Area Filtered Arc Deposition, V.I. GOROKHOVSKY, J. WALLACE, Arcocomac Surface Engineering, LLC, P.E. GANNON, Arcocomac Surface Engineering, LLC / Montana State Univ, C. BOWMAN, Arcocomac Surface Engineering, LLC., B. GLEESON, Univ , R.J. SMITH, H. CHEN, M. FINSTERBUSCH, Montana State Univ	B2-11 Studies on Al-Cr-Si-W-N Hard Coatings, M. LECHTHALER, S. EGGENBERGER, OC Oerlikon Balzers AG, Liechtenstein	
	Exhibits Reception Town & Country/San Diego Rooms 5:30 – 7:00 pm	Exhibits Reception Town & Country/San Diego Rooms 5:30 – 7:00 pm	

Tuesday Afternoon, April 29, 2008

Optical Thin Films Room: Royal Palm 1-3 - Session C2-2 Optical Thin Films for Active Devices and Microsystems Moderators: M. Cremona, PUC-Rio, T. Yamamoto, Kochi University of Technology		Carbon and Nitride Materials: Synthesis-Structure-Property Relationships Room: Royal Palm 4-6 - Session D2-1 Diamond and Diamond-Like Carbon Materials Moderators: H.-J. Scheibe, Fraunhofer-Institut für Werkstoff- und Strahltechnik, O. Shenderova, International Technology Center	
1:30 pm	C2-2-1 Invited ZnO-Based TFT for Use in LCD, T. HIRAO, M. FURUTA, T. HIRAMATSU, Kochi University of Technology, Japan	D2-1-3	Development of Diamond-Like Carbon Coated Electrodes for Corrosion Sensor Applications at High Temperatures, K.T. CHIANG, L. YANG, R. WEI, K. COULTER, Southwest Research Institute
1:50 pm	Invited talk continued.	D2-1-4	Thermal Stability of UBM Sputtered DLC Coatings With Various Hydrogen Contents, H. ITO, K. YAMAMOTO, Kobe Steel, Ltd., Japan, M. MASUKO, Tokyo Institute of Technology, Japan
2:10 pm	C2-2-3 Effect of Sn Doped on Microstructural and Optical Properties of ZnO Thin Films Deposited by Sol-Gel Method, C.-Y. TSAY, Y.-T. TUNG, Feng Chia University, Taiwan, H.-C. CHENG, Industrial Technology Research Institute, Taiwan, W.-H. TUAN, National Taiwan University, Taiwan, C.-K. LIN, Feng Chia University, Taiwan	D2-1-5	Preparation of Superhard ta-C Films With Low Internal Stress by Means of Excimer Laser Ablation and Irradiation - Relationships Between Preparation Parameters and Properties, S. WEISSMANTEL, G. REISSE, D. ROST, M. NIEHER, University of Applied Sciences Mittweida, Germany
2:30 pm	C2-2-4 Transparent Conducting Oxide Thin Films Prepared Using Oxide Targets Sintered by Millimeter-Wave Heating, T. MIYATA, Kanazawa Institute of Technology, Japan, H. ABE, Fuji Dempa Kogyo Co. Ltd., Japan, T. OKADA, Y. HARA, T. MINAMI, Kanazawa Institute of Technology, Japan	D2-1-6	Invited Superhard Low Friction Carbon Coatings Deposited by Combined HIPIMS-Unbalanced Magnetron Sputtering, W.-D. MÜNZ, S. KUNDEL, M. SCHENKEL, T. ZUFRASS, SVS Vacuum Coating Tech, Germany, J. WINTER, N. BIBINOV, PAC Plasma Consult App, KG, M. STÜBER, M. RINKE, Fors Karlsruhe, H. KERSTEN, T. STRUNSKUS, IEAP, Univ of Kiel, K. BEWILOGUA, P. WILLICH, Fraun IST
2:50 pm	C2-2-6 Effect of Relative Position Between Arc Plasma and Substrate on Properties of GZO Thin Films Prepared by VAPE, T. MIYATA, Y. HONMA, T. ITO, T. MINAMI, Kanazawa Institute of Technology, Japan		Invited talk continued.
3:10 pm	C2-2-7 Influence of Hydrogen on the Properties of Al-doped ZnO Thin Films, S.H. LEE, Y.D. KIM, Hanyang University, Korea, W.M. KIM, Korean Institute of Science and Technology, Korea	D2-1-8	Structural and Mechanical Properties of DLC Films Deposited by an Anode Layer Source, M. KAHN, Joanneum Res Forschungsgesellschaft GmbH, Austria, M. CEKADA, Jozef Stefan Inst, R. BERGHAUSER, Joanneum Res Forschung GmbH, C. MITTERER, Univ of Leoben, CH. BAUER, Univ of Graz, W. WALDHAUSER, E. BRANDSTAETTER, Joanneum Res Forschung
3:30 pm	C2-2-8 Multiple Deposition Method of Producing Crack-Free Ga-Doped ZnO Films on Cyclo Olefin Polymer Substrates by Ion Plating, A. MIYAKE, T. YAMADA, H. MAKINO, N. YAMAMOTO, T. YAMAMOTO, Kochi University of Technology, Japan	D2-1-9	Aging Behavior of the Plasma Treated Si-Incorporated Diamond-Like Carbon Surface, J.W. YI, Korea Institute of Science and Technology, Korea, H.R. KIM, Ewha Womans University, Korea, M.W. MOON, Korea Institute of Science and Technology, Korea, J.-K. KIM, Korea Institute of Materials Science, Korea, K.-R. LEE, Korea Institute of Science and Technology, Korea
3:50 pm	C2-2-9 Pulsed Laser Deposition of ZnO-MgO Nanocomposite, A. KAUSHAL, P. SINGH, A. KUMAR, I. DEEPAK, D. KAUR, Indian Institute of Technology Roorkee, India	D2-1-10	Electrical Properties Within 70-300 K Of Boron Containing Diamond-Like Carbon Films Deposited By Femtosecond Pulsed Laser Ablation, C. DONNET, A. SIKORA, University Jean Monnet, France, A. BERKESSE, O. BOURGEOIS, J.L. GARDEN, Institut Néel, France, C. GUERRET-PIÉCOURT, Ecole Centrale de Lyon, France, A.S. LOIR, F. GARRELIE, University Jean Monnet, France
4:10 pm		D2-1-11	Formation of Nano-Columnar Amorphous Carbon Films via Electron Beam Irradiation and their Mechanical Characterization, T.A. AIZAWA, Osaka Prefecture University, Japan, E.I. IWAMURA, Arakawa Chemicals Co. Ltd., Japan, T. UEMATSU, Tokyo Metropolitan Institute of Research for Industry, Japan
4:30 pm		D2-1-12	Hemocompatibility of Plasma Treated Si Incorporated Diamond-Like Carbon Films, R.K. ROY, M.W. MOON, K.-R. LEE, D.K. HAN, Korea Institute of Science and Technology, Korea, J.-H. SHIN, Asan Hospital, Korea, T. HASEBE, Tachikawa Hospital, Japan, A. KAMIJO, University of Tokyo Hospital, Japan
	Exhibits Reception Town & Country/San Diego Rooms 5:30 – 7:00 pm		Exhibits Reception Town & Country/San Diego Rooms 5:30 – 7:00 pm

Tuesday Afternoon, April 29, 2008

Tribology & Mechanical Behavior of Coatings & Thin Films Room: California - Session E3-1 Tribology of Amorphous and Nanostructured Films Moderators: J. Fontaine, Ecole Centrale de Lyon, T.W. Scharf, The University of North Texas		Applications, Manufacturing, and Equipment Room: Sunset - Session G2 Coatings and Automotive Applications Moderators: G. Dadheech, General Motors, R. Mertens, OC Oerlikon Balzers AG	
1:30 pm	E3-1-1 Wear and Friction Maps of a-C:H 20% Films, P.A. RADY, L.V. SANTOS, L.F. BONETTI, V.J. TRAVA-AIROLDI, INPE/MCT-Instituto Nacional de Pesquisas Espaciais, Brazil	G2-1 Invited PVD Coatings for Automotive Components, T. KRUG, R. TIETEMA, Hauzer Techno Coating BV, Netherlands	
1:50 pm	E3-1-2 Structure and Mechanical Properties of Si-C:H/a-C:H Multilayered Coatings Grown by LF-PECVD, C. CHOUQUET, C. DUCROS, Cea Grenoble, France, S. BARRAT, LSGS Ecole des Mines, France, A. BILLARD, LERMPS UTBM Montbéliard, France, F. SANCHETTE, CEA Grenoble, France	Invited talk continued.	
2:10 pm	E3-1-3 Invited Tribological Thin Films in Lubricated Rolling Contacts, R.D. EVANS, The Timken Company	G2-4 On the Relationship Between Mechanical and Tribological Properties of DLC and Performance in Automotive Engine Applications, S.D.A. LAWES, University of Leicester, United Kingdom, M.E. FITZPATRICK, Open University, United Kingdom, S.V. HAINSWORTH, University of Leicester, United Kingdom	
2:30 pm	Invited talk continued.	G2-6 In-Line Atmospheric Plasma Deposition of Silicon Organic Coatings on Automotive Aluminum Housings, A. KNOSPE, T. BEER, Plasmamatreat GmbH Research and Development Center, Germany, Z. MACKAY, Plasmamatreat North America, Canada	
2:50 pm	E3-1-5 Characterisation and Tribochemistry of Tetrahedral Hydrogen-Free Amorphous Carbon in Presence of Glycerol, C. MATTA, M.-I. DE BARROS BOUCHET, Ecole Centrale de Lyon, France, L. JOLY-POTTUZ, INSA de Lyon, France, B. VACHER, T. LE MOGNE, J.-M. MARTIN, Ecole Centrale de Lyon, France, T. SAGAWA, Nissan Motor Co., Ltd., Japan	G2-7 Magnetron-Sputtered nc-ZrC/a-C:H Coatings for the Application in Hydraulic Displacement Units, K. BOBZIN, N. BAGCIVAN, RWTH Aachen University, Germany, N.A. GOEBBELS, Aachen University, Germany	
3:10 pm	E3-1-6 On the Hydrogen Lubrication Mechanism(s) of DLC Films: An Imaging TOF-SIMS Study, O. ERYILMAZ, A. ERDEMIR, Argonne National Laboratory	G2-8 Tribological Behaviors of MoN _x -Cu and -Ag Nanocomposite Coatings Under Boundary Lubricated Sliding Conditions, A. ERDEMIR, Argonne National Laboratory, M. URGEN, Istanbul Technical University, Turkey, O. ERYILMAZ, Argonne National Laboratory, K. KAZMANLI, V. EZIRMIK, Istanbul Technical University, Turkey	
3:30 pm	E3-1-7 Nanoscale Roughness Effects on Superlow Friction of Diamond-Like Carbon Films, V. TURK, J. FONTAINE, B. VACHER, J.L. LOUBET, D. MAZUYER, Ecole Centrale de Lyon, France	G2-9 Electrical Behaviors of Tin, Silver and Gold Thin Coatings Under Micro-Fretting Loadings: Impact of Sliding Conditions and Gaseous Atmospheres, P. JEDRZEJCZYK, S. FOUVRY, Ecole Centrale de Lyon, France	
3:50 pm	E3-1-8 Hard Nanostructured Sulfur-Doped CH _x -TiB ₂ Coatings for Improved Friction and Mechanical Performance, B. ZHAO, Y.W. CHUNG, Northwestern University	G2-11 Invited Automotive Precision Components - a Challenge for Job Coating Service Companies, A. HIEKE, IonBond Netherlands BV, Netherlands	
4:10 pm	E3-1-9 Comparative Performance of Nanocomposite Coatings of TiC or TiN Dispersed in a-C Matrixes, D. MARTÍNEZ-MARTÍNEZ, C. LÓPEZ-CARTES, A. FERNÁNDEZ-CAMACHO, J.C. SÁNCHEZ-LÓPEZ, Instituto de Ciencia de Materiales de Sevilla CSIC-US, Spain	Invited talk continued.	
4:30 pm	E3-1-10 Magnetron Sputtered Ti-DLC Coatings on Rubber Substrates, X.L. BUI, Y.T. PEI, J.T.H. DE HOSSON, University of Groningen, Netherlands	G2-12 Characterization of CrC-DLC Dual Core Coating for Automotive Applications, E. OEBERG, A. MUELLER, S. EGGENBERGER, A. WEIBEL, O. MASSLER, OC Oerlikon Balzers AG, Liechtenstein	
4:50 pm	E3-1-12 Thin Coatings for Lubricated Slip-Rolling Contacts Under High Initial Hertzian Contact Pressure, C.-A. MANIER, D. SPALTMANN, G. THELLER, M. WOYDIT, Federal Institute for Materials Research and Testing (BAM), Germany	G2-13 Carbon Based Hard Coatings for Various Automotive Applications, A. MUELLER, R. MERTENS, C. PINERO, M. ANTE, O. MASSLER, OC Oerlikon Balzers AG, Liechtenstein	
	Exhibits Reception Town & Country/San Diego Rooms 5:30 – 7:00 pm	Exhibits Reception Town & Country/San Diego Rooms 5:30 – 7:00 pm	

Wednesday Morning, April 30, 2008

Coatings for Use at High Temperature Room: Sunrise - Session A3-1 Thermal Barrier Coatings Moderators: A. Bolcavage, Rolls-Royce, R. Mevrel, ONERA, K. Murphy, Howmet Castings		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B5-1 Properties & Characterization of Hard Coatings and Surfaces Moderators: Y.W. Chung, Northwestern University, G.C.A.M. Janssen, Delft University of Technology, A. Korenyi-Both, Tribologix Inc.	
8:00 am	A3-1-1 Invited Considerations in Developing a Design Strategy for Novel TBCs, c.g. LEVI, University of California, Santa Barbara	B5-1-1 Invited Plasma Enhanced Magnetron Sputter Deposition of Ti-Si-C-N Based Nanocomposite Coatings, R. WEI, Southwest Research Institute	
8:20 am	Invited talk continued.	Invited talk continued.	
8:40 am	A3-1-3 Mechanisms of Lifetime Improvement in Thermal Barrier Coatings with Hf and/or Y Modified Superalloy Substrates, J. LIU, University of Central Florida, K. MURPHY, Howmet Castings, Y. SOHN, University of Central Florida	B5-1-3 Stabilization of Cubic $(Ti_{1-x}Al_x)_{1-y}Y_yN$ Thin Films by Bipolar Pulsed DC Magnetron Sputtering, M. MOSER, P.H. MAYRHOFER, Montanuniversität Leoben, Austria, L. SZEKELY, P. BARNÁ, Hungarian Academy of Sciences, Hungary "Graduate Student Finalist"	
9:00 am	A3-1-4 Thermo-Mechanical Properties and Delamination Mechanism of CMAS Penetrated Thermal Barrier Coatings, S FAULHABER, A.G. EVANS, University of California, Santa Barbara	B5-1-4 Structure, Stresses and Stress Relaxation of TiN-Me (Me=Ag, Cu) Multilayer and Nanocomposite Coatings, H. KÖSTENBAUER, G.A. FONTALVO, C. MITTERER, J. KECKES, University of Leoben, Austria	
9:20 am	A3-1-5 Oxidation Behavior of Air Plasma Sprayed NiCoCrAlY Bond Coats for Air Plasma Sprayed Thermal Barrier Coatings, T. PATTERSON, A. LEON, B. JAYARAJ, J. LIU, Y. SOHN, University of Central Florida	B5-1-5 Compressive Stress Generation in Titanium Nitride Coatings, R. MACHUNZE, G.C.A.M. JANSSEN, Delft University of Technology, Netherlands	
9:40 am	BREAK	B5-1-6 Influence of Rotation During Sputtering on the Stoichiometry of TiAlN/CrN Multilayer Coating, M. PANJAN, S. STURM, P. PANJAN, M. CEKADA, Jozef Stefan Institute, Slovenia	
10:00 am	A3-1-7 Invited Advanced Low Conductivity Thermal Barrier Coatings: Performance and Future Directions, D. ZHU, R.A. MILLER, NASA Glenn Research Center	B5-1-7 Nitrogen-Induced Nanostructure and Property Changes in Sputtered Ti(Al)-B Films, C. REBHOLZ, University of Cyprus, M.A. MONCLUS, M.A. BAKER, University of Surrey, United Kingdom, P.H. MAYRHOFER, Montanuniversität Leoben, Austria	
10:20 am	Invited talk continued.	B5-1-8 Corrosion Behavior of $(Ti-Al-Cr-Si-V)_xN_y$ Coatings Derived from RF Magnetron Sputtering, C.H. LIN, J.G. DUH, National Tsing-Hua University, Taiwan	
10:40 am	A3-1-9 Yttria-Stabilized Zirconia Thick Coatings Deposited from Aqueous Solution in a Low Pressure Plasma Reactor, F. ROUSSEAU, Ecole nationale Supérieure de Chimie de Paris-Université Pierre et Marie Curie, France, S. AWAMAT, D. MORVAN, Laboratoire de Génie des Procédés Plasmas et Traitements de Surfaces, France, R. MEVREL, ONERA, France	B5-1-9 Oxidation Behavior of Arc-Evaporated TiSiN and AlTiSiN Coatings Deposited on Steel. In situ Approach of the Phenomena by Environmental Microscopy., A. MÈGE-REUIL, P. STEYER, INSA de Lyon, France, R. CHIRIAC, C. SIGALA, UCBL-LMI, France, G. THOLLET, C. ESNOUF, INSA de Lyon, France	
11:00 am	A3-1-10 Oxide and TBC Spallation in β -NiAl Coated Systems Under Mechanical Loading, M. HARVEY, C. COURCIER, SNECMA SAFRAN Group & Mines Paris, France, V. MAUREL, L. REMY, Ecole Nationale Supérieure des Mines de Paris - Paristech, France	B5-1-10 Effect of the Oxygen Content on the Structure, Morphology, Thermal Stability and Oxidation Resistance of Cr-O-N Coatings, L. CASTALDI, Empa, Switzerland, D. KURAPOV, A. REITER, OC Oerlikon Balzers AG, Liechtenstein, V. SHKLOVER, ETH, Switzerland, P. SCHWALLER, J. PATSCHEIDER, EMPA, Switzerland	
11:20 am		B5-1-11 The Role of Al for the Structure and Performance of Al-Cr-N Coatings, K. POLYCHRONOPOULOU, University of Cyprus, N. DEMAS, University of Illinois at Urbana-Champaign, M.A. BAKER, University of Surrey, United Kingdom, E. SPAIN, J.C AVELAR-BATISTA, J. HOUSDEN, Tecvac Ltd., United Kingdom, A.A. POLYCARPOU, University of Illinois at Urbana-Champaign, C. REBHOLZ, University of Cyprus	
	Exhibition Closes Today 2:00 pm	Focused Topic Session Bruker 12:15 – 1:15 pm	

Wednesday Morning, April 30, 2008

Carbon and Nitride Materials: Synthesis-Structure-Property Relationships Room: Royal Palm 4-6 - Session D2-2 Diamond and Diamond-Like Carbon Materials Moderators: H.-J. Scheibe, Fraunhofer-Institut für Werkstoff- und Strahltechnik, O. Shenderova, International Technology Center		Tribology and Mechanical Behavior of Coatings and Thin Films Room: California - Session E3-2 Tribology of Amorphous and Nanostructured Films Moderators: J. Fontaine, Ecole Centrale de Lyon, T.W. Scharf, The University of North Texas	
8:00 am	D2-2-1 Invited Friction Reduction in the Valve Train With Triondur® Carbon Coating, T. HOSENFELDT, Y. MUSAYEV, W. CHRISTGEN, Schaeffler Group, Germany	E3-2-1 Micro-Tribological Performance of MoS ₂ Lubricants With Varying Au Content, P. STOYANOV, R. CHROMIK, McGill University, Canada	
8:20 am	Invited talk continued.	E3-2-2 Tribological Characteristics of MoS ₂ Nb Solid Lubricant Films in Different Tribo Test Conditions, I. EFEGLU, Ö. BARAN, F. YETIM, Ataturk University, Turkey, S. ALTINTAS, Bogazici University, Turkey	
8:40 am	D2-2-3 Friction and Wear Behaviour of Modified ta-C Films, v. WEIHNACHT, H.-J. SCHEIBE, A. LESON, Fraunhofer IWS - Institute for Materials and Beam Technology, Germany	E3-2-3 Friction and Wear Properties of Nanocrystalline Diamond Coatings, C.C. BAKER, N.D. THEODORE, Naval Research Laboratory / North Carolina State University, K.J. WAHL, Naval Research Laboratory	
9:00 am	D2-2-4 CVD-Diamond Coatings for Highly Demanding Cutting Operations, w. REICHERT, S. KRISTA, O. OLIVER, R. CREMER, CemeCon Ag, Germany, S.M. ROSIWAL, University of Erlangen, Germany	E3-2-4 Coating Chemistry and Run-in Friction of Nanocrystalline Diamond Coatings, N.D. THEODORE, C.C. BAKER, K.J. WAHL, Naval Research Laboratory	
9:20 am	D2-2-6 DLC Film Deposition on the Inner Wall of the Cylinder Using Hollow Cathode Effect With Low Frequency Pulse Power, Y.H. JUN, J.E. LEE, K.H. HAN, M.S. PARK, Plasma Lab, J&L Tech.Co.,Ltd., Korea	E3-2-5 Wear Behavior in SiC-TiX Nanocomposites, A.R. BEABER, J. HAFIZ, J.V.R. HEBERLEIN, W.W. GERBERICH, S.L. GIRSHICK, University of Minnesota	
9:40 am	D2-2-7 Invited Classification of Diamond-Like Carbon Films for Industrial Application, H. SAITOH, Nagaoka University of Technology, Japan	E3-2-6 Effect of Microstructure on the Erosion Resistance of Cr-Si-N Coatings, E. BOUSSER, M. BENKAHOUL, P. ROBIN, L. MARTINU, J.E. KLEMBERG-SAPIEHA, École Polytechnique de Montréal, Canada "Graduate Student Finalist"	
10:00 am	Invited talk continued.	E3-2-7 Tribological Performance of Superhard Nanocomposite Ti-Al-Si-N Coatings at Elevated Temperature, P.W. SHUM, Z.F. ZHOU, K.Y. LI, City University of Hong Kong	
10:20 am	D2-2-9 Modified DLC Coatings Prepared in a Large-Scale Reactor by Dual Microwave/Pulsed-DC Plasma-Activated Chemical Vapour Deposition, C. CORBELLA, I. BIALUCH, M. KLEINSCHMIDT, K. BEWLOGUA, Fraunhofer IST, Germany	E3-2-8 Mechanical and Tribological Properties of Nanocomposite and Nanomultilayered Ti-B-N Thin Films, K. CHU, Y.H. LU, Y.G. SHEN, City University of Hong Kong	
10:40 am	D2-2-12 Mechanical Comparison of Deuterated and Hydrogenated Amorphous Diamond-Like-Carbon Coating Prepared by rf-PECVD and FCVA, N. MATHIS, C. MEUNIER, A. ROMAN, Université de Franche Comté, France, G. BERTHOUT, G. FAVARO, CSM Instruments SA, Switzerland, G. GUIBERT, S. MIKHAILOV, IMA, HE-Arc, Switzerland	E3-2-9 Wear Evaluation of WC Inserts Coated With TiN/TiAlN Multinanolayers, J.C. CAICEDO, Universidad del Valle, Colombia, F. MARTINEZ, Universidad de la Havana, Colombia, L.H. MORENO, Universidad del Valle, Colombia, T.S. BATALLAILLE, Universidad de la Havana,, Colombia, P. PRIETO, Universidad del Valle, Colombia	
	Exhibition Closes Today 2:00 pm	Focused Topic Session CSM Instruments 12:15 – 1:15 pm	

Wednesday Morning, April 30, 2008

	<p>Advanced Characterization of Coatings & Thin Films Room: Sunset - Session F4 Applications of Analytical Electron Microscopy Moderators: J. Tao, Brookhaven National Laboratory, M. Watanabe, Lawrence Berkeley National Laboratory</p>	<p>Applications, Manufacturing, and Equipment Room: Royal Palm 1-3 - Session G8 Coatings for Aerospace Applications Moderators: S. Dixit, Plasma Technology Inc., R.D. Evans, The Timken Company</p>
8:00 am	<p>F4-1 Epitaxial TiN/VN Coatings: High-Resolution TEM and EELS Studies Compared to ab-Initio Calculations, B. RASHKOVA, Austrian Academy of Sci, Austria, C. SCHEU, Montanuniv Leoben, P. LAZAR, J. REDINGER, Vienna Univ of Tech, R. PODLOUCKY, Univ of Vienna, S. STURM, Jozef Stefan Inst G. KOTHLEITNER, Graz Univ of Tech, K. KUTSCHEJ, C. MITTERER, Univ of Leoben, G. DEHM, Aust Acad of Sci</p>	<p>G8-1 Invited Processing and Performance of Ceramic Protective Coatings, B.E. WILLIAMS, M.E. HARMON, T.R. STEWART, Ultramet</p>
8:20 am	<p>F4-2 Invited Impact of Low-Temperature Carburization on the Microstructure of Structural Alloys, F.E. ERNST, Case Western Reserve University</p>	<p>Invited talk continued.</p>
8:40 am	<p>Invited talk continued.</p>	<p>G8-4 Invited Materials Systems Approach to Meeting Turbine Airfoil Durability Goals: Role of Alloys, Coatings, and Interactions, S. BOSE, Pratt and Whitney</p>
9:00 am	<p>F4-4 High-Resolution Electron Microscopy Characterization of Nanocrystalline Grain Boundaries in Gold-Copper Alloys, L.O. NYAKITI, J. CHAUDHURI, A.F. JANKOWSKI, Texas Tech University</p>	<p>Invited talk continued.</p>
9:20 am	<p>F4-6 Transmission Electron Microscopy and Electron Energy Loss Spectroscopy Study of C/Cr Coatings, z. ZHOU, W.M. RAINFORTH, University of Sheffield, United Kingdom, A.P. EHIASSIAN, P.EH. HOVSEPIAN, Sheffield Hallam University, United Kingdom, M. GASS, A. BLELOCH, SuperSTEM at Daresbury Laboratory, United Kingdom</p>	<p>G8-6 Coatings for Polymer Turbine Blades, S. DIXIT, R. DIXIT, M. CHIN, Plasma Technology Inc., K. HOOVER, Pratt & Whitney, T. STORAGE, Wright Patterson Air Force Base</p>
	<p>Exhibition Closes Today 2:00 pm</p>	<p>Exhibition Closes Today 2:00 pm</p>

Wednesday Morning, April 30, 2008

New Horizons in Coatings and Thin Films
Room: Tiki Pavilion - Session H1-1
Nanotube, Nanowire & Nanoparticle Thin-Films & Coatings
Moderators: R. Martel, Universite de Montreal, G. Radhakrishnan, The Aerospace Corporation

8:00 am	H1-1-1 Invited Preparation and Properties of Multi-Component Nanocrystal Thin Films: Building With Artificial Atoms, C.B. MURRAY, University of Pennsylvania	
8:20 am	Invited talk continued.	
8:40 am	H1-1-3 Matrix Assisted Pulsed Laser Evaporation (MAPLE) for Deposition of Carbon Nanopearls, C.N. HUNTER, Air Force Research Laboratory, M.H. CHECK, SOCHE, J. HU, University of Dayton Research Institute, A.A. VOEVODIN, Air Force Research Laboratory	
9:00 am	H1-1-4 Nanostructures by Glancing Angle Deposition, C.M. ZHOU, Rensselaer Polytechnic Institute, S.V. KESAPRAGADA, Novellus System Inc., D. GALL, Rensselaer Polytechnic Institute	
9:20 am	H1-1-5 Invited Influence of Effective Activation Energies on CVD Growth of Carbon Nanotubes, M.J. BRONIKOWSKI, Jet Propulsion Laboratory	
9:40 am	Invited talk continued.	
	H1-1-8 Pulsed Laser Deposition of Nanostructured Double Perovskite Magnetic Thin Films and Multilayers, DEEPAK, Indian Institute of Technology, Roorkee, India, D. KAUR, Indian Institute of Technology, Roorkee, India	
10:20 am	H1-1-9 Vertically Aligned Carbon Nanotube Scaffolding for High Aspect Ratio Microelectromechanical Systems, D.N. HUTCHISON, B. TURNER, K. BARNETT, R.C. DAVIS, Brigham Young University, R. VANFLEET, Brigham Young University	
10:40 am	H1-1-10 Formation of SiC Nanoparticle Using Thermal Annealing of Two Layer C/Si Films on Si Substrate, C.K. CHUNG, C.W. LAI, C.C. PENG, B.H. WU, National Cheng Kung University, Taiwan	
11:00 am	H1-1-11 Formation and Cathodoluminescence of Single Crystalline Al:ZnO Nanoscrews Synthesized by Thermal Evaporation, Y.-H. LIN, C.-C. LIN, National Tsing Hua University, Taiwan, J.-M. WU, Feng-Chia University, Taiwan, U.-S. CHEN, J.-R. CHEN, National Tsing Hua University, Taiwan, H.C. SHIH, Chinese Culture University, Taiwan	
	Exhibition Closes Today 2:00 pm	

Wednesday Afternoon, April 30, 2008

Coatings for Use at High Temperature Room: Sunrise - Session A3-2 Thermal Barrier Coatings Moderators: A. Bolcavage, Rolls-Royce, R. Mevrel, ONERA, K. Murphy, Howmet Castings		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B5-2 Properties & Characterization of Hard Coatings & Surfaces Moderators: Y.W. Chung, Northwestern University, G.C.A.M. Janssen, Delft University of Technology, A. Korenyi-Both, Tribologix Inc.	
1:30 pm	A3-2-1 Invited Cyclic Behavior of EB-PVD Thermal Barrier Coating Systems With Modified Bond Coat, U. SCHULZ, German Aerospace Center-DLR, Institute of Materials Research, Germany	B5-2-1 Invited Nano-Layered Hard Coatings: from Fundamentals to Applications, S.A. BARNETT, Northwestern University	
1:50 pm	Invited talk continued.	Invited talk continued.	
2:10 pm	A3-2-3 Damage Evolution and Spallation Mechanisms for APS-TBCs at Lower Temperatures, S. SANYAL, K. ANAND, GE Global Research, India, I. GIOVANNETTI, F. CAPPUCCINI, M. GIANNOZZI, GE Oil & Gas, Italy	B5-2-3 Hardness of and Stress in Tungsten Carbide-Diamond Like Carbon Multilayer Coatings, B.R. PUJADA, F.D. TICHELAAR, G.C.A.M. JANSSEN, Delft University of Technology, Netherlands	
2:30 pm	A3-2-5 Monitoring Delamination of Thermal Barrier Coatings by Near-Infrared and Upconversion Luminescence Imaging, J.I. ELDRIDGE, NASA Glenn Research Center, R.E. MARTIN, Cleveland State University, J. SINGH, D.E. WOLFE, Penn State University	B5-2-4 Heat Treatment Induced Phase Separation and Phase Transformation of Zr(N,O) Thin Films by Ion Plating, J.-H. HUANG, T.H. WU, National Tsing Hua University at Hsinchu, Taiwan, G.-P. YU, National Tsing Hua University, Taiwan	
2:50 pm	BREAK	B5-2-5 Investigation of Atomic Layer Deposited Lubricous Nanocrystalline ZrO ₂ Thin Films and Their Interfaces by Spectroscopic Ellipsometry, X-ray Reflectivity, Grazing Incidence XRD and High Resolution TEM, M.C. ROMANES, T.W. SCHARF, The University of North Texas	
3:10 pm	A3-2-7 Invited Recent Advances in Plasma Spray Process Control Towards Optimizing Compliance and Thermal Conductivity of Ytria Stabilized Zirconia Coatings, S. SAMPATH, State University of New York (SUNY)	B5-2-6 Tribological Studies on PVD/HVOF Duplex Coatings on Ti ₆ Al ₄ V Substrate, E. BEMPORAD, University of Rome "ROMA TRE", Italy, M. SEBASTIANI, University of Rome "ROMA TRE", E.S. PUCHI, M.H. STAIA, Universidad Central de Venezuela	
3:30 pm	Invited talk continued.	B5-2-7 Simulation of Molecular Dynamics Associated With Hardness of Metal/Metal Superlattice Thin Films, Y.Y. CHENG, C.C. LEE, National Central University, Taiwan	
3:50 pm	A3-2-9 Residual Stress in TGO on Different Bond Coats in TBC Systems, X. WANG, A. ATKINSON, Imperial College London, United Kingdom	B5-2-8 Tribological and Corrosion Behaviour of NbN, a-Nb ₂ O ₅ and Nb(O,N) Multilayer Coatings Deposited by Reactive Magnetron Sputtering, M. FENKER, H. KAPPL, FEM, GERMANY	
4:10 pm	A3-2-10 Optical Measurement of the Thermal Diffusivity of Intact Thermal Barrier Coatings, B. HEEG, Metrolaser, Inc., D.R. CLARKE, University of California, Santa Barbara	B5-2-9 Origin of Transformation-Induced Lateral Defects in Sputter Deposited Ytria-Stabilized Zirconia, J.R. PIASCIK, RTI International, T. GUDA, University of Texas at San Antonio, J.Y. THOMPSON, NOVA Southeastern University, B.R. STONER, RTI International	
	Awards Convocation California Room 5:30 – 7:00 pm	Awards Buffet Reception Poolside near Tiki Pavilion 7:30 pm	

Wednesday Afternoon, April 30, 2008

	<p>Tribology & Mechanical Behavior of Coatings & Thin Films Room: California - Session E4/G4 Tribological Studies of Coatings for Green Manufacturing and Dry Machining Moderators: W. Kalss, OC Oerlikon Balzers AG, A. Sanz, SKF Engineering & Research Center</p>	<p>Applications, Manufacturing, and Equipment Room: Royal Palm 1-3 - Session G7 Advances in Industrial Deposition Equipment & Metrology for Coatings & Thin Films Moderators: R. Cremer, CemeCon AG, E. Kusano, Kanazawa Institute of Technology</p>
1:30 pm	E4/G4-1 Evaluation of Nanomechanical Test Approaches Towards PVD Coating Optimisation for High Speed Machining of Steel, B.D. BEAKE, Micro Materials Ltd, United Kingdom, G. FOX-RABINOVICH, McMaster University, Canada	G7-1 Characteristics of a New Filtered Pulse Cathodic Arc Source, R.K.Y. FU, L.H. LI, P.K. CHU, City University of Hong Kong
1:50 pm	E4/G4-2 Cathodic Arc Ion Plated Cr ₂ O ₃ Coating for Dry Cutting Tool Applications, K. SATO, Y. TANAKA, Mitsubishi Materials Corporation, Japan	G7-2 New Machine Concepts for Triple Coatings, M. JILEK, J. JILEK, P. HOLUBAR, Pivotal a. s., Czech Republic, O. CODDET, M. MORSTEIN, M. LUEMKEMANN, T. CSELLE, Platit AG, Switzerland
2:10 pm	E4/G4-3 Surface Properties and Tool Performance of WC-Co Micro-Drill by Nitrogen Ion Implantation, S.H. SHIN, M.C. KANG, Y.K. JEONG, D.H. KIM, K.K. KIM, J.S. KIM, Pusan National University, Korea	G7-3 Invited Recent Developments in Magnetron Sputtering, D.G TEER, Teer Coatings Ltd, United Kingdom
2:30 pm	E4/G4-4 Invited Successful Utilisation of Tribological Coatings for Green Manufacturing and Dry Machining, M. LARSSON, Primateria, Sweden	Invited talk continued.
2:50 pm	Invited talk continued.	G7-5 Innovative Technologies and Processes as Approach to Novel Industrial PVD Coaters, J. MUELLER, G. ERKENS, J. VETTER, Sulzer Metaplas GmbH, Germany
3:10 pm	E4/G4-8 Correlation of the Impact Resistance of CrAlN PVD Coatings With the Cutting Performance in Milling Aerospace Alloys, K.-D. BOUZAKIS, N. MICHAELIDIS, S. GERARDIS, G. KATIRTZOGLU, E. LILI, M. BATSIOULAS, Aristoteles Univ. of Thessaloniki, Greece, M. BRIZUELA, A. GARCIA-LUIS, Fundacion Inasmet, Spain R. CREMER, H.G. FUB, CemeCon, AG Germany	BREAK
3:30 pm	E4/G4-9 Abrasive Properties Assessment of Coated Abrasives for Precision Belt Grinding, S. MEZGHANIM, M. EL MANSORI, Laboratoire de Mécanique et de Procédés de Fabrication (LMPF, EA 4106), France	G7-7 Recent Improvements in CVD-Diamond Deposition, T. LEYENDECKER, O. LEMMER, W. REICHERT, R. CREMER, Cemecon AG, Germany
3:50 pm	E4/G4-10 Synthesis, Properties and Cutting Performance of the (Al,Cr) ₂ O ₃ Coatings Produced by Cathodic Arc Evaporation, D. KURAPOV, F. FONTAINE, J. RAMM, M. ANTE, T. BACHMANN, OC Oerlikon Balzers AG, Liechtenstein, M. DOEBELI, Paul Scherrer Institute and ETH Zurich, Switzerland, O. MASSLER, OC Oerlikon Balzers AG, Liechtenstein	G7-8 The Hauzer Flexicoat 850 Platform, C. STRONDL, D. DOERWALD, T. KRUG, Hauzer Techno Coating BV, Netherlands
4:10 pm		G7-9 Innovative Equipment for the Production of PVD Oxide and Nitride Based Coatings for Industrial Tool Coating Production, J. GWEHENBERGER, S. KRASSNITZER, OC Oerlikon Balzers AG, Liechtenstein, T. MICHALKE, Oerlikon Balzers Germany GmbH, Germany, D. KURAPOV, W. KALSS, OC Oerlikon Balzers AG, Liechtenstein
4:30 pm		G7-10 A Universal PVD Coater to Deposit W-DLC and C-DLC, W.-D. MÜNZ, S. KUNKEL, T. ZUFRASS, M. SCHENKEL, SVS Vacuum Coating Technologies, Germany
4:50 pm		G7-11 Aspects of Flexibility and Efficiency of Industrial Coating Machines, J. ANKLAM, VACOTEC S.A., Switzerland, G. KEIREN, M. LARTZ, Y. JEANNEROT, A. ROGOZIN, W. SCHRÖDER, E. VOß
	<p>Awards Convocation California Room 5:30 – 7:00 pm</p>	<p>Awards Buffet Reception Poolside near Tiki Pavilion 7:30 pm</p>

Wednesday Afternoon, April 30, 2008

New Horizons in Coatings and Thin Films
Room: Tiki Pavilion - Session H1-2
Nanotube, Nanowire and Nanoparticle Thin-Films and Coatings
Moderators: R. Martel, Universite de Montreal,
G. Radhakrishnan, The Aerospace Corporation

1:30 pm	H1-2-1 Invited Electrical Contacts to Nanotubes and Nanowires, F. LEONARD, A.A. TALIN, Sandia National Laboratories	
1:50 pm	Invited talk continued.	
2:10 pm	H1-2-4 Supercapacitive Properties of Spray Pyrolyzed Iron-Doped Manganese Oxide Powders Deposited by Electrophoretic Deposition Technique, C.-Y. CHEN, T.-C. CHIEN, Feng Chia University, Taiwan, S.-C. WANG, Southern Taiwan University, Taiwan, P.-Y. LEE, National Taiwan Ocean University, Taiwan, C.-K. LIN, Feng Chia University, Taiwan	
2:30 pm	H1-2-6 Study on Electrical Characterization of Nanostructured SrBi ₂ Ta ₂ O ₉ Functional Films, H.S. KOO, Minghsin Univ. of Science and Technology, Taiwan	
2:50 pm	H1-2-7 Improved Grain Size of Polycrystalline Silicon Using Fluorine/Nitrogen Implantation Technology, C.W. HU, National Chiao Tung University, Taiwan, T.-C. CHANG, National Sun Yat Sen University, Taiwan, P.-T. LIU, C.-H. TU, C.-C. LIN, C.-N. CHIANG, C.-Y. CHANG, T.-Y. TSENG, National Chiao Tung University, Taiwan	
	Awards Convocation California Room 5:30 – 7:00 pm	Awards Buffet Reception Poolside near Tiki Pavilion 7:30 pm

Thursday Morning, May 1, 2008

Coatings for Use at High Temperature Room: Sunrise - Session A3-3 Thermal Barrier Coatings Moderators: A. Bolcavage, Rolls-Royce, R. Mevrel, ONERA, K. Murphy, Howmet Castings		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B1-1 Sputtering Coatings and Technologies Moderators: C. Rebholz, University of Cyprus, M.S. Wong, National Dong Hwa University	
8:00 am	A3-3-1 Influence of Reducing Atmosphere on the Luminescence of Eu-doped 7YSZ Sensor Layers in the Thermal Barrier Coatings, Y. SHEN, M.D. CHAMBERS, D.R. CLARKE, University of California, Santa Barbara	B1-1-1	Plasma-Enhanced Magnetron Surface Cleaning and Deposition for Smooth and Rifled Bore Applications, S. LEE, US Army ARDEC-Benét Labs, R. WEI, Southwest Research Institute
8:20 am	A3-3-2 Luminescence Temperature Sensor Systems for Environmental Barrier Coatings, M.D. CHAMBERS, University of California, Santa Barbara, United States, P.A. ROUSSEVE, D.R. CLARKE, University of California, Santa Barbara	B1-1-2	Reactive Sputtering with Rotating Cylindrical Magnetrons, D. DEPLA, Ghent University, Belgium, L. XIUYAN, Taiyuan university of Technology, China, J. HAEMERS, R. DE GRUYSE, Ghent University, Belgium
8:40 am	A3-3-3 On the Determination of the Mechanical Properties of Aluminide Bondcoat Materials by High Temperature Instrumented Microindentation, A. VILLEMIANE, B. PASSILLY, P. KANOUTE, Onera, France, R. KOUITAT, ENSMN / INPL, France, R. MEVREL, ONERA, France	B1-1-3	Microstructural and Electrical Characteristics of Reactively Sputtered Zr-N Thin Films, J.-L. RUAN, National Cheng-Kung University, Taiwan, D.-F. LI, Cheng Shiu University, Taiwan, J.S. CHEN, J.-L. HUANG, National Cheng-Kung University, Taiwan
9:00 am	A3-3-4 A Numerical Model of Time Dependent Processes Influence on Geometry and Microstructural Features in Thermal Barrier Coating Systems, J. FRACHON, J. BESSON, V. MAUREL, E. BUSO, Ecole Nationale Supérieure des Mines de Paris - Paristech, France	B1-1-5	Investigation of Nanostructured CrN/Amorphous- Si ₃ N ₄ Multilayer Thin Films, J.-W. LEE, J.-S. YANG, Tung Nan University, Taiwan, L.-C. CHANG, Huafan University, Taiwan
9:20 am	A3-3-5 A Mesh-Independed Finite Element Crack Analysis for TBC Systems, T.S. HILLE, Netherlands Institute for Metals Research, Netherlands, S.R. TURTELTAUB, A.S.J. SUIKER, Delft University of Technology, Netherlands	B1-1-6 Invited	Synthesis and Characterization of Sputter-Deposited Nanocrystalline Nanolaminates, A.F. JANKOWSKI, Texas Tech University
9:40 am	BREAK	Invited talk continued.	
10:00 am	A3-3-7 Characterization of Thermal Barrier Coatings Using Diffuse Optical Reflectance, A. LIMARGA, D.R. CLARKE, University of California, Santa Barbara	B1-1-8	Microstructure Evolution of CrAlSiN/W ₂ N Superlattice Coatings Deposited by DC Magnetron Sputtering, Y.Z. TSAI, J.G. DUH, National Tsing-Hua University, Taiwan
10:20 am	A3-3-8 Luminescence Spectroscopy for Stress Measurement and Lifetime Prediction: a Computer Simulation Approach, A. LUZ, D. BALINT, K. NIKBIN, Imperial College London, United Kingdom	B1-1-9	Xrd and Ftir Analysis of Ti-Si-Con Coatings for Biomedical Applications., C. OLIVEIRA, B.G. ALMEIDA, S. CARVALHO, M. HENRIQUES, M. SUSANO, R. OLIVEIRA, Universidade do Minho, Portugal, R. ESCOBAR, ICMM, Instituto de Ciencia de Materiales de Madrid – CSIC, Spain, F. VAZ, Universidade do Minho, Portugal
10:40 am	A3-3-9 Influence of Bondcoat Surface Finish on the Residual Stresses Generated in the Thermally Grown Oxide for an EB-PVD TBC, Deposited on PtAl and Pt-Diffused Bondcoats, L. CHIVIRI, Cranfield University, United Kingdom, X. WANG, A. ATKINSON, Imperial College London, United Kingdom, J. NICHOLLS, Cranfield University, United Kingdom	B1-1-10	Characterization of Bi _{0.5} Sb _{1.5} Te ₃ Thin Films Prepared by RF Magnetron Sputtering, K.-J. KANG, H.-J. LIN, National United University, Taiwan, Z.-D. HUANG, H.-S. CHU, ITRI, Taiwan
11:00 am	A3-3-10 Revisiting the Structural Characterization of 8YSZ Under Isothermal Aging, Y. GAO, D. LIPKIN, C. JOHNSON, GE Global Research, W. NELSON, GE Energy, L.F. BONETTI, INPE/MCT-Instituto Nacional de Pesquisas Espaciais, Brazil, C.G. LEVI, R. LECKIE, University of California, Santa Barbara	B1-1-11	Reproducible Resistive Switching Behavior in Sputtered CeO ₂ Polycrystalline Film, C.-Y. LIN, S.-Y. WANG, C.-C. LIN, T.-Y. TSENG, National Chiao Tung University, Taiwan
11:20 am		B1-1-12	Electrical and Optical Properties of ITO Thin Films Deposited by ICP-Assisted Magnetron Sputtering, K.S. SHIN, N. BRITUN, M.J. KEUM, Sungkyunkwan University, Korea, Y. SETSUHARA, Osaka University, Japan, J.G. HAN, Sungkyunkwan University, Korea
		B1-1-4	Effect of Plasma Current Density on the Properties of Nanostructured Ti _x N _y Films Prepared by Reactive DC Magnetron Sputtering, P.K. BARHAI, N. KUMARI, I. BANERJEE, Birla Institute of Technology, India, S.K. PABI, Indian Institute of Technology Kharagpur, India, S.K. MAHAPATRA, Birla Institute of Technology, India
	Tutorial Art & Skills of Successful MS. Preparation 12:15 – 1: 15 pm	2009 ICMCTF Planning Meeting (open to all interested attendees) Golden West Room 12:15 – 1:15 pm	

Thursday Morning, May 1, 2008

<p>Optical Thin Films Room: Royal Palm 1-3 - Session C4 Optical Characterization of Thin Films Moderators: T. Tiwald, J.A. Woollam Co., Inc., F.K. Urban, Florida International University</p>		<p>Carbon and Nitride Materials: Synthesis-Structure-Property Relationships - Room: Royal Palm 4-6 - Session D3-2 Carbon-Based Nanostructured Composite and Nanolaminated Films - Moderators: U. Jansson, Uppsala University, Y Pauleau, Grenoble Electrical Engineering Laboratory, Y. Sui, University of Nebraska</p>	
8:00 am	C4-1 Synthesis, Structural, and Optical Properties of ZnO Nanowires, S.-N. BAI, Chienkuo Technology University, Taiwan, T.-Y. TSENG, National Chiao Tung University, Taiwan	D3-2-1 Invited Carbon-Based Nanocomposite Thin Films - Deposition, Structure and Properties, W. GULBINSKI, Koszalin University of Technology, Poland	
8:20 am	C4-2 Effect of Sputtering Gas on Structural and Optical Properties of Nanocrystalline Tungsten Oxide Thin Films, A.K. CHAWLA, R. CHANDRA, Indian Institute of Technology, Roorkee, India	Invited talk continued.	
8:40 am	C4-3 Study on Characteristics of Indium Zinc Oxide Thin Films With Magnetron Sputtering, C.-C. LIN, Minghsin University of Science and Technology, Taiwan	D3-2-4 Multifunctional Nanocomposite Carbides for Electric/Mechanical Contacts, J. LAURIDSEN, Linköping University, Sweden, T. JOELSSON, H. LJUNGCRANTZ, Impact Coatings AB, Sweden, H. HÖGBERG, L. HULTMAN, Linköping University, Sweden	
9:00 am	C4-4 Characterization of The Semi-Conducting Polymeric Thin Films, C.L. CHUNG, C.H. PO, I-Shou University, Taiwan	D3-2-5 Control of Morphology and Porosity in Porous Carbon with Tunable Pore Size, C.-Y. LIU, National Chiao-Tung University, Taiwan, C.-F. CHEN, Mingdao University, Taiwan, J.-P. LEU, National Chiao-Tung University, Taiwan	
9:20 am	C4-5 Preparation and Characterization of Potential Bilayer Reflectance Standards for the VUV and EUV, Z. STROTHER, Georgia Tech, D.D. ALLRED, Physics and Astronomy, N. BRIMHALL, L. STREIN, Brigham Young University	D3-2-6 Role of Amorphous Phase on Grain Growth in Two-Phase nc-TiN/a-(C,CN) _x Nanocomposite Films, Y.H. LU, X.J. HU, Y.G. SHEN, City University of Hong Kong	
9:40 am	C4-6 Atomic Force Microscopy and Spectroscopic Ellipsometry Characterization of Polymer-Fullerene Blend Films, A.M.C. NG, K.Y. CHEUNG, A.B. DJURISIC, W.K. CHAN, University of Hong Kong	D3-2-8 Enhancement of the Field Emission Property of MWNT With Amorphous Fluorinated Carbon Films, H.-D. LIN, Y.-H. LIN, U.-S. CHEN, T.P. PERNG, H.-C. SHIH, National Tsing Hua University, Taiwan	
10:00 am	C4-7 Invited Material-, Topography-, and Feature-Recognition: Challenges on Optical Property Testing of Surfaces and Thin Films, U. BECK, A. HERTWIG, J. KRUEGER, BAM, Germany	D3-2-9 Pulsed Closed Field Unbalanced Magnetron Sputtering (P-CFUBMS) of nc:TiC/a:C Nanocomposite Thin Films, J. LIN, J.J. MOORE, B. MISHRA, Colorado School of Mines, M. PINKAS, Nuclear Research Center, Israel, W.D. SPROUL, Reactive Sputtering, Inc.	
10:20 am	Invited talk continued.		
10:40 am	C4-9 Optical Characterization of Colloidal Crystals Based on Dissymmetric Metal Coated Oxide Nanospheres, S. PORTAL, M.A. VALLVE, O. ARTEAGA, M. RUBIO-ROY, E. PASCUAL, A. CANILLAS, J. IGNEZ-MULLOL, E. BERTRAN, University of Barcelona, Spain		
11:00 am	C4-10 Optics of Quasiparticle Phase Transitions in Nanostructured Ag Thin Films, M. GNANAVEL, University of Hyderabad, India, D.B. MOHANB, University of Coimbra, Portugal, C.S. SUNANDANA, University of Hyderabad, India		
11:20 am	C4-11 Ellipsometer Analysis in the n-k Plane for Select Combinations of Metals, Semiconductors, and Insulators, F.K. URBAN, D. BARTON, Florida International University		
	2009 ICMCTF Planning Meeting (open to all interested attendees) Golden West Room 12:15 – 1:15 pm	2009 ICMCTF Planning Meeting (open to all interested attendees) Golden West Room 12:15 – 1:15 pm	

Thursday Morning, May 1, 2008

<p>Tribology & Mechanical Behavior of Coatings & Thin Films Room: California - Session E2-1 Mechanical Properties and Adhesion Moderators: R. Chromik, McGill University, L. Davies, Caterpillar, N. Jennett, National Physical Laboratory</p>		<p>New Horizons in Coatings and Thin Films Room: Tiki Pavilion - Session H4 Thin Films for Photovoltaics: Synthesis and Characterization Moderators: S. Fairchild, AFRL/MLPS, S.V. Khare, The University of Toledo</p>	
8:00 am	E2-1-1 Effect of Surfactants on the Mechanical Properties of Electroless (Ni - P) Coating, R. ELANSEZHIAN, B. RAMAMOORTHY, P. KESAVAN NAIR, Indian Institute of Technology Madras, India	H4-1	Preparation and Characteristics of Nano-Particle TiO ₂ Films for Organic Solar Cell, W.-C. SHIH, Minghsin Univ. of Sci. and Tech, Taiwan
8:20 am	E2-1-2 Mechanical Properties of Gradient and Multilayered TiAlSiN Hard Coatings, Y.-Y. CHANG, Mingdao University, Taiwan, S.-J. YANG, National Chung Hsing University, Taiwan, D.-Y. WANG, Mingdao University, Taiwan, W. WU, National Chung Hsing University, Taiwan	H4-2	Structural and Electronic Properties of β -In ₂ X ₃ (X = O, S, Se, Te) Using Ab Initio Calculations, S. MARSILLAC, N.S. MANGALE, V. GADE, S.V. KHARE, The University of Toledo
8:40 am	E2-1-3 Invited The Strength of Thin Films, Small Structures and Materials Under Localised Stresses, D.J. DUNSTAN, Queen Mary University of London, United Kingdom	H4-3 Invited	Challenges and Opportunities in Thin-Film Photovoltaics, A.D. COMPAAN, The University of Toledo
9:00 am	Invited talk continued.		Invited talk continued.
9:20 am	E2-1-5 The Effects of Alloying on the Mechanical Behaviour of In _x Ga _{1-x} As, S. KORTE, I. FARRER, W.J. CLEGG, University of Cambridge, United Kingdom	H4-5	Synthesis and Characterization of Highly Luminescent CuInS ₂ and CuInS ₂ /ZnS (Core/Shell) Nanocrystals, K. KUO, S. CHEN, National Chiao Tung University, Taiwan, B. CHENG, National Synchrotron Radiation Research Center, Taiwan
9:40 am	E2-1-7 Investigation of Magnetron Sputtered Titanium-Nickel Nitride Thin Films for Use as Mould Coatings, H.R. STOCK, M. DIESSELBERG, H.-W. ZOCH, Stiftung Institut für Werkstofftechnik, Germany	H4-8	Ion-Enhanced VLS Growth of Aligned and Shape-Controlled Si/SiO ₂ Nanowhisker Arrays, M. BETTGE, D. ABRAHAM, S. BURDIN, S. MACLAREN, I. PETROV, E. SAMMANN, University of Illinois, Urbana
10:00 am	E2-1-8 Structure and Mechanical Characteristics of Amorphous Carbon Film Deposited on Poly Aryl-Ether-Ether-Ketone (PEEK) Substrate, M. XU, Z. WEI, S.H. PU, P.K. CHU, City University of Hong Kong	H4-6	Growth Kinetics and Transport Mechanism in Chemically Deposited Antimony Doped Cadmium Selenide Thin Films, E.U. MASUMDAR, Rajarshi Shahu Mahavidyalaya, India, J.S. DARGAD, Dayanand Science College, India, L.P. DESHMUKH, Solapur University, India
10:20 am	E2-1-9 Effect of the Ion Implantation Processing Variables on the Improvement of the Adhesion Strength Between the PET Polymer and the CrZrN Coatings, B.S. KIM, S.Y. LEE, B.Y. LEE, Y.S. HONG, Korea Aerospace University, Korea, J.S. LEE, PEFP, KAERI, Korea, J.J. LEE, Seoul National University, Korea	H4-7	Synthesis, Physical Observations and Photoelectrochemical Studies of n-Cd _{1-x} Mn _x S Dilute Magnetic Semiconductor, J.S. DARGAD, Dayanand Science College, India, V.S. KARNDE, Thin Films and Solar Studies Research Laboratory, India, E.U. MASUMDAR, Rajarshi Shahu Mahavidyalaya, India, L.P. DESHMUKH, Solapur University, India
10:40 am	E2-1-10 Surface Morphology of Compressively Stressed Film Deposited on a Soft Polymer Using PECVD, M.W. MOON, J.W. YI, K.-R. LEE, Korea Institute of Science and Technology, Korea		
11:00 am	E2-1-12 Nano and Micro Indentation and Scratch Tests of Mechanical Properties of Thin Films, N. GITIS, L. HERMANN, S. KUIRY, Center for Tribology, Inc.		
11:20 am	E2-1-13 The Relationship Between Top-Layer Tensile Strength and Optical Gloss Retention in Multi-Layer Coated Surfaces via Nanoindentation, Parametric Optimization, Scratch Testing and Finite Element Modeling, T. OVAERT, University of Notre Dame, B.-R. KIM, L.G. Chemical, Ltd., Korea, J. WANG, A.B.B. Robotics		
	2009 ICMCTF Planning Meeting (open to all interested attendees) Golden West Room 12:15 – 1:15 pm		

Thursday Morning, May 1, 2008

<p>The Atomistics of Thin Film Growth: Computational and Experimental Studies - Room: Royal Palm 4-6 - Session TS1 The Atomistics of Thin Film Growth: Computational and Experimental Studies - Moderators: S. Kodambaka, University of California Los Angeles, D. Music, RWTH Aachen University</p>		<p>Coatings for Fuel Cells Room: Sunset - Session TS2 Coatings for Fuel Cells Moderators: D. Mumm, University of California, Irvine, J.W. Stevenson, Pacific Northwest National Laboratory</p>
8:00 am	<p>Session D3-2 (see page TS-23)</p>	<p>TS2-1 Development of Spinel Protection Layers on Ferritic Stainless Steels for SOFC Interconnect Applications, Z.G. YANG, G.-G. XIA, X.S. LI, J.D. TEMPLETON, Z.-M. NIE, C.-M. WANG, G.D. MAUPIN, J.W. STEVENSON, Pacific Northwest National Laboratory</p>
8:20 am		<p>TS2-3 Eletroplated Fe-Ni-Co Alloy Coating for Protecting the Ferritic Steels Used as SOFC Interconnect, J.H. ZHU, Z.H. BI, Tennessee Technological University</p>
8:40 am		<p>TS2-4 A New Route to Prepare Duplex Ni-YSZ Anodic Coatings on Metallic Interconnects for SOFC Application., M. RIEU, P. LENORMAND, F. ANSART, CIRIMAT-Université Paul Sabatier, France</p>
9:00 am		<p>TS2-5 Invited Filtered Arc and Hybrid PVD Materials for SOFC Applications, P.E. GANNON, M.C. DEIBERT, Montana State University, V.I. GOROKHOVSKY, Arcomac Surface Engineering, LLC, P. WHITE, R.J. SMITH, H. CHEN, S.W. SOFIE, Montana State University</p>
9:20 am		<p>Invited talk continued.</p>
9:40 am		<p>TS2-7 Plasma Nitrided Stainless Steel for Fuel Cells, P. KAESTNER, Technical University Braunschweig, Germany, T. MICHLER, Adam Opel GmbH, Fuel Cell Activities, K.-T. RIE, Technical University Braunschweig, Germany, G. BRAEUER, Fraunhofer-Institute for Surface Engineering and Thin Films</p>
10:00 am		<p>TS2-8 Advantages of the Sol-Gel Route to Develop Stackings from Electrodes and Electrolyte Thick Layers. Application to SOFC Systems, P. LENORMAND, M. RIEU, R.F. CIENFUEGOSP, CIRIMAT-Université Paul Sabatier, France, A. JULBE, Iem- Umr Enscm-Umii-Cnrs 5635, France, S. CASTILLO, F. ANSART, CIRIMAT-Université Paul Sabatier, France</p>
10:20 am		<p>TS2-9 Combination of an Innovative Sol-Gel Process Assisted With Supercritical CO₂ and Suspension Deposition Techniques for the Low Sintering Production of Thin Film Electrolytes of SOFCs, M.-L. FONTAINE, Institut Europeen des Membranes-Univ. Montpellier 2 - France, A. HERTZ, C. ESTOURNES, J.C. RUIZ, B. FOURNEL, S. SARRADE, C. GUIZARD, F. ANSART, A. JULBE</p>
10:40 am		<p>TS2-10 Nanostructured Ytria-Stabilized Zirconia Thin Films for Fuel Cell Applications, M.B. SILLASSEN, P. EKLUND, M. SRIDHARAN, J. BØTTIGER, University of Aarhus, Denmark</p>
11:00 am		<p>TS2-11 Examination of Metallic Ni Accretions in Reduced 8YSZ Electrolyte with 1wt% Dissolved NiO, W.G. COORS, CoorsTek, J.R. O'BRIEN, Quantum Design, J.T. WHITE, Colorado School of Mines</p>
11:20 am	<p>TS1-11 Elastic Properties of Amorphous Boron Suboxide Based Solids Studied by ab Initio Molecular Dynamics, D. MUSIC, J.M. SCHNEIDER, RWTH Aachen University, Germany</p>	
11:40 am	<p>TS1-12 Intra- and Interlayer Mass Transport Rates During Layer-by-Layer Homoepitaxial Pt(111) Growth from Hyperthermal Beams (5-50 eV), v. CHIRITA, D. ADAMOVIĆ, E.P. MÜNGER, L. HULTMAN, Linköping University, Sweden, J.E. GREENE, University of Illinois, Urbana</p>	

Thursday Afternoon, May 1, 2008

Coatings for Use at High Temperature Room: Sunrise - Session A2 Coatings for Use in Harsh Environments Moderators: B. Gleeson, University of Pittsburgh, M. Schütze, Karl-Winnacker-Institut der Dechema e.V.		Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B1-2 Sputtering Coatings and Technologies Moderators: C. Rebholz, University of Cyprus, M.S. Wong, National Dong Hwa University	
1:30 pm	A2-1 Invited Current and Future Research Directions for Coatings Used in Harsh Environments, P.F. TORTORELLI, Oak Ridge National Laboratory	B1-2-1 Invited Oxidation Behavior, Microstructure Evolution and Thermal Stability in Nanostructure CrN/AlN Multilayer Hard Coating, S.K. TIEN, C.H. LIN, Y.Z. TSAI, J.G. DUH, National Tsing-Hua University, Taiwan	
1:50 pm	Invited talk continued.	Invited talk continued.	
2:10 pm	A2-3 Protective Coatings Against Metal Dusting, J. ALVAREZ, ITESM-CCV, Mexico, D. MELO, IPN, Mexico, O. SALAS, J. OSEGUERA, ITESM-CEM, Mexico, V LOPEZ, IPN, Mexico	B1-2-3 Oxidation Tuning of Cr-Al-N Coatings by Incorporation of Yttrium, F. ROVERE, P.H. MAYRHOFER, Montanuniversität Leoben, Austria, R. BRAUN, German Aerospace Center (DLR), Germany, J.M. SCHNEIDER, RWTH Aachen University, Germany	
2:30 pm	A2-4 Influence of Al on the Carburization Resistance of a Ni Based Alloy Coating, A.S.C.M. D'OLIVEIRA, F.J.R. CANGUE, Federal University of Paraná, Brazil	B1-2-4 Effect of Extra Nitrogen Additions in the Preparation of CrN & AlN Films on H13 by PVD Process, A. ROJO, ITESM-TOL, Mexico, J. OSEGUERA, O. SALAS, J. ACOSTA, ITESM-CEM, Mexico	
2:50 pm	A2-5 High Temperature Corrosion Resistance of NiAlMo APS-Coating in Chlorine-Based Environments, H. LATRECHE, M. SCHÜTZE, Karl-Winnacker-Institut der Dechema e.V., Germany	B1-2-6 Pulsed Bias Sputtering of Crystalline Chromia and Alumina Films, M. AUDRONIS, A. MATTHEWS, A. LEYLAND, University of Sheffield, United Kingdom	
3:10 pm	A2-6 Invited Future Directions in Understanding the Factors that Influence the Life of Advanced High Temperature Materials, D. SHIFLER, Office Naval Research	B1-2-7 Magnetron Sputtering and Characterization of α -Alumina Coatings on WC/Co Substrates, T.I. SELINDER, M. ELFWING, Sandvik Tooling, Sweden, E. WALLIN, U. HELMERSSON, Linköping University, Sweden, H. BLOMQVIST, Sandvik Tooling AB, Sweden	
3:30 pm	Invited talk continued.	B1-2-8 Structure and Mechanical Properties of Reactively Sputtered Complex Oxide Films, T.K. CHEN, C.H. WU, K.H. HUNG, M.S. WONG, National Dong Hwa University, Taiwan	
3:50 pm	BREAK	B1-2-9 Characterisation of Alumina-Zirconia Thin Films Deposited by Reactive Dual Magnetron Sputtering, D.H. TRINH, Linköping University, Sweden, T. KUBART, T. NYBERG, M. OTTOSSON, Uppsala University, Sweden, M. COLLIN, I. REINECK, Sandvik Tooling AB, Sweden, L. HULTMAN, H. HÖGBERG, Linköping University, Sweden	
4:10 pm	A2-9 Degradation of APS CoNiCrAlY Bond Coats in Thermal Barrier Coatings by Vanadium, Phosphorus and Sodium Compounds, P. MOHAN, T. PATTERSON, University of Central Florida, V. DESAI, New Mexico State University, Y. SOHN, University of Central Florida	B1-2-10 Comparative Study on Ag-Doped ZnO and Cu-Doped ZnO Thin Films Grown by Simultaneous dc and RF Magnetron Sputtering, D.R SAHU, J.-L. HUANG, National Cheng-Kung University, Taiwan	
4:30 pm	A2-11 Deposition of Nickel-Silver Alloys by Magnetron Sputtering for the Protection of Stainless Steel Parts Against High Technical Corrosive Environments, V. HODY - LE CAËR, P. CHOQUET, H.-N. MIGEON, Centre de Recherche Public Gabriel Lippmann, Luxembourg		
4:50 pm	A2-10 Electrochemical Impedance Spectroscopy for Characterization of Nano Structured Coatings on -TiAl IN Molten Salts, F.J. PÉREZ, J.M. NIETO, M.P. HIERRO, UCM, Spain		
	Poster Session Town and Country/San Diego Rooms 5:00 – 7:00 pm	Poster Reception Town and Country/San Diego Rooms 5:30 – 7:00 pm	

Thursday Afternoon, May 1, 2008

Hard Coatings and Vapor Deposition Technology Room: Royal Palm 1-3 - Session B4 Laser and Ion Beam Surface Engineering Moderators: C. Muratore, Air Force Research Laboratory (AFRL/RXBT)/UTC, Inc., W. Waldhauser, Joanneum Research Forschungsgesellschaft mbH		Tribology & Mechanical Behavior of Coatings & Thin Films Room: California - Session E2-2 Mechanical Properties and Adhesion Moderators: R. Chromik, McGill University, L. Davies, Caterpillar, N. Jennett, National Physical Laboratory	
1:30 pm	B4-2 Deposition of DNA Thin Films by Through Thin Film Ablation, s. FAIRCHILD, AFRL/MLPS	E2-2-1 Invited Mechanical Characterization of Coatings Using Frequency Domain Photoacoustic Microscopy, T.W. MURRAY, Boston University	
1:50 pm	B4-3 Invited Laser Materials Processing at NRL: From Thin Films to Devices, A. PIQUE, H. KIM, R.C.Y. AUYEUNG, K. METKUS, T. SUTTO, M. OSOFSKY, S. MATHEWS, US Naval Research Laboratory	Invited talk continued.	
2:10 pm	Invited talk continued.	E2-2-4 Influence of Treatment Parameters on the Interfacial Shear Strength in a Peo Coated Aluminium Alloy, D.T. ASQUITH, A.L. YEROKHIN, Y.H. TAI, J.R. YATES, A. MATTHEWS, University of Sheffield, United Kingdom	
2:30 pm	B4-5 Effects of Nitrogen Ion Implantation on Plasma Polymerized Tetraisopropyltitanium-Oxygen-Helium Mixtures, N.C. DA CRUZ, B.B. BELLOTTI, E.C. RANGEL, Universidade Estadual Paulista, Brazil, M.A.B. MORAES, Universidade Estadual de Campinas, Brazil, S.F. DURRANT, Universidade Estadual Paulista, Brazil	E2-2-5 Evaluation of PVD Coatings and Surface Treated Dies Used in Aluminum Pressure Die Casting, S. MYERS, J.J. MOORE, B. MISHRA, Colorado School of Mines	
2:50 pm	B4-7 Nanocomposite Metal-S-T Solid-Lubricant Thin Film Coatings Deposited by High-Power Ion Beam Ablation ¹ , T.J. RENK, Sandia National Laboratories	E2-2-6 Investigation of Creep in Electroplated Sn and Ni-Sn Alloy on Copper at Room Temperature by Nanoindentation, J. CHEN, S.J. BULL, Newcastle University, United Kingdom	
3:10 pm	B4-8 Ion Beam Sputter Deposited TiAlN Bottom Electrode for the Dielectric and Leakage Characteristics of (Ba,Sr)TiO ₃ Thin Film Capacitor, S.-Y. LEE, S.C. WANG, J.S. CHEN, J.-L. HUANG, National Cheng-Kung University, Taiwan	E2-2-7 Characterization of the Impact Response of Diamond-Like Carbon Coatings, N.J. UHURE, University of Leicester, UK, M.E. FITZPATRICK, Open University, United Kingdom, S.V. HAINSWORTH, University of Leicester, United Kingdom	
3:30 pm		E2-2-8 Damage Evolution and Fatigue Delamination of Diamond Films Under Repeated Loading, S. KAMIYA, H. SEKINO, Nagoya Institute of Technology, Japan, H. HANYU, OSG Corporation, Japan, J.C. MADALENO, J. GRACIO, University of Aveiro, Portugal	
3:50 pm		E2-2-9 Scratch Mechanisms of Low Adhesion Multilayer Coatings on Glass, X. GENG, D. DALMAS, E. BARTHEL, Laboratoire SVI, Unité mixte CNRS/Saint-Gobain, UMR 125, France, J.D. KAMMINGA, Saint-Gobain Recherche, France	
4:10 pm		E2-2-10 Effects of Substrate Bias Frequencies on the Characteristics of Chromium Nitride Coatings Deposited by Pulsed DC Reactive Magnetron Sputtering, Y.-C. KUO, National Taiwan University of Science and Tech, Taiwan, J.-W. LEE, Tung Nan University, Taiwan, L.-C. CHANG, Huaan University, Taiwan, C.-J. WANG, National Taiwan University of Science and Tech, Taiwan	
	Poster Session Town and Country/San Diego Rooms 5:00 – 7:00 pm	Poster Reception Town and Country/San Diego Rooms 5:30 – 7:00 pm	

Thursday Afternoon, May 1, 2008

The Atomistics of Thin Film Growth: Computational & Experimental Studies

Room: Royal Palm 4-6 - Session TS1-2

Moderators: S. Kodambaka, University of California Los Angeles,
D. Music, RWTH Aachen University

1:30 pm	TS1-2-1 Structural Evolution and Electrochemical Performance of LiFePO ₄ /C Thin Films Deposited by Ionized Magnetron Sputtering, K.-F. CHIU, P.Y. CHEN, Feng Chia University, Taiwan	
1:50 pm	TS1-2-2 Invited Theoretical and Experimental Studies Related to the Compositional and Microstructural Evolution of Oxide Thin Films, J. ROSEN, Linköping University, Sweden	
2:10 pm	Invited talk continued.	
2:30 pm	TS1-2-4 Structure, Elastic Properties, and Phase Stability of Cr _{1-x} Al _x N, P.H. MAYRHOFER, Montanuniversität Leoben, Austria, D. MUSIC, J.M. SCHNEIDER, RWTH Aachen University, Germany, F.D. FISCHER, Montanuniversität Leoben, Austria, H.J. BÖHM, Vienna University of Technology, Austria	
2:50 pm	TS1-2-5 Mathematical Simulation of the Layer Growth Kinetics During Post-Discharge Nitriding: From Early Stage to Quasi-Steady Stage, J. OSEGUERA, F. CASTILLO, ITESM-CEM, Mexico, A. GOMEZ, UFRO, Chile, A. FRAGUELA, BUAP, Mexico	
3:10 pm	TS1-2-7 Atomistic Origin of the Isostructural Decomposition in Multinary Nitride Materials, a First-Principles Study, B. ALLING, A. KARIMI, Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland, I.A. ABRKOSOV, Linköping University, Sweden	
3:30 pm	TS1-2-8 Thickness Uniformity and Morphology of Films Deposited Using a Filtered Pulse Cathodic Arc Source, L.H. LI, R.K.Y. FU, P.K. CHU, City University of Hong Kong	
3:50 pm	TS1-2-11 Invited A Direct View of Quantum-Stabilized Atomically Flat Films: from Magic Heights to Quantum Mirrors, R.S. MIRANDA, Universidad Autónoma de Madrid, Spain	
4:10 pm	Invited talk continued.	
	Poster Session Town and Country/San Diego Rooms 5:00 – 7:00 pm	Poster Reception Town and Country/San Diego Rooms 5:30 – 7:00 pm

Thursday Afternoon Poster Sessions

Coatings for Use at High Temperature
Room: Town & Country - Session AP

Symposium A Poster Session
5:00 – 7:00 pm

AP-2

Electrochemical Impedance Spectroscopy (EIS) Study of Al_2O_3/YSZ Nanostructured Thermal Barrier Coatings (TBC), C. AMAYA, W. APERADOR, J.C. CAICEDO, G. ZAMBRANO, P. PRIETO, Universidad del Valle, Colombia

AP-3

Effect of the Gas Mixture Composition on High-Temperature Behavior of Magnetron Sputtered Si-B-C-N Coatings, J. CAPEK, S. HREBEN, P. ZEMAN, J. VLCEK, R. CERSTVY, University of West Bohemia, Czech Republic

AP-4

Effects of Si/Ta and Nitrogen Ratios on the Thermal Stability of Ta-Si-N Thin Films by Magnetron Reactive Cosputtering, C.K. CHUNG, T.S. CHEN, B.H. WU, A. NAUTIYAL, National Cheng Kung University, Taiwan

AP-5

High-Temperature Activation of Adaptive Surfaces: Sharkskin and Self-Cleaning, P. SCHAFF, S. CUSENZA, University of Göttingen, Germany, V. DRESCHER, J. WILDEN, Technical University of Ilmenau, Germany

AP-6

Degradation of Hot-Dipping Al-Si Coating on Nickel-Base Superalloy Inconel 718 at 1100°C, S.-M. CHEN, C.-J. WANG, W.-J. CHENG, National Taiwan University of Science and Technology, Taiwan

AP-7

Effect of Chromate Passivation Treatments on the Structure, Morphology and Corrosion Properties of IVD Aluminium and Zinc-Based Coatings on Mild Steel, N. ALANAZI, Z.M. ROSLI, A. LEYLAND, A. MATTHEWS, University of Sheffield, United Kingdom

AP-8

Deposition of Silicon Enriched Nickel Aluminide Coatings on Internally Cooled Airfoils, J. KOHLSCHIEEN, H.R. STOCK, Stiftung Institut für Werkstofftechnik, Germany

AP-9

Anti-Oxidation Properties of (Ti,Al)N Films Prepared by DC Reactive Magnetron Sputtering and Mechanism, T. ZHOU, P.L. NIE, X. CAI, Shanghai Jiao Tong University, China, P.K. CHU, M. XU, R. FU, City University of Hong Kong

AP-10

Evaluation of Plasma-Sprayed Coating on Creep of the Titanium Alloy, D.A.P. REIS, Instituto Tecnológico de Aeronáutica, Brazil, D.S. ALMEIDA, Instituto de Aeronautica e Espaço, Brazil, C. MOURA NETO, Instituto Tecnológico de Aeronáutica, Brazil, M.J.R. BARBOZA, Escola de Engenharia de Lorena, Brazil, F. PIORINO NETO, Comando-Geral de Tecnologia Aeroespacial, Brazil, C.R.M. SILVA, Universidade Federal de Brasília, Brazil

AP-11

The Effect of Multilayer Period on Thermal Stability of CrSiN/AlN Multilayer Coatings, M.H. LEE, KATECH, Korea, S.M. KIM, B.Y. LEE, S.Y. LEE, Korea Aerospace University, Korea

AP-12

Cutting Performance of TiSi CN Coated WC Insert Tips, K.-Y. LEE, Pukyong National University, Korea, R. WEI, Southwest Research Institute

Hard Coatings and Vapor Deposition Technology
Room: Town & Country - Session BP

Symposium B Poster Session
5:00 – 7:00 pm

BP-2

Structure and Mechanical Properties of Al-Si-N Films With a Low and High Si Content, M. SASEK, J. MUSIL, P. ZEMAN, University of West Bohemia, Czech Republic

BP-4

Deposition of TiN/CrN Multilayers with Nanometric Bi-Layer Periods by Cathodic Arc PVD, R. MARTÍNEZ, J.A. GARCÍA, M. RICO, R.J. RODRÍGUEZ, AIN, Centre of Advanced Surface Engineering, Spain, D. CACERES, Escuela Politécnica Superior, U. Carlos III, Spain

BP-5

Chromium Nitride Coatings Produced by Physical Vapor Deposition for Anti-Abrasive Flat Stainless Steel, A. DOUARD, M. PIERRE, F. TENAILLEAU, ArcelorMittal Stainless, France, M.H. BERGER, Ecole des Mines de Paris- ARMINES, France, P. AUBERT, S. LABDI, N. MAITRE, Laboratoire d'études des Milieux Nanométriques - Université d'Evry Val d'Essonne, France, F. CHASSAGNE, J.M. DAMASSE, ArcelorMittal Stainless, France

BP-6

Magnetron Sputtering of Hard Cr-Al-N-O Thin Films, M. STÜBER, U. ALBERS, H. LEISTE, C. ZIEBERT, S. ULRICH, Forschungszentrum Karlsruhe, IMF I, Germany

BP-8

Luminescent Properties of Thin-Film $ZnGa_2O_4$ Phosphors by Facing Targets Sputtering, S.J. KIM, H.H. KWAK, S.J. PARK, K.H. KIM, H.W. CHOI, Kyungwon University, Korea

BP-9

Ionized Magnetron Sputtered Alumina Thin Films, M. SRIDHARAN, P. EKLUND, M.B. SILLASSEN, J. CHEVALLIER, J. BØTTIGER, University of Aarhus, Denmark

BP-10

Thermal Stability and Oxidation Resistance of CrCu(N) Coatings Deposited by Twin-Crucible Electron-Beam Physical Vapour Deposition, K. KANAKIS, University of Sheffield, United Kingdom, C. TSOTSOS, C. REBHOLZ, University of Cyprus, A. LEYLAND, A. MATTHEWS, University of Sheffield, United Kingdom

BP-11

Improving Corrosion Performance of CrTiAlN Coating by Sealing Detrimental Defects, Q. YANG, National Research Council Canada, F. CAI, Carleton University, Canada, L.R. ZHAO, National Research Council Canada, X. HUANG, Carleton University, Canada

BP-12

Synthesis of Diamond Films by Pulsed Liquid Injection CVD Using Organic Compounds, J. MORALES, Universidad Autónoma de Nuevo Leon, Mexico, L.M. APATIGA, V.M. CASTAÑO, Universidad Nacional Autónoma de México

BP-14

Tribological Behaviors of Ti-Al-O-N Thin Films by Cathodic Arc Evaporated Process, W.-Y. HO, S.-H. SHIEH, C.-L. CHANG, D.-Y. WANG, Mingdao University, Taiwan

BP-15

Grain Boundary Scattering for Temperature Coefficient of Resistance (TCR) Behavior of Ta-Si-N Thin Films, C.K. CHUNG, A. NAUTIYAL, T.S. CHEN, National Cheng Kung University, Taiwan

BP-16

Preparation of Titanium Oxynitride Thin Films by Reactive Sputtering Using Air/Ar Mixtures, M.-H. CHAN, F.-H. LU, National Chung Hsing University, Taiwan

BP-17

Effect of Magnetic Field Strength on The Mechanical Properties of CrN Film Deposited by Unbalanced Magnetron Sputtering, Y.-S. YANG, W. HUANG, National Kaohsiung First University of Science and Technology, Taiwan, P.-H. WANG, I-Shou University, Taiwan

Thursday Afternoon Poster Sessions

BP-18

Development of Artificial Neural Networks for the Friction Coefficient on Cr_{1-x}Al_xC Films Deposited by Unbalance Magnetron Sputtering, Y.-S. YANG, T.-C. FU, W. HUANG, National Kaohsiung First University of Science and Technology, Taiwan, G.-W. LI, Everest Textile Co., Ltd., Taiwan

BP-19

Synthesis and Characterization of Nano-Composite Ti-Si-N Hard Coating by Filtered Cathodic Arc Plasma Evaporation, C.-L. CHANG, Mingdao University, Taiwan, J.-H. CHEN, P.-C. TSAI, National Formosa University, Taiwan, W.-Y. HO, D.-Y. WANG, Mingdao University, Taiwan

BP-20

Electric-Pulse-Induced Resistance Switching in CaCu₃Ti₄O₁₂ Films Grown by RF-Sputter, L.-C. CHANG, Huafan University, Taiwan, F.B. WU, National United University, Taiwan

BP-21

Annealing Study of Mo-Ru Hard Coatings on Tungsten Carbide, Y.I. CHEN, National Taiwan Ocean University, Taiwan, L.-C. CHANG, Mingchi University of Technology, Taiwan, J.-W. LEE, Tung Nan University, Taiwan, Y.-C. KUO, National Taiwan University of Science of Technology, Taiwan, C.-J. WANG, National Taiwan University of Science and Technology, Taiwan

BP-23

Deposition of High-Quality Hydrogenated Amorphous Silicon Films by MWECR-CVD System With Hotwire Assistance, G. CHEN, J. DENG, Beijing University of Technology, China

BP-25

Corrosion Behaviour of the SAE-4140 Steel Implanted With Nitrogen Ions in Hydrogen Environments, S. LISCANO, Unexpo Vicerectorado Puerto Ordaz, Venezuela, E. NIÑO, Universidad Industrial de Santander, Colombia, L. GIL, Unexpo Vicerectorado Puerto Ordaz, Venezuela, V. JABON, Universidad Industrial de Santander, Colombia

BP-26

Synthesis and Mechanical Properties of Cr-Mo-Si-C-N Coatings by a Hybrid Coating System, J.H. YUN, K.H. KIM, Pusan National University, Korea

BP-27

Influence of Substrate Bias Voltage on Microstructure and Mechanical Properties of Cr-Mo-Si-N Coatings, S.G. HONG, K.H. KIM, Pusan National University, Korea

BP-28

Effect of Thermal Treatment on Resistive Switching Characteristics in Pt/Ti/Al₂O₃/Pt Devices, S.-Y. WANG, C.-Y. LIN, M.-H. LIN, C.-C. LIN, T.-Y. TSENG, National Chiao Tung University, Taiwan

BP-29

Magnetron-Assisted Inner Coating Process, D. HAGEDORN, F. LÖFFLER, R. MEEB, Physikalisch-Technische Bundesanstalt, Germany

BP-30

Ferroelectric Properties of (Pb_{1-x}La_{0.08})(Zr_{0.65}Ti_{0.35})O₃ (PLZT) on TiO₂/Pt/Ti/SiO₂/Si Substrate According to Various Post-Annealing Temperature of TiO₂ Buffer Layer, J.-E. YOON, Y.-G. SON, Pusan National University, Korea

BP-31

Evaluation on Composition, Homogeneity, and Hardness of High Phosphorus Content Electrodeposited Nickel-Phosphorus Binary Coatings, Y.M. SU, Z.Y. CHI, J.J. WU, T.H. WU, F.B. WU, National United University, Taiwan

BP-32

The Effect Post Annealing and Various Substrate of Ba_{0.5}Sr_{0.5}TiO₃ (BST) Thin Films Deposited by R.F. Magnetron Sputtering, I.-S. LEE, J.-E. YOON, W.-H. CHA, C.-S. LEE, Y.-G. SON, Pusan National University, Korea

BP-33

From Laboratory to Industrial Scale - Comparison of Simulation and Plasma Diagnostic Investigation of the Reactive Sputter Deposition of Alumina on Different Coating Units, K. BOBZIN, N. BAGCIVAN, P. IMMICH, D. PARKOT, RWTH Aachen University, Germany

BP-34

Theoretical and Experimental Study of the B-CI-H Subsystem for the CVD of Borides, G. REINISCH, University Bordeaux 1, France, J.M. LEYSSALE, CNRS, France, N. BERTRAND, G.L. VIGNOLES, University Bordeaux 1, France, G. CHOLLON, F. LANGLAIS, CNRS, France, R. MÉREAU, University Bordeaux 1, France

BP-35

Thermal and Tribological Investigation of Al₂O₃-Thin Films for Their Use in Cutting Operations, K. BOBZIN, N. BAGCIVAN, P. IMMICH, S. BOLZ, M. EWERING, RWTH Aachen University, Germany

BP-37

Investiation of Substrate Bias Effects on the Reactively Sputtered ZrN Diffusion Barrier Films, J.-L. RUAN, National Cheng-Kung University, Taiwan, D.-F. LII, Cheng Shiu University, Taiwan, J.S. CHEN, J.-L. HUANG, National Cheng-Kung University, Taiwan

BP-38

Microstructuring of Superhard Pulsed Laser Deposited ta-C Films Using Excimer and Femtosecond Laser Pulses, G. REISSE, S. WEISSMANTEL, D. ROST, R. BOETTCHER, M. NIEHER, A. ENGEL, University of Applied Sciences Mittweida, Germany

BP-39

Silicon Dioxide Films Fabricated by an End-Hall Ion Source Using Hexamethyldisiloxane, T. ICHINOHE, Tokyo National College of Technology, Japan, M. OOSHIMA, K. HARADA, N. AKASAKA, S. MASAKI, K. KAWASAKI, TDY, Inc., Japan

BP-41

Effects of Indium-Doped on the Crystallization and Optical Properties fo ZnO Thin Films Prepared by the Sol-Gel Method, K.-J. CHEN, S.-J. CHANG, F.-Y. HUNG, National Cheng Kung University, Taiwan, T.-H. FANG, National Formosa University, Taiwan

BP-42

Plasma Over-Treatment Effect on MOCVD-TiN Contact Glue Layer, S.-C. CHANG, J.K. HUANG, National Cheng Kung University, Taiwan, Y.-L. WANG, Taiwan Semiconductor Manufacturing Company Ltd., Taiwan

BP-43

Synthesis and Characterization of Multilayer CrN/ZrN Thin Films Using Closed-Field Unbalanced Magnetron Sputtering Process, M.G. KIM, S.Y. LEE, Korea Aerospace University, Korea, W.Y. JEUNG, Korea Institute of Science and Technology, Korea, J.J. LEE, Seoul National University, Korea

BP-45

Thermal Stability and Oxidation Resistance of (Cr,Al)N Based Coatings Deposited by Cathodic Arc Method, H. HASEGAWA, Okayama University, Japan, H. EZURA, N. FUKUMOTO, Keio University, Japan, K. OHASHI, S. TSUKAMOTO, Okayama University, Japan, T. SUZUKI, Keio University, Japan

BP-47

Comparison of the Corrosion Resistance of Commercial Multilayers TiAlN, AlCrSiN, AlCrN and CrN Coatings, L. GIL, Unexpo Vicerectorado Puerto Ordaz, Venezuela, E. LE BOURHIS, Universite de Poitiers, Laboratoire de Métallurgie Physique, France, L. JIMENEZ, Universidad Nacional Experimental Politécnica (UNEXPO), Venezuela, E.S. PUCHI, M.H. STAIA, Universidad Central de Venezuela

BP-48

Deposition Process Analysis of Chromium Nitride Thin Films Using Taguchi Experimental Design Method, J.-W. LEE, C.M. CHEN, J.C. HUANG, Tung Nan University, Taiwan, L.-C. CHANG, Huafan University, Taiwan, J.-S. YANG, Tung Nan University, Taiwan

BP-49

Corrosion Ristance of Multi-Elemental Nanocrystalline Nitride Based Sputtered Coatings, O. JIMENEZ, M. AUDRONIS, A. LEYLAND, A. MATTHEWS, University of Sheffield, United Kingdom

BP-50

Low Resistance, Transparent and Flexible Amorphous ITO Electrode Grown by Roll-to-Roll Sputtering System, K.-H. CHOI, H.-K. KIM, S.-W. CHO, Kumoh National Institute of Technology, Korea

Thursday Afternoon Poster Sessions

BP-51

High-Performance Phosphorescent Organic Light-Emitting Diodes Prepared Using an Amorphous Indium Zinc Oxide Anode Film Grown by Box Cathode Sputtering, H.-K. KIM, Kumoh National Institute of Technology, Korea, J.-W. KANG, Korea Institute of Materials Science (KIMS), Korea

BP-52

Plasma Damage Free Sputtering of Al Cathode on Organic Light Emitting Diodes Using Twin Target Sputtering With Ladder Shape Magnet Array, J.-A. JEONG, H.-K. KIM, Kumoh National Institute of Technology, Korea

BP-53

Formation of Low Resistance Ni-Alloy Ohmic Contact to Pentacene for Organic Thin Film Transistors, H.-K. KIM, Kumoh National Institute of Technology, Korea, J.-H. JANG, J.-J. KIM, Seoul National University, Korea, J.-A. JEONG, Kumoh National Institute of Technology, Korea

BP-54

Functionally Graded Nano Structured TiNi Shape Memory Thin Films, D. KAUR, A. KUMAR, Indian Institute of Technology Roorkee, India

BP-56

A Novel Pulsing Method for the Enhancement of the Deposition Rate in High Power Pulsed Magnetron Sputtering, S.-H. SEO, J.-H. IN, H.-Y. CHANG, Korea Advanced Institute of Science and Technology, Korea

BP-57

Study of Thin Film Deposition Conditions in Various Types of Magnetron Discharges, P. JEDRZEJOWSKI, S. NAVALA, C. COTE, C. ROBADO, A. SARKISSIAN, Plasmionique Inc., Canada

BP-58

Effect of Hydrogen Content on the Corrosion Resistance of DLC Coating on 316L for Biomedical Implants, L. JIMENEZ, Universidad Nacional Experimental Politécnica (UNEXPO), Venezuela, M.H. STAIA, E.S. PUCHI, Universidad Central de Venezuela, J. MARCUZZO, Instituto Tecnológico de Aeronáutica ITA, Venezuela

BP-59

Investigation of the Microstructure and Characterizations of TiN/CrN Nano-Multilayer Deposited by Unbalanced Magnetron Sputter Process, C.-Y. SU, T.-P. LIOU, National Taipei University of Technology, Taiwan, J.-S. SU, Lang Yang Institute of Technology, Taiwan, P.-T. CHEN, Pentad Scientific Corporation, Taiwan, C.-K. LIN, Feng Chia University, Taiwan

BP-61

Controlled Fluorination of a-C:F:H Films by PECVD of Ethylene-Hexafluorobenzene Mixtures, B.B. BELLOTTI, Universidade Estadual Paulista, Brazil, C.U. DAVANZO, Universidade Estadual de Campinas, Brazil, W. SCHREINER, Universidade Federal de Parana, Brazil, S.F. DURRANT, Universidade Estadual Paulista, Brazil

BP-62

GaN-Core/SiO_x-Sheath Nanowires, H.W. KIM, J.W. LEE, H.S. KIM, M.A. KEBEDE, M.H. KONG, Inha University, Korea

Optical Thin Films

Room: Town & Country - Session CP

Symposium C Poster Session

5:00 – 7:00 pm

CP-1

Surface Potential Pumping for High Frequency Capacitance-Voltage of MOS Capacitor Under Optical Illumination, F.-Y. JIAN, A.-K. CHU, National Sun Yat Sen University, Taiwan, M.-L. LIAO, Air Force Institute of Technology, Taiwan, C.-M. CHANG, UMC (United Microelectronic Corporation), Taiwan, T.-C. CHANG, National Sun Yat Sen University, Taiwan

CP-2

Synthesis of ITO Thin Films on Polymer Substrate Using In-Line Sputtering System, Y.S. JUNG, K.H. KIM, Kyungwon University, Korea, M.J. KEUM, J.G. HAN, Sungkyunkwan University, Korea

CP-3

Hard Transparent Conducting Doped Titania Oxide Films, K.H. HUNG, Y.J. TSAI, P.W. CHOU, T.K. CHEN, M.S. WONG, National Dong Hwa University, Taiwan

CP-4

Transparent Conductive Properties of Sputtered ZnO Thin Films, S.-N. BAI, Chienkuo Technology University, Taiwan, T.-Y. TSENG, National Chiao Tung University, Taiwan

CP-5

Carbon Nanotube Incorporated Direct-Patternable SnO₂ Thin Film Formed by Photochemical Metal-Organic Deposition, H. KIM, H.-H. PARK, Yonsei University, Korea, H. JEON, Hanyang University, Korea, H.J. CHANG, Dankook University, Korea

CP-6

Properties of Tn Doped Indium Oxide Films Prepared on Flexible Substrates Using a Dual Magnetron Sputtering System, D.-G. KIM, S.-H. LEE, J.-K. KIM, J.-W. KANG, Korea Institute of Materials Science (KIMS), Korea

CP-7

Characteristics of Amorphous Indium Zinc Oxide Thin Films Grown on Flexible Substrates at Room Temperature, Y.S. RIM, S.M. KIM, H.H. YOON, H.W. CHOI, K.H. KIM, Kyungwon University, Korea

CP-8

Properties of Inert Gas RF Plasma-Treated ITO Deposited by Pulsed Magnetron Sputtering, A.N. REED, Wright State University/Air Force Research Laboratory/RXBT / University of Dayton, J.G. JONES, Air Force Research Laboratory (AFRL/RXBT), C. MURATORE, Air Force Research Laboratory (AFRL/RXBT)/UTC, Inc., A.R. WAITE, Air Force Research Laboratory (AFRL/RXBT)/University of Dayton/UTC, Inc., D.T. PETKIE, Wright State University

CP-9

Synthesis and Characterization of ZnO and ZnO:Al Nanocrystalline Films Obtained by the Sol-Gel Dip-Coating Process, C.D. BOJORGE, REPSOL-YPF, CITEFA, CINSO, Argentina, E. BROITMAN, Carnegie Mellon University, H.R. CÁNEPA, Conicet, Citefa, Argentina, J.A. BADÁN, E.A. DALCHIELE, R.E. MAROTTI, Universidad de la República, Uruguay, J.B. MILLER, A.J. GELLMAN, Carnegie Mellon University

CP-10

Ellipsometer Analysis in the n-k Plane for Unknown Substrates, F.K. URBAN, D. BARTON, Florida International University

CP-11

Influences of Silicon Nano-Crystallized Structure on the Optical Performance of Silicon Oxynitride Rib Type Waveguide, W.-J. LIU, I-Shou University, Taiwan, P.-H. LEE, C.M. CHEN, Y.-C. LAI, National Cheng-Kung University, Taiwan, M.-H. WENG, National Nano Device Laboratories, Taiwan

CP-12

Effect of Annealing Processing on Physical Characteristics of Nanostructured Indium-Tin-Oxide Films by Sputtering, H.S. KOO, C.-C. PENG, W.-C. SHIH, Minghsin University of Science and Technology, Taiwan

CP-13

Development of ZnO Based Single and Multilayer Transparent Conductive Coatings, D.R SAHU, J.-L. HUANG, National Cheng Kung University, Taiwan

CP-14

Electronic and Optical Properties of Nano-Crystallize TiO₂ Thin Film After Metal Ion Implantation, Y.-N. SHIEH, Y.-Y. CHANG, C.-J. SU, D.-Y. WANG, Mingdao University, Taiwan

Thursday Afternoon Poster Sessions

CP-15

Study of the Luminescent Emission in Silicon Based Multilayer Systems Grown by PECVD Technique, M. RIBEIRO, I. PEREYRA, University of São Paulo, Brazil

CP-16

To Suppress Photo Leakage Current of Low Temperature Polysilicon TFT, H.Y. LU, National Chiao Tung University, Taiwan, T.-C. CHANG, National Sun Yat Sen University, Taiwan, P.-T. LIU, National Chiao Tung University, Taiwan, C.W. HU, AU Optronics Corporation, Taiwan, S. CHI, National Chiao Tung University, Taiwan

CP-17

Effect of Various Metal Nanoparticles on the Poly(p-phenylene vinylene)(PPV) Precursor, C.Y. LEE, S. YOON, H.-H. PARK, Yonsei University, Korea

CP-18

Effect of Sputtering Power on the Photocatalytic Activity of Facing Target Sputter Deposited TiO₂ Thin Films, M.F. HOSSAIN, S. BISWAS, University of Toyama, Japan, K. TAKAHASHI, University of Tokyo Hospital, Japan, T. TAKAHASHI, University of Toyama, Japan, Y. KUBOTA, University of Yokohama City, Japan, A. FUJISHIMA, Kanagawa Academy of Science and Technology, Japan

CP-19

The Driving Performance of Organic Light Emitting Diodes With Ba/Al Cathode and the Effect of Ba Thickness by Measuring Built-In Potential, J.T. LIM, G.Y. YEOM, Sungkyunkwan University, Korea

CP-21

OLED Based on Novel Rare-Earth Tetrakis(β-diketone) Molecular Complexes, W.G. QUIRINO, C. LEGNANI, Inmetro - National Institute of Metrology, Standardization and Industrial Quality, Brazil, M. CREMONA, R.M.B. SANTOS, PUC-Rio, Brazil, M.A. GUEDES, H.F. BRITO, IQ-USP - University of São Paulo, Brazil, K.C. TEIXEIRA, PUC-Rio, Brazil

CP-22

Synthesis of Silicon Oxide Barrier Thin Film Using Pulsed Magnetron Sputtering on Pre-Treated Polymer Substrates by ICP, T.J. BYUN, K.S. SHIN, Sungkyunkwan University, Korea, Y. SETSUHARA, Osaka University, Japan, J.G. HAN, Sungkyunkwan University, Korea

CP-23

Manganese Activated Photoluminescence and Alternating Current Electroluminescence of Zinc Gallate Thin Films, J.H. HEO, J.H. KIM, Chungbuk National University, Korea

CP-24

Raman Inspection for the Annealing Induced Evolution of sp² and sp³ Bonding Behavior in Sandwiched Si/C/Si Multilayers, C.K. CHUNG, C.W. LAI, C.C. PENG, B.H. WU, National Cheng Kung University, Taiwan

CP-25

Effects of Substrate Temperature on the Microstructure and Electrochromic Properties of Tungsten Oxide Films Prepared by Reactive Magnetron Sputtering, H.-H. LU, National Chin-Yi University of Technology, Taiwan

CP-26

Improvement of Secondary Electron Emission Coefficient of MgO Protecting Layers for PDPs by Addition of GeO₂, SnO₂, L.Y. CHEN, T. IKAWA, A. NAKAO, S.H. HSIAO, Y. TANAKA, A. IDE-EKTESSABI, Kyoto University, Japan

CP-27

Effect of Rapid Thermal Annealing on the Properties and Hydrophilic Behavior of TaO_xN_y Thin Films, J.H. HSIEH, C.C. CHANG, Mingchi University of Technology, Taiwan

Carbon and Nitride Materials: Synthesis-Structure-Property Relationships

Room: Town & Country - Session DP

Symposium D Poster Session

5:00 – 7:00 pm

DP-1

Low-Stress, Adherent Cubic Boron Nitride Films with Oxygen Addition, J. YE, S. ULRICH, C. ZIEBERT, Forschungszentrum Karlsruhe, IMF I, Germany

DP-3

Size and Temperature Dependent Surface CO Stretching Frequency Investigation on Nanodiamonds, C.D. CHU, J.S. TU, E. PEREVEDENTSEVA, C.L. CHENG, National Dong Hwa University, Taiwan

DP-4

High Quality Nanocrystalline Diamond Films Grown by Down-Flow Microwave Plasma-Assisted Chemical Vapor Deposition, H. GAMO, Toppan Printing Co. Ltd., Japan, K. SHIMADA, T. SHIBASAKI, Toyo University, Japan, T. ANDO, National Institute for Materials Science (NIMS), Japan, N.M. GAMO, Toyo University, Japan

DP-5

High-Resolution Electron Microscopic Observation at the Interface Between the Diamond-Supported Metal Catalysts and the Carbon Nanomaterials Produced from the Metal-Catalyzed Decomposition of Lower Hydrocarbons, M. NISHITANI-GAMO, K. NAKAGAWA, M. KIKUCHI, Y. HATANAKA, Toyo University, Japan, H. GAMO, Toppan Printing Co. Ltd., Japan, T. ANDO, National Institute for Materials Science (NIMS), Japan

DP-6

Direct Growth of Carbon Nanotubes on a Micro-Sized Cobalt Tip and Characterization of Electron-Emission Properties, J.P. KIM, Y.K. KIM, C.K. PARK, Hanyang University, Korea, H.Y. CHOI, J.U. KIM, Electro-Fusion Technology Research Div., KERI, Korea, J.S. PARK, Hanyang University, Korea

DP-7

Tribological and Corrosion Properties of DLC Films Deposited by Laser Induced High Current Pulsed Arc Deposition, J.-B. WU, Z.-Y. CHEN, Material and Chemical Research Laboratories, Industrial Technology Research Institute, Taiwan, M. LI, National Nano Device Laboratories, Taiwan, C.-T. SHIN, M.-S. LEU, A.-K. LI, Material and Chemical Research Laboratories, Industrial Technology Research Institute, Taiwan

DP-8

Deposition of Wide Band Gap DLC Films Using R.F. PECVD, P.K. BARHAI, R. SHARMA, S. CHATTOPADHYAY, Birla Institute of Technology, India, B.B. NAYAK, Regional Research Laboratory, India

DP-9

Characterization of SP³-Rich Diamond-Like Carbon Film Synthesized by a Cathodic Arc Activated Deposition Process, W.C. LIN, D.-Y. WANG, Mingdao University, Taiwan

DP-10

Preparation of Si-Incorporated DLC Thin Film in T-Shape Filtered Arc Deposition System, M. KAMIYA, H. TANOUE, T. MASHIKI, H. TAKIKAWA, Toyohashi University of Technology, Japan, M. TAKI, Y. HASEGAWA, Onward Ceramic Coating Co., Ltd., Japan, M. KUMAGAI, Kanagawa Industrial Technology Research Center, Japan

DP-11

Preparation and Properties of Amorphous Carbon Films on PEEK (Poly Aryl-Ether-Ether-Ketone) by Plasma Ion Immersion Implantation and Deposition, M. XU, Z. WEI, S.H. PU, P.K. CHU, City University of Hong Kong

DP-12

Instability of a Droplet Between Nano-scale Dual Rough Surfaces Coated With Hydrophobic DLC Films, T.-G. CHA, Seoul National University, Korea, J.W. YI, Korea Institute of Science and Technology, Republic of Korea, M.W. MOON, Korea Institute of Science and Technology, Korea, H.-Y. KIM, Seoul National University, Korea, K.-R. LEE, Korea Institute of Science and Technology, Korea

Thursday Afternoon Poster Sessions

DP-13

Effects of Energy Dispersion on the Atomic Structure of ta-C Films: Molecular Dynamics Study, K.S KIM, Korea Institute of Science and Technology / Kookmin University, Korea, S.C. LEE, K.-R. LEE, Korea Institute of Science and Technology, Korea, P.R CHA, School of Advanced Materials Engineering, Kookmin University

DP-14

The Tribological Behaviour of Artificial Joint Coated With Diamond-Like Carbon Films Deposited by Plasma Immersion Ion Implantation, w.F. TSAI, Institute of Nuclear Energy Research, Taiwan, S.L. TU, National Yang Ming University, Taiwan, C.F. ALI, Institute of Nuclear Energy Research, Taiwan, R. TSAY, Nation Yang Ming University, Taiwan

DP-15

The Mechanical Stability of a Diamond-Like Carbon Coated Nitinol Vascular Stent Under Cyclic Loading, H.-J. KIM, Seoul National University, Korea, M.W. MOON, K.-R. LEE, Korea Institute of Science and Technology, Korea, K.-H. OH, Seoul National University

DP-17

Mechanical Properties Evaluation of Titanium-Containing Diamond-Like Carbon Films Deposited by Cathodic Arc Plasma, P.-C. TSAI, National Formosa University, Taiwan, J.-Y. CHIANG, AU Optronics Corporation, Taiwan, Y.-F. HWANG, Chienkuo Technology University, Taiwan, J.C. HUANG, J.-W. LEE, Tung Nan University, Taiwan

DP-18

Effect of Coupling Agent and TiO₂ on Surface Composition and Characteristics of Polyimide/TiO₂ Hybrid Films, M.-H. TSAI, S.-J. LIU, National Chin-Yi University of Technology, Taiwan, P.-C. CHIANG, C.-H. CHAO, Mingdao University, Taiwan, P.-J. CHEN, National Chin-Yi University of Technology, Taiwan

DP-21

Synthesis of Ti₂AlN Thin Films by Plasma Nitridation of Titanium Aluminides, T. CABIOCH, F. PAILLOUX, M. JAOUEN, University of Poitiers, France

DP-23

Influence of Substrate Bias on the Morphology and Field Emission Properties of AlN Thin Films Grown at Low Temperatures, R.S. PESSOA, H. TOKU, M.A. FRAGA, H.S. MACIEL, M. MASSI, A.S. DA SILVA SOBRINHO, Technological Institute of Aeronautics, Brazil, L.V. SANTOS, INPE/MCT-Instituto Nacional de Pesquisas Espaciais, Brazil

DP-24

Electron-Emission Properties of Titanium Carbide-Coated Carbon Nanotubes Grown on a Nano-Sized Tungsten Tip, Y.K. KIM, J.P. KIM, C.K. PARK, S.J. YUN, W. KIM, J.S. PARK, Hanyang University, Korea

Tribology and Mechanical Behavior of Coatings and Thin Films
Room: Town & Country - Session EP

Symposium E Poster Session

5:00 – 7:00 pm

EP-2

The Analysis of the Adhesive System Used for Bonding Polyimide and Copper Foil in the Flexible Circuit Board, M.T. YEH, Yuan-Ze University, Taiwan

EP-3

Nano-Lamination in Amorphous Carbon for Tailored Coating in Micro-Dry Stamping of AISI-304 Stainless Steel Sheets, T.A. AIZAWA, Osaka Prefecture University, Japan, E.I. IWAMURA, Arakawa Chemicals Co. Ltd., Japan, K.I. ITOH, Seki-Corporation Co. Ltd., Japan

EP-5

Characteristics of Microcrystalline Silicon Thin Films Deposited by Using Internal Linear-Type Inductively Coupled Plasma-CVD, H.C. LEE, H.B. KIM, G.Y. YEOM, Sungkyunkwan University, Korea

EP-7

The Tribological Properties of Vehicle Power Engines Applied with Composite Zirconium Diamond-Like Carbon Film, C. LIN, C. SU, C. CHANG, National Taipei University of Technology, Taiwan

EP-8

Development of Zirconium Oxynitride Thin Films on Si(100) by HCD-IP System and Heat Treatment, S.-J. WANG, J.-H. HUANG, G.-P. YU, National Tsing Hua University, Taiwan

EP-9

Characterization of Amorphous and Crystalline Metallic Glass Thin Films Deposited by Unbalanced Magnetron Sputtering System, C.-C. TSAI, National Tsing Hua University, Taiwan, P.-K. LIAW, The University of Tennessee, J.-H. HUANG, G.-P. YU, National Tsing Hua University, Taiwan

EP-10

Determination of Young's Modulus and Poisson's Ratio of Thin Films by Combining Modified $\sin^2 \psi$ X-ray Diffraction and Laser Curvature Methods, J.-Y. CHANG, J.-H. HUANG, G.-P. YU, National Tsing Hua University, Taiwan

EP-11

Influence of Plasma Nitriding Treatment Time on the Load-Carrying Capacity of AISI 4140 Steel in Duplex Plasma Diffusion/PVD-Coating Systems, S. GOULART-SANTOS, C. GODOY, R.D. MANCOSU, Universidade Federal de Minas Gerais, Brazil, A. LEYLAND, A. MATTHEWS, University of Sheffield, United Kingdom

EP-14

Control of Magnetron Sputtered MoS₂ Coating Orientation in Mid-Frequency Pulsed Deposition Processes, C. MURATORE, Air Force Research Laboratory (AFRL/RXBT)/UTC, Inc., A.A. VOEVODIN, Air Force Research Laboratory

EP-15

Tensile Testing Experiments of Photocatalytic TiO₂ Thin Films Deposited on Polymer Substrates, C.J. TAVARES, S.M. MARQUES, S. LANCEROS-MENDEZ, V. SENCADAS, C.M. COSTA, University of Minho, Portugal

EP-17

Surface Texturing by Using Reactive Ion Etching for Adaptive Solid Lubricant, P. BASNYAT, B. LUSTER, S. AOUADI, Southern Illinois University Carbondale, C. MURATORE, Air Force Research Laboratory (AFRL/RXBT)/UTC, Inc., A.A. VOEVODIN, Air Force Research Laboratory, P. KOHLI, Southern Illinois University Carbondale

EP-18

Tribology and Mechanical Behavior of CrN / a - CN Superlattice Thin Films, Y.J. KIM, T.J. BYUN, Sungkyunkwan University, Korea, H.Y. LEE, Cheorwon Plasma Research Institute, Korea, J.G. HAN, Sungkyunkwan University, Korea

Thursday Afternoon Poster Sessions

Advanced Characterization of Coatings & Thin Films

Room: Town & Country - Session FP

Symposium F Poster Session

5:00 – 7:00 pm

- FP-1
Characterization of Interface Between the Hf-Based High-K Thin Film and Si Using Spatially Resolved Electron Energy Loss Spectroscopy, X.F. WANG, Q. LI, The Chinese University of Hong Kong, China
- FP-3
Structural and Electrical Properties of Strained $\text{Ba}_{0.5}\text{Sr}_{0.5}(\text{Ti},\text{Mn})\text{O}_3$ Thin Films Buffered With $\text{La}_{0.68}\text{Ba}_{0.32}\text{MnO}_3$ Conductive Layers, Y.-C. LIANG, Chienkuo Technology University, Taiwan, Y.-C. LIANG, University of Southern California
- FP-4
Adhesion and Interfacial Characteristics of Metal/PI Composite Film Modified by O_2 Ion Beam, W.J. LEE, Korea Institute of Science and Technology, Y.B. KIM, Korea Institute of Science and Technology, KIST, Korea
- FP-5
The Characterization of Cuprous Oxide Films Prepared by Post-Annealing of Cupric Oxide Under Atmospheric Nitrogen Pressure Plasma Torch, H.-Y. CHEN, L.-T. KUO, National Kaohsiung University of Applied Sciences, Taiwan, S. HAN, National Taichung Institute of Technology, R.O.C., C.-H. TSAI, National Kaohsiung University of Applied Sciences, Taiwan
- FP-6
The Evaluation of Created Circumferential Gap Defect Around Dental Implants According to Implant Surface, Defect Width and Defect Morphology, S.U. IM, J.Y. HONG, G.J. CHAE, U.W. JUNG, C.S.K KIM, Y.K. LEE, K.S. CHO, C.K. KIM, S.H. CHOI, Yonsei University College of Dentistry, Korea
- FP-7
The Histometric Analysis of Osseointegration in Hydroxyapatite Surface Dental Implants by Ion Beam-Assisted Deposition, M.K. KIM, J.Y. CHOI, G.J. CHAE, U.W. JUNG, I.S. LEE, K.S. CHO, C.K. KIM, S.H. CHOI, Yonsei University College of Dentistry, Korea
- FP-8
Residual Stresses in Thermally Cycled Cr-CrN Coatings on Si(100) and on Steel, K.J. MARTINSCHITZ, C. KIRCHLECHNER, Austrian Academy of Sciences, Austria, R. DANIEL, C. MITTERER, J. KECKES, University of Leoben, Austria
- FP-9
Characterization of Intermetallics Formed in Fe/Ti Nanometer-Scale Multilayers During Thermal Annealing, Z.L. WU, B.S. CAO, T.X. PENG, M.K. LEI, Dalian University of Technology, China
- FP-10
High-Temperature X-ray Elastic Constants Determined by the Combination of $\sin^2\psi$ and Substrate Curvature Methods, K.J. MARTINSCHITZ, C. KIRCHLECHNER, Austrian Academy of Sciences, Austria, J. KECKES, University of Leoben, Austria
- FP-11
Reliability Behavior of a-Si:H TFTs Under Drain DC/AC Operation, Y.H. TAI, S.C. HUANG, M.H. TSAI, National Chiao Tung University, Taiwan
- FP-12
Application of the Copper as the Recombination Centers on TFT-LCD to Suppress the Photo Leakage Current, H.W. LI, Y.H. TAI, National Chiao Tung University, Taiwan, T.-C. CHANG, National Sun Yat Sen University, Taiwan, C.C. LING, National Tsing Hua University, Taiwan
- FP-13
Study on Electrical Properties of ZrZnO Thin Film Transistor With Dual Stacks of Gate Dielectrics, P.-T. LIU, Y.T. CHOU, H.W. LI, Y.C. KUO, National Chiao Tung University, Taiwan, T.-C. CHANG, National Sun Yat Sen University, Taiwan, L.F. TENG, National Chiao Tung University, Taiwan, F.J. LUO, AU Optronics, Taiwan, B.C. HUANG, J.S. CHIUAN, CCY YU, Industrial Technology Research Institute, Taiwan
- FP-14
In - Situ Mechanical Characterization of the Tin/NbN, NbN/CrN and TiN/CrN Multilayer Coatings, K.A. RZEPIEJEWSKA-MALYSKA, M. PARLINSKA-WOJTAN, Swiss Federal Institute for Materials Testing and Research (EMPA), Switzerland, Z. RYMUZA, Warsaw University of Technology, Poland, J. MICHLER, Swiss Federal Institute for Materials Testing and Research (EMPA), Switzerland
- FP-15
Physical and Electrical Characteristics of $\text{Ba}(\text{Zr}_{0.1}\text{Ti}_{0.9})\text{O}_3$ Ferroelectric Thin Films Deposited on ITO Substrate Under the Different Temperature, K.-H. CHEN, Tung-Fang Institute of Technology, Taiwan, C.-F. YANG, National University of Kaohsiung, D.-W. CHOU, Air Force Institute of Technology, Taiwan
- FP-16
Microstructure and Corrosion Properties of Nano-Composite Cr-Al-Si-N Coating by Reactive DC Unbalanced Magnetron Sputtering, C.-L. CHANG, C.-J. SHEN, Mingdao University, Taiwan, J.-W. LEE, Tung Nan University, Taiwan, D.-Y. WANG, Mingdao University, Taiwan
- FP-17
The Interfacial Hysteretic Stress Study for Copper and Low-K Process Application Beyond the Nano-Scale Interconnect, Y.-L. WANG, K.-W. CHEN, Taiwan Semiconductor Manufacturing Company Ltd., Taiwan
- FP-18
Characteristics of Colossal Magnetoresistance Thin Films Deposited at Low Substrate Temperature by RF Magnetron Sputtering, S.G. CHOI, T.J. HA, A.SIVASANKAR REDDY, Yonsei University, Korea, B.G. YU, Electronics and Telecommunication Research Institute, Korea, H.-H. PARK, Yonsei University, Korea
- FP-19
Schottky Barrier Characterization of Lead Phthalocyanine/Aluminium Interfaces, T. SADAT-SHAFAI, Staffordshire University, United Kingdom
- FP-20
The Effects of Hydroxyapatite Nano-Coating Implants on Healing of Surgically Created Circumferential Gap in Dogs, G.J. CHAE, J.Y. CHOI, Yonsei University College of Dentistry, Korea, S.M. JUNG, Dentium Co., Korea, I.S. LEE, K.S. CHO, C.K. KIM, S.H. CHOI, H.-C. LIM, Yonsei University College of Dentistry, Korea
- FP-21
Nanometer Scale Mechanical Property Evaluation of Various Cured Lubricant and DLC Film Coated Magnetic Disks by Forced Modulation Atomic Force Microscopy, W. KUROSAKA, S. MIYAKE, Nippon Institute of Technology, Japan
- FP-22
Application of Fluorine Doped Oxide (SiOF) Spacers for Improving Reliability in Low Temperature Polycrystalline Thin Film Transistors, L.-W. FENG, National Chiao Tung University, Taiwan, T.-C. CHANG, National Sun Yat Sen University, Taiwan, P.-T. LIU, C.-H. TU, National Chiao Tung University, Taiwan, Y.-C. WU, National Tsing-Hua University, Taiwan, C.-Y. YANG, C.-Y. CHANG, National Chiao Tung University, Taiwan
- FP-24
Deposition of Fe-Nb Powder Mixtures with Plasma Transferred Arc, A.S.C.M D'OLIVEIRA, J. MANICA, E.H. TAKANO, Federal University of Paraná, Brazil
- FP-25
Nano-Sized Amorphous Tungsten Oxide Films for Gas Sensing Applications, C.-Y. SU, National Taipei University of Technology, Taiwan, L.-Y. CHEN, C.-Y. TSAY, Feng Chia University, Taiwan, J.-L. HUANG, National Cheng-Kung University, Taiwan, C.-K. LIM, Feng Chia University, Taiwan
- FP-26
Effects of Post-Annealing Temperature on Electrical Behavior of CCTO Thin Films for Resistance Random Access Memory Application, Y.-S. SHEN, C.-C. HO, National Chiao-Tung University, Taiwan, L.-C. CHANG, Huafan University, Taiwan, B.-S. CHIOU, National Chiao-Tung University, Taiwan
- FP-27
Effects of Al Content and Physical Properties on the Electromagnetic Interference Shielding of Sn-xAl Coating Thin Layers, F.-S. HUNG, F.-Y. HUNG, C.-M. CHIANG, T.-S. LUI, National Cheng Kung University, Taiwan
- FP-28
Evaluation of Actual Crack Size and Morphology of Eco-Friendly Trivalent Chromium Layers by Using Small Angle Neutron Scattering, Y. CHOI, Sunmoon University, Korea

Thursday Afternoon Poster Sessions

Applications, Manufacturing, and Equipment

Room: Town & Country - Session GP

Symposium G Poster Session

5:00 – 7:00 pm

GP-1

Influence of Surfactants on Efficiency of Electroless Ni - P Coating Process, R. ELANSEZHIAN, B. RAMAMOORTHY, P. KESAVAN NAIR, Indian Institute of Technology Madras, India

GP-2

SiO₂ Like Thin Film Deposited by Atmospheric Pressure PECVD Using HMDS/Ar/O₂, J.H. LEE, Y.S. KIM, S.J. KYUNG, J.T. LIM, G.Y. YEOM, Sungkyunkwan University, Korea

GP-3

Internal Linear Inductively Coupled Plasma Source For Ultra Large Area Plasma Processing, J.H. LIM, J.G. PARK, K.N. KIM, G.Y. YEOM, Sungkyunkwan University, Korea

GP-4

Inhibition of Streptococcus Mutans Biofilms Accumulation On Micro-Arc Oxide Films Containing Ca and P of Titanium, M.K. KANG, Yonsei University College of Dentistry, Korea, B.Y. KIM, University of Incheon, K.Y. KIM, MST Technology, Korea, K.N. KIM, Y.K. LEE, Yonsei University College of Dentistry, Korea

GP-5

The Investigation on the Formation of Hydroxyl Radical in Optimal Thin Film Photocatalytic Process, K.S. YAO, C.Y. CHANG, T.A. CHENG, C.Y. CHENG, Mingdao University, Taiwan

GP-6

Nitriding of Titanium Films by Atmospheric Pressure Plasma, H.-Y. CHEN, F.-C. HSIAO, W.-Y. CHANG, C.-H. TSAI, National Kaohsiung University of Applied Sciences, Taiwan

GP-7

Effects of Electroless Nickel Interlayer on Surface Properties of Cr-N-O Arc-Coated ADI, C.-H. HSU, K.-L. CHEN, J.-H. LU, Tatung University, Taiwan

GP-8

Investigation on Junction Between Ordered Mesoporous Silica Film and Copper Metal Electrode, T.J. HA, S.G. CHOI, Yonsei University, Korea, B.G. YU, Electronics and Telecommunication Research Institute, Korea, H.-H. PARK, Yonsei University, Korea

GP-9

Structure and Properties of p-ZnO Evaluated by Rietveld Method at Various Substrate Temperatures, H.-H. HUANG, Cheng Shiu University, Taiwan, C.-C. HUANG, F.-H. WANG, National Chung Hsing University, Taiwan, C.-F. YANG, National University of Kaohsiung, Taiwan

GP-10

Influence of Time Domain Parameters on Unipolar Pulse Plasma System Transition State, I. POPOVIC, M. ZLATANOVIC, Faculty of Electrical Engineering, Serbia

GP-12

Ignition Characteristics of Multilayer Foils of Aluminum and Nickel, I.E. GUNDUZ, K. FADENBERGER, M. KOKONOU, C. REBHOLZ, University of Cyprus, C. DOUMANIDIS, University of Cyprus and National Science Foundation

GP-13

Designing Coated Maraging Steels Systems for Tools in Forming Process, S. MOLAS, CTM Centre Tecnològic, Spain, L. LLANES, Universitat Politècnica de Catalunya, Spain, D. CASELLAS, M.R. CRUZ, CTM Centre Tecnològic, Spain, F. MONTALÀ, TTC Recubrimientos Avanzados, Spain, J. CARO, CTM Centre Tecnològic, Spain

GP-15

Evaluation of the Effects of the Electrodeposition Parameters on Corrosion Resistance of Sn-Ni Coatings, H. JIMÉNEZ, Fundacite Bolívar, Venezuela, L. GIL, Unexpo Vicerectorado Puerto Ordaz, Venezuela, E.S. PUCHI, M.H. STAIA, Universidad Central de Venezuela

GP-16

Influence of Post-Hydrogen Plasma Treatment on Resistivity of Al-Doped ZnO Thin Films, H.-P. CHANG, F.-H. WANG, Y.-C. CHEN, National Chung Hsing University, Taiwan, H.-H. HUANG, Cheng Shiu University, Taiwan

GP-17

Effect of Modified Layer on Fretting Fatigue Properties of Plasma Nitrided 316L Steel, F. YILDIZ, A.F. YETIM, A. ALSARAN, A. CELIK, Ataturk University, Turkey

GP-18

Plasma Surface Treatment With An Atmospheric Pressure Dielectric Barrier Discharge, V. ROHANI, Maizieres les Metz, France, G. BAUVILLE, B. LACOUR, V. PUECH, Université Paris-Sud, France, D. DUMINICA, E. SILBERBERG, Liege, Belgium

Thursday Afternoon Poster Sessions

New Horizons in Coatings and Thin Films Room: Town & Country - Session HP

Symposium H Poster Session

5:00 – 7:00 pm

- HP-1
Characterization of Electrospun Aluminum Doped Zinc Oxide Nanofibers, D.Y. LEE, Daelim College of Technology, Korea, N. CHO, Sunmoon University, Korea, M.H. LEE, Korea Institute of Ceramic Engineering and Technology, Korea, S.J. LEE, Kyungsoo University, Korea, B.Y. KIM, University of Incheon, Korea
- HP-2
Dissolution of Cu Nano-Particles and its Implication on the Anti-Bacterial Property of TaN-Cu Nanocomposite Thin Films, P.C. LIU, J.H. HSIEH, Mingchi University of Technology, Taiwan
- HP-3
High-Power Pulsed Reactive Magnetron Deposition of TiN Films, K. BURCALOVA, B. ZUSTIN, J. VLCEK, J. LUKAS, University of West Bohemia, Czech Republic
- HP-4
Formation and Nonvolatile Memory Application of Ge Nanocrystals Using $\text{Si}_{1.33}\text{Ge}_{0.67}\text{O}_2$ and $\text{Si}_{2.67}\text{Ge}_{1.33}\text{N}_2$ layer, W.-R. CHEN, National Chiao Tung University, Taiwan, T.-C. CHANG, National Sun Yat-Sen University, Taiwan, C.-Y. CHANG, Y.-T. HSIEH, National Chiao Tung University, Taiwan
- HP-6
Electron Field Emissions, Cathodoluminescence and Characterization of ZnO:Al Nanowires, C.-W. FANG, National Chung-Hsing University, Taiwan, J.-M. WU, Feng-Chia University, Taiwan, L.-T. LEE, National Chung-Hsing University, Taiwan
- HP-7
Specific Details of Structure Formation of Ion-Beam Coatings of Cr-UDD, Cr- Al_2O_3 System, M. ANDREYEV, A. ILYUSCHENKO, L. MARKOVA, Powder Metallurgy Institute, Belarus
- HP-8
Electromigration Back Stress Model on Electromigration Lifetime Prediction in Short Length Copper Interconnects, Y.-L. CHENG, National Chi-Nan University, Taiwan
- HP-9
Formation of Ge Nanocrystals by Oxidizing SiGeN Thin Film, C.-C. LIN, National Chiao Tung University, Taiwan, T.-C. CHANG, National Sun Yat Sen University, Taiwan, P.-T. LIU, C.-H. TU, C.W. HU, H.-C. LIU, S.M. SZE, C.-Y. CHANG, T.-Y. TSENG, National Chiao Tung University, Taiwan
- HP-10
Structure and Photoluminescence Properties of Strong Blue-Emitting Alumina Film Developed From Liquid Sol at Low Temperature, C.-H. PENG, Ming Hsin University of Science and Technology, Taiwan, W.-L. KUO, C.-S. HSIAO, S.Y. CHEN, National Chiao Tung University, Taiwan
- HP-11
Minor Refractory-Metal Doping to Strengthen Ultrathin Electroless Co-Based Barriers Initialized by an Innovated Seeding Treatment, C.S. HSU, National Formosa University, Taiwan, S.T. CHEN, Hsiuping Institute of Technology, Taiwan, Y.S. TANG, G.S. CHEN, Feng Chia University, Taiwan
- HP-12
Evidence on the Carbon Facilitated Anatase to Rutile Phase Transformation for the Visible-Light Responsive Carbon Containing TiO_2 Nanoparticles, S.B. WU, J.B. WANG, S. TRESCHIEV, C.L. CHENG, National Dong Hwa University, Taiwan
- HP-13
Spectroscopic Investigation on a Single CuO Nanowire, C.Y. HUANG, S.Y. WU, M.H. CHOU, C.L. CHENG, National Dong Hwa University, Taiwan
- HP-15
Photoconversion Efficiency Enhancement of DSSC by $\text{W}_x\text{Ti}_y\text{O}_z$ Electrode, Y.-C. CHEN, National Chung Hsing University, Taiwan, K.-W. WENG, Mingdao University, Taiwan
- HP-16
Photoluminescent Properties of Ce^{3+} , Eu^{3+} Co-Doped Yttrium Aluminum Garnet Phosphors via Combustion Method, H.H. KWAK, S.J. KIM, H.H. YOON, K.H. KIM, H.W. CHOI, Kyungwon University, Korea
- HP-18
Growth of ZnO Films with Hexagonally-Packed Pores by the Cathodic Potentiostatic Electrochemical Deposition and Microsphere Lithography, C.-J. CHANG, S.-T. HUNG, Feng Chia University, Taiwan
- HP-19
Synthesis of Compound TiO_2 Coating for a Combined Solar Conversion and Self-Cleaning Application, H.-C. SHIH, National Tsing Hua University, Taiwan, C.-C. YEN, L.-S. CHANG, National Chung Hsing University, Taiwan, D.-Y. WANG, Mingdao University, Taiwan
- HP-20
Effects of Piezo-Electric ZnO Interlayer on UV-Transmission and Contact Resistance of ITO/ZnO/p-GaN Structure in Blue Light Emitting Diodes, W. KIM, S.J. YUN, H.S. UHM, J.S. PARK, Hanyang University, Korea
- HP-21
Temperature-Dependent Memory Characteristics of SONOS-TFTs, S.-C. CHEN, T.-C. CHANG, National Sun Yat Sen University, Taiwan, Y.-C. WU, National Tsing-Hua University, Taiwan, J.-Y. CHIN, National Sun Yat-Sen University, Taiwan
- HP-22
Field Emission Properties of Ag/ SiO_2 /Carbon Nanotube Films by Pulsed Current Electrophoretic Deposition, S.-C. WANG, Southern Taiwan University, ROC, B.-C. HUANG, Southern Taiwan University, Taiwan, C.-Y. CHEN, Feng Chia University, H.-M. LIN, Tatung University, Taiwan, C.-K. LIN, Feng Chia University, Taiwan
- HP-23
Fabrication of Solar Cell with CdS-Sensitized TiO_2 Photoelectrode, S. BISWAS, M.F. HOSSAIN, T. TAKAHASHI, University of Toyama, Japan
- HP-24
Electrical Conduction and TDDB Reliability Characterization for Low-k SiCO Dielectric in Cu Interconnects, L.K.S. CHANG-LIAO, National Tsing Hua University, Taiwan
- HP-25
Characterization, Electron Field Emission, and Gas Sensing Properties of Sb Doped SnO_2 Nanowires, J.-M. WU, Feng-Chia University, Taiwan
- HP-26
Effect of Thin TiO_2 Passivation Layer on the Performance of Dye Sensitized Solar Cells, M.F. HOSSAIN, S. BISWAS, T. TAKAHASHI, University of Toyama, Japan
- HP-28
Improvement in Pitting Corrosion Resistance of the $\text{Al}_x\text{CrFe}_{1.5}\text{MnNi}_{0.5}$ High Entropy Alloys by Prior Anodic Treatment in Sulfuric Acid Solution, C.P. LEE, Y.Y. CHEN, National Tsing Hua University, Taiwan, M.W. HUANG, National Chung Hsing University, Taiwan, J.W. YEH, H.-C. SHIH, National Tsing Hua University, Taiwan
- HP-29
Corrosion and Wear Behavior of TiAlN/ Pt Multilayers, M. FLORES, Universidad de Guadalajara, Mexico, L. HUERTA, Universidad Nacional Autonoma de México, Mexico
- HP-30
Diode Properties of Nanotube Mats, B.T. HICKS, Brigham Young University, United States of America, S.A. GETTY, NASA – Goddard Space Flight Center, D.D. ALLRED, Brigham Young University
- HP-31
In-Situ Investigation of Corrosion Behaviors of CrN Thin Film by a Liquid Mode Atomic Force Microscope in Etching Solution, Y.-C. KUO, National Taiwan University of Science and Technology, Taiwan, J.-W. LEE, Tung Nan University, Taiwan, C.-J. WANG, National Taiwan University of Science and Technology, Taiwan
- HP-32
Synthesis and Properties of Vanadium Pentoxide One Dimension Nanostructure by Chemical Vapor Deposition, Y.-C. SU, National Tsing Hua University, Taiwan, H.C. SHIH, Chinese Culture University, Taiwan
- HP-36
Investigation of De-Plating Behavior of Pt Contact Pins in Semiconductor Cu Electroplating Process, S.-Y. HU, H.-S. LEE, National Cheng Kung University, Taiwan, K.-W. CHEN, Taiwan Semiconductor Manufacturing Company Ltd., Taiwan, C.-C. HUNG, National Cheng Kung University, Taiwan, S.-C. CHANG, Y.-L. WANG, Taiwan Semiconductor Manufacturing Company Ltd., Taiwan

Thursday Afternoon Poster Sessions

The Atomistics of Thin Film Growth: Computational and Experimental Studies

Room: Town & Country - Session TSP

Symposium TP Poster Session

5:00 – 7:00 pm

TSP-1

Characteristics of Dye-Sensitized Solar Cell with Ionic Liquid Electrolytes Containing Carbon Nanotubes, M.J. PARK, S.U. LEE, B. HONG, Sungkyunkwan University, Korea

TSP-2

Characterization of Tungsten-Titanium Oxide Electrode for Application in Dye-Sensitized Solar Cells, K.-W. WENG, Mingdao University, Taiwan, S. HAN, National Taichung Institute of Technology, Taiwan, Y.-C. CHEN, National Chung Hsing University, Taiwan

TSP-3

Comparison of Photocatalytic Activities of Various Dye-Sensitized TiO₂ Thin Films Under Visible Light, K.S. YAO, T.C. CHENG, S.J. LI, Mingdao University, Taiwan, K.C. TZENG, National Chung-Hsing University, Taiwan, Y. KO, C.Y. CHANG, Mingdao University, Taiwan

TSP-4

Photocatalytic Bactericidal Effect of TiO₂ Thin Film on Fish Pathogens, T.C. CHENG, C.Y. CHANG, Mingdao University, Taiwan, C.I. CHANG, Aquaculture Division, Fisheries Research Institute, Taiwan, C.C. HWANG, H.H. SHU, D.-Y. WANG, K.S. YAO, Mingdao University, Taiwan

TSP-5

Preparation of LaCrO₃ Coatings on Stainless Steel by Magnetron Sputtering Process, W.-Y. HO, M.-H. TSAI, C.-L. CHANG, D.-Y. WANG, Mingdao University, Taiwan

TSP-6

Osteoblast Behavior on Plasma-Treated Medical Polyethylene, H.Y. WANG, Z. WEI, P.K. CHU, City University of Hong Kong

TSP-7

La_{0.67}Sr_{0.33}MnO₃ Coating on SOFC Interconnect by Plasma-Sputtering, C.L. CHU, S. LEE, National Central University, Taiwan

TSP-8

Protein Activity of the Protein-Nanodiamond Conjugates Prepared for Bio Labeling Using Nanodiamond, P.J. CAI, E. PEREVEDENTSEVA, Y.C. CHIU, P.H. CHUNG, C.L. CHENG, National Dong Hwa University, Taiwan

TSP-9

Characteristic of Gradient SOFC Anode Synthesized by the Co-Sputtering of Magnetron Sputtering and Cathodic Arc Evaporation, C.C. CHU, D.-Y. WANG, Mingdao University, Taiwan

TSP-10

Control of Preferred Orientations of TiN and ZrN Thin Films by Thin Film Templates, Y.-Y. CHENG, J.-H. HUANG, G.-P. YU, National Tsing Hua University, Taiwan

TSP-11

Inductively Coupled Plasma Nitriding for PEMFC Bipolar Plate, D.H. HAN, B. PARK, W.H. HONG, Seoul National University, Korea, W.Y. JEUNG, Korea Institute of Science and Technology, Korea, J.J. LEE, Seoul National University, Korea

TSP-12

The Influence of Surface Energy on Pentacene Growth Mechanism and on OTFT Characteristics, H.W. ZAN, C.-W. CHOU, K.-H. YEN, C.-L. WU, National Chiao Tung University, Taiwan

TSP-14

Studies on Corrosion Resistance of Stainless Steel Bipolar Plates for Fuel Cell by High Temperature Nitrogen Implantation, K.K. KIM, J.S. KIM, Pusan National University, Korea, S.M. MOON, Korea Institute of Machinery & Materials, Korea, J.S. LEE, Korea Atomic Energy Research Institute, Korea, M.C. KANG, Pusan National University, Korea

TSP-15

Silanol/pHEMA Hybrid Membrane for Drug Controlled Release, Y.-Y. LIU, C.-H. TSAI, S.Y. CHEN, National Chiao Tung University, Taiwan, T.-Y. LIU, Mingchi University of Technology, Taiwan

TSP-16

Bioactivity of Cu/pHEMA Coatings Prepared by Electrodeposition on Stainless Steel 316 for Implant Applications, Y.-Y. LIU, National Chiao Tung University, Taiwan, T.-Y. LIU, Mingchi University of Technology, Taiwan, S.Y. CHEN, National Chiao Tung University, Taiwan

TSP-17

Nucleation of Ni and Ru Nano-Cluster Thin Films on Doped (La,Sr)CrO₃ Anode Surfaces, S.A. BARNETT, W. KOBISIRIPHAT, B.D. MADSEN, Y. WANG, L. MARKS, M. SHAH, P.W. VOORHEES, Northwestern University

TSP-18

Protein Adsorption on Low Temperature Alpha Alumina Films for Surgical Instruments, A.N. CLOUD, University of Arkansas, S. KUMAR, University of South Australia, M. KAVDIA, H.H. ABU-SAFE, M.H. GORDON, D.G. BHAT, University of Arkansas

TSP-19

Study on Ultrasound-Sensitive NOCHC-Cu Nanohybrid as a Novel Drug-Loaded Coating for Delivering Hydrophobic Agents, T.-Y. LIU, Mingchi University of Technology, Taiwan

TSP-20

The Simulation of Molecular Dynamics Associate With the Surface Roughness on an Aluminum Thin Film, Y.Y. CHENG, C.C. LEE, National Central University, Taiwan

TSP-21

Adhesion and Preosteoblastic Cell Proliferation in Titanium Surface Bombarded with Argon Ions, C. ALVES JUNIOR, UFRN, Brazil

Friday Morning, May 2, 2008

Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B2 Arc and E-Beam Coatings and Technologies Moderators: A. Anders, Lawrence Berkeley National Laboratory, V.I. Gorokhovskiy, Arcomac Surface Engineering, LLC		Optical Thin Films Room: Royal Palm 1-3 - Session C1 Recent Advances in Optical Thin Films Moderators: J. Bellum, Contract Associate to Sandia National Laboratories, K. Klemm, Ocean Optics, Inc., W. Reicher, S. Systems	
8:00 am	B2-5 Chromium and Titanium Film Deposition Using a Hot Refractory Anode Vacuum Arc Plasma Source, I.I. BEILIS, A SHNAIDERMAN, R.L. BOXMAN, Tel Aviv University, Israel	C1-1 Invited Optical Coatings in Aerospace: Requirements, Performance and Limitations, A.F. STEWART, Boeing Directed Energy Systems	
8:20 am	B2-1 Invited The Structure and Properties of Deposits Produced by EB- and Vacuum Arc PVD Techniques, A.V. DEMCHYSHYN, Institute of Problems in Material Science, NANU, Ukraine, Kiev, Ukraine	Invited talk continued.	
8:40 am	Invited talk continued.	C1-3 Effects of Interfacial Properties and Residual Stress in SiC/Si ₃ N ₄ Multilayer Stacks on Mirror Replication, M.Y. CHEN, L.E. MATSON, Air Force Research Laboratory, H.D. LEE, T.I. MAH, R. BHATTACHARYA, UES, Inc	
9:00 am	B2-3 The Structure and Properties of Ti, Ti36Al and Ti/Al Deposits Produced by Cathodic Arc Evaporation, A.V. DEMCHYSHYN, NANU, Ukraine, V.S. GOLTVYANYTSYA, S.K. GOLTVYANYTSYA, Real Ltd., Ukraine, L.D. KULAK, O.A. TOKAREV, G.A. AVTONOMOV, NANU, Ukraine	C1-4 Maintenance and Use of Robust Reflectance Standards in the EUV, L. STREIN, D.D. ALLRED, N. BRIMHALL, J.B. MUHLESTEIN, S.B. MITCHELL, R.S. TURLEY, Brigham Young University	
9:20 am	B2-4 Deposition of Thick Cr-Cu Coatings Using Twin Crucible Electron-Beam Physical Vapour Deposition, K. KANAKIS, A. LEYLAND, A. MATTHEWS, University of Sheffield, United Kingdom	C1-7 Infrared-Reflecting Thin Film Coatings, A.N. RANADE, M.E. GRAHAM, Y.W. CHUNG, Northwestern University	
9:40 am	B2-6 Invited Filtered Laser-Arc: A New Technology for Deposition of Smooth ta-C Films, H.-J. SCHEIBE, C.-F. MEYE, Fraunhofer-Institut für Werkstoff- und Strahltechnik, Germany	C1-8 Irreversible Effects of Annealing on Magnetron-Sputtered Tantalum Pentoxide Films, A. BERGERON, R.B. SARGENT, JDSU	
10:00 am	Invited talk continued.	C1-10 Invited Recent Progress in Modification of Film Structure and Optical and Electrical Properties in rf-Plasma-Assisted Pulsed Sputtering, E. KUSANO, Kanazawa Institute of Technology, Japan	
10:20 am	B2-8 Influence of Hollow Cathode Plasma on AlCrN-Thin Film Deposition With Vacuum Arc Evaporation Sources, M.H. HOLZHERR, M.F. FALZ, T.S. SCHMIDT, VTD Vakuumtechnik Dresden GmbH, Germany	Invited talk continued.	
10:40 am	B2-9 Pulsed Arc Evaporation and the Influence of the Pulse Mode on Al-Cr-O Layer Properties, J. RAMM, M. ANTE, D. KURAPOV, O. MASSLER, B WIDRIG, OC Oerlikon Balzers AG, Liechtenstein, M. DOEBELI, Paul Scherrer Institute and ETH Zurich, Switzerland, A DOMMANN, Centre Suisse d' Electronique et de Microtechnique Neuchâtel, Switzerland, A NEELS, Institute of Microtechnology University of Neuchâtel, Switzerland, J THOMAS, IFW Dresden, Germany	C1-9 Enhanced Formation of Er ³⁺ -Yb ³⁺ Codoped Al ₂ O ₃ Thin Films by a Non-Aqueous Sol-Gel Method, Z.H. ZHU, M.K. LEI, Dalian University of Technology, China	
	Thank you & Farewell Party Trellises Courtyard near pool 12:30 – 2:00 pm		Award Nomination submission deadlines: RF Bunshah, September 15, 2008 Graduate Student, October 1, 2008

Friday Morning, May 2, 2008

Carbon and Nitride Materials: Synthesis-Structure-Property Relationships - Room: Royal Palm 4-6 - Session D1 Boron Nitride, Carbon Nitride and Group-III (Al, Ga, In) Nitride Materials Moderator: S. Ulrich, Forschungszentrum Karlsruhe, IMF I		Tribology & Mechanical Behavior of Coatings & Thin Films Room: California - Session E2-3 Mechanical Properties and Adhesion Moderators: R. Chromik, McGill University, L. Davies, Caterpillar, N. Jennett, National Physical Laboratory	
8:00 am	D1-1 Invited Plasma Enhanced Deposition of Cubic Boron Nitride Films Under Ultralow-Energy Ion Impact: Structural Evolution and Electrical Properties, K. TEII, Kyushu University, Japan, S. MATSUMOTO, National Institute for Materials Science, Japan	E2-3-1 Invited Competition Between Gradual Wear and Fracture Mechanics Based Wear, L.M. KEER, K. ZHOU, D. EPSTEIN, Northwestern University, S. LIU, D. HUA, Caterpillar Inc.	
8:20 am	Invited talk continued.	Invited talk continued.	
8:40 am	D1-3 c-BN Coating Systems for Cemented Carbide Cutting Inserts, M. KEUNECKE, S.T. PARK, Fraunhofer IST, Germany, J. FUENTES, Technical University Berlin, Germany, K. WEIGEL, K. BEWILOGUA, Fraunhofer IST, Germany	E2-3-3 Thermal Evolution of Hard Ti-B-N Based Coatings Deposited on Stainless Steel, C. PATERNOSTER, A. FABRIZI, Marche Politechnic University, Italy, PH.V. KIRYUKHANTSEV-KORNEEV, State Technological University/Moscow Institute of Steel and Alloys, Russia, R. CECCHINI, S. SPIGARELLI, Marche Politechnic University, Italy, D.V. SHTANSKY, State Technological University/Moscow Institute of Steel and Alloys, Russia	
9:00 am	D1-5 Water Adsorption on Fullerene-Like Carbon Nitride Overcoats, E. BROITMAN, Carnegie Mellon University, G.K. GUEORGUIEV, A. FURLAN, Linköping University, Sweden, V.V. PUSHKAREV, Carnegie Mellon University, N.T. SON, Linköping University, Sweden, A.J. GELLMAN, Carnegie Mellon University, S. STAFSTRÖM, L. HULTMAN, Linköping University, Sweden	E2-3-6 Mechanical Properties and Deformation of CrN and Cr/CrN Coatings During Nanoindentation: Experiments and Theoretical Calculations, R. DANIEL, C. MITTERER, University of Leoben, Austria, M. HERRMANN, F. RICHTER, Chemnitz University of Technology, Germany	
9:20 am	D1-6 Chemical and Mechanical Characterizations of Silicon Carbon Nitride Thin Films Synthesized by Magnetron Reactive Physical Vapour Deposition, P. KOUAKOU, V. HODY - LE CAËR, P. CHOQUET, Centre de Recherche Public Gabriel Lippmann, Luxembourg, M. BELMAHI, Université de Nancy, France, H.-N. MIGEON, Centre de Recherche Public Gabriel Lippmann, Luxembourg	E2-3-7 Invited Atomic Scale Modeling of Interfacial Adhesion in Optical Coatings, P.D. BRISTOWE, University of Cambridge, United Kingdom	
9:40 am	D1-7 A Comparative Study of Carbon Nitride Coatings Deposited by DC-Magnetron Sputtering in Laboratory and Industrial-Scale Deposition Systems, E. BROITMAN, Carnegie Mellon University, G. GRECZYNSKI, J. BÖHLMARK, Chemfil Ionsputtering AB, Sweden, M. ALUNOVIC, R. CREMER, CemeCon AG, Germany, L. HULTMAN, Linköping University, Sweden	Invited talk continued.	
10:00 am	D1-8 Invited Defects and Doping in In-Rich Group III-Nitrides, R.E. JONES, K.M. YU, J.W. AGER III, Lawrence Berkeley National Laboratory, L. HSU, University of Minnesota, E.E. HALLER, University of California and Lawrence Berkeley National Laboratory, W. WALUKIEWICZ, Lawrence Berkeley National Laboratory	E2-3-9 Atomistic Modelling of Nanoindentation of Oxide Materials, I. GHEEWALA, E. MCGEE, S.D. KENNY, R. SMITH, Loughborough University, United Kingdom	
10:20 am	Invited talk continued.	E2-3-10 Finite Element Analysis of Adhesion Failure During Contact in Multilayer Coatings on Glass, J. CHEN, S.J. BULL, Newcastle University, United Kingdom	
10:40 am	D1-11 Growth and Characterization of Er-Doped GaN Nano-Crystals, J.H. AHN, H.R. KIM, J. KIM, Korea University, Korea, M.A. MASTRO, J.A. FREITAS, R.T. HOLM, C.R. EDDY, R.L. HENRY, US Naval Research Laboratory	E2-3-12 Cohesive Zone Modeling for Delamination Evaluations of Diamond Coating Tools, J. HU, Y. CHOU, The University of Alabama, R. THOMPSON, Vista Engineering, Inc.	
	Thank you & Farewell Party Trellises Courtyard near pool 12:30 – 2:00 pm	Award Nomination submission deadlines: RF Bunshah, September 15, 2008 Graduate Student, October 1, 2008	

Friday Morning, May 2, 2008

Advanced Characterization of Coatings & Thin Films Room: Sunrise - Session F2 In Situ Characterization Moderators: M. Beckers, Linköping University, G. Dehm, Austrian Academy of Sciences		Applications, Manufacturing, and Equipment Room: Sunset - Session G1-2 Innovations in Surface Coatings and Treatments Moderators: M. Rodmar, Sandvik Tooling, R. Wei, Southwest Research Institute	
8:00 am	F2-1 Invited In-Situ XRD Studies of Thin Film and Nanostructure Growth, M.I. RICHARD, T.U. SCHULLI, G. RENAUD, CEA Grenoble, France, E WINTERSBERGER, University of Linz, Austria, V. FAVRE-NICOLIN, CEA Grenoble, France, V. HOLY, Charles University Prague, Czech Republic, G. BAUER, University of Linz, Austria	8:00 am	G1-2-1 Invited Nanoheater Reactive Heterostructures as Sources for Thermal Nanomanufacturing, C. DOUMANIDIS, University of Cyprus and National Science Foundation, Cyprus
8:20 am	Invited talk continued.	8:20 am	Invited talk continued.
8:40 am	F2-3 Measurement of Strain Evolution in Polycrystalline Films During Thermal Processing, A.P. PAULIKAS, B.W. VEAL, J. ELAM, M.J. PELLIN, Argonne National Laboratory	8:40 am	G1-2-3 Advanced Fabrication Process and Measurements of Thin-Film Sensors, D. HAGEDORN, R. MEEß, F. LÖFFLER, A. BUSS, J. ILEMANN, R. KUMME, Physikalisch-Technische Bundesanstalt, Germany
9:00 am	F2-4 Small Signal Frequency Response Studies for Plasma Electrolytic Oxidation, A.L. YEROKHIN, University of Sheffield, United Kingdom, E.V. PARFENOV, Ufa State Aviation Technical University, Russia, A. MATTHEWS, University of Sheffield, United Kingdom	9:00 am	G1-2-4 Monitoring of Turning Processes by Means of Thin Coatings, w. TILLMANN, E. VOGLI, University of Dortmund, Dortmund, Germany
9:20 am	F2-5 Invited In-Situ Scanning Electron Microscopy Based Micro-/Nanomechanical Testing, J. MICHLER, Swiss Federal Institute for Materials Testing and Research (EMPA), Switzerland	9:20 am	G1-2-5 Low Temperature Multilayer α-Alumina Films for Machining Applications, A.N. CLOUD, University of Arkansas, S. CANOVIC, Chalmers University of Technology, Sweden, H.H. ABU-SAFE, M.H. GORDON, University of Arkansas, M. HALVARSSON, Chalmers University of Technology, Sweden, D.G. BHAT, National Science Foundation
9:40 am	Invited talk continued.	9:40 am	G1-2-6 Wettability Control of Photocatalytic Crystal Layers by Hydrophobic Coating and Subsequent UV Light Irradiation, K. TESHIMA, S. SUZUKI, Shinshu University, Japan, K. YUBUTA, Tohoku University, Japan, Y. SONOBAYASHI, Kyoto University, Japan, T. SUZUKI, Shinshu University, Japan, T. SHISHIDO, Tohoku University, Japan, H. SUGIMURA, Kyoto University, Japan, S. OISHI, Shinshu University, Japan
10:00 am	F2-7 Cathodoluminescence Study of Phase Transformation Processes in κ- and γ-Alumina Coatings Caused by Heat Treatment, G. POZINA, D.H. TRINH, L. HULTMAN, H. HÖGBERG, Linköping University, Sweden, H. BLOMQUIST, M. COLLIN, I. REINECK, Sandvik Tooling AB, Sweden	10:00 am	G1-2-7 Invited Future Development of Steel Sheet Coating Systems Based on Novel Thin Film Coating Technologies, B. SCHUHMACHER, DOC Dortmund Oberflächencentrum GmbH - a company of ThyssenKrup Steel, Germany
10:20 am	F2-8 Invited Thermal Stability and Surface Morphological Evolution of Transition-Metal Nitrides, S. KODAMBAKA, University of California Los Angeles, V. PETROVA, J. BARENO, University of Illinois, Urbana, S.V. KHARE, The University of Toledo, K. OHMORI, W. SWIECH, I. PETROV, J.E. GREENE, University of Illinois, Urbana	10:20 am	Invited talk continued.
10:40 am	Invited talk continued.	10:40 am	G1-2-9 Material Transfer Phenomena and Failure Mechanisms of Cr-Al-N Coating, L. WANG, X. NIE, University of Windsor, Canada, Z. YAO, Daimler Chrysler Corporation Technology Center, J. HOUSTON, Tecvac Ltd., A. MATTHEWS, University of Sheffield, United Kingdom
11:00 am		11:00 am	G1-2-11 Electric Property Improvement of Electroless Copper Thin Films Prepared by Pulsating Current at Low Dissolved Oxygen Level, T.-J. YANG, H.-T. HSU, C.-K. LIN, Feng Chia University, Taiwan
Thank you & Farewell Party Trellises Courtyard near pool 12:30 – 2:00 pm		Award Nomination submission deadlines: RF Bunshah, September 15, 2008 Graduate Student, October 1, 2008	

Friday Morning, May 2, 2008

New Horizons in Coatings and Thin Films
Room: Tiki Pavilion - Session H2
High Power Impulse Magnetron Sputtering - HIPIMS 2008
Moderators: A.P. Ehiassian, Sheffield Hallam University,
K. Marchev, P&G - The Gillette Company

8:00 am	H2-1 Invited Investigation of HPPMS in Unipolar, Bipolar, and DC-Superimposed Mode, R. BANDORF, M. VERGOEHL, P. GIESEL, S. FALKENAU, Fraunhofer Institute for Surface Engineering and Thin Films IST, Germany, T. WALLENDORF, IFU GmbH, Germany, G. MARK, Melec GmbH, Germany	
8:20 am	Invited talk continued.	
8:40 am	H2-2 Deposition and Characterisation of Industrial Scale, Low Temperature Me-DLC and C-DLC Thin Films Produced by a Combined HIPIMS / Unbalanced Magnetron Sputtering (UBM) Technique, L.A. DONOHUE, Y. YAMAZAKI, Richter Precision Inc., S. KUNKEL, M. SCHENKEL, T. ZUFRASS, W.-D. MÜNZ, SVS Vacuum Coating Technologies, Germany	
9:00 am	H2-3 Invited Ionized-PVD with HIPIMS - Industrial Potentials and Scientific Challenges, U. HELMERSSON, Linköping University, Sweden	
9:20 am	Invited talk continued.	
9:40 am	H2-5 Mechanical and Tribological Properties of TiN Films Prepared by HIPIMS, J. PAULITSCH, Materials Center Leoben Forschung GmbH, Austria, P.H. MAYRHOFER, Montanuniversität Leoben, Austria, M. SCHENKEL, W.-D. MÜNZ, SVS Vacuum Coating Technologies, Germany	
10:00 am	H2-6 Modulated Pulse Power Deposition of Carbon, Chromium, Carbon Nitride and Chromium Nitride Coatings, R. CHISTYAKOV, B. ABRAHAM, Zond, Inc., W.D. SPROUL, Reactive Sputtering, Inc., J.J. MOORE, J. LIN, Colorado School of Mines	
10:20 am	H2-7 Properties of (Al,Cr)N and (Al,Cr,Si)N Coatings for Cutting Tools in Demanding Cutting Operations Deposited by HPPMS, K. BOBZIN, RWTH Aachen University, Germany, R. CREMER, J. ALAMI, CemeCon AG, Germany, N. BAGCIVAN, P. IMMICH, S. BOLZ, RWTH Aachen University, Germany	
10:40 am	H2-8 Influence of Discharge Current and Target Material on the Ion Energy and Composition of HIPIMS Plasmas Near the Substrate, A.P. EHIASSIAN, A. VETUSHKA, Sheffield Hallam University, United Kingdom, S. KONSTANTINIDIS, Université de Mons-Hainaut, Belgium	
	Thank you & Farewell Party Trellises Courtyard near pool 12:30 – 2:00 pm	Award Nomination submission deadlines: RF Bunshah, September 15, 2008 Graduate Student, October 1, 2008



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