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 of Coatings and Thin Films

F Advanced Characterization of Coatings and Thin Films

G Applications, Manufacturing, and Equipment

H New Horizons in Coatings and Thin Films

PL Plenary

TS Topical Sessions

Monday Morning, May 2, 2005

	Coatings for Use at High Temperature Room: Sunrise - Session A1-1 Coatings to Resist High Temperature Corrosion and Wear Moderators: G.H. Meier, University of Pittsburgh, F.S. Pettit, University of Pittsburgh, A. Sanz, SKF Engineering and Research Center, B.A. Pint, Oak Ridge National Laboratory	Hard Coatings and Vapor Deposition Technology Room: Sunset - Session B4 Ion Beam Technologies Moderators: T. Selinder, AB Sandvik Coromant, M. Kiuchi, National Institute of Advanced Industrial Science and Technology (AIST)
10:30 am	A1-1-1 Invited Coating Design for High Temperature Applications Using Computational Codes for Steam Oxidation Conditions, F.J. PÉREZ, Universidad Complutense de Madrid, Spain	B4-1 Invited Modification of Ceramic Coatings by Swift Heavy Ions, W. BOLSE, Universtaet Stuttgart, Germany
10:50 am	Invited talk continued.	Invited talk continued.
11:10 am	A1-1-3 Long Exposure Steam Oxidation Testing and Mechanical Properties of Slurry Aluminide Coatings for Steam Turbine Components, A. AGÜERO, Instituto Nacional de Tecnica Aéroespacial (INTA), Spain, S. OSGERBY, NPL Materials Centre, United Kingdom, R. MUELAS, A. PASTOR, Instituto Nacional de Tecnica Aéroespacial (INTA), Spain	B4-3 Plasma and Ion Beam Characterization by Non-Conventional Methods, H. KERSTEN, R. WIESE, INP Greifswald, Germany, H. NEUMANN, IOM Leipzig, Germany
11:30 am	A1-1-4 Effect of Si in High-Temperature Oxidation Behavior of Hot-Dip Aluminized Carbon Steel, C.J. WANG, S.-M. CHEN, National Taiwan University of Science and Technology, Taiwan	B4-4 Invited To be Announced, K. KARAHASHI, AIST, Japan
11:50 am	A1-1-5 Microstructure and Phase Study of the Hot-Dipped Aluminide Coatings on 430 Stainless Steels, H. CHING, J.W. LEE, Tung Nan Institute of Technology, Taiwan, C.J. WANG, National Taiwan University of Science and Technology, Taiwan	Invited talk continued.
12:10 pm	A1-1-6 Cyclic Oxidation Behavior of Aluminide Coating on the Co-Base Superalloy AMS 5608, J.W. LEE, Tung Nan Institute of Technology, Taiwan	B4-6 Self-Assembled Nano-Dots of Zinc-Blende SiC on Si(100) using Organometallic Ion Beam Deposition with Simultaneous Electron Beam Irradiation, T. MATSUMOTO, M. KIUCHI, National Institute of Advanced Industrial Science and Technology (AIST), Japan, S. SUGIMOTO, S. GOTO, Osaka University, Japan

Monday Morning, May 2, 2005

	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B7-1 Properties And Characterization of Hard Coatings And Surfaces Moderators: D. Gall, Rensselaer Polytechnic Institute, J. Patscheider, EMPA	Optical Thin Films Room: Royal Palm 4-6 - Session C1 Recent Advances in Optical Thin Films Moderators: A. Stewart, Boeing Lasers and Electro-Optics, K. Robbie, Queen's University
10:30 am	B7-1-1 Invited Tribological, Nanostructured Ti-B-C-N ThinFIlms Produced by Closed Field Unbalanced Magnetron Sputtering (CFUBMS) from Composite Targets, I.W. PARK, Colorado School of Mines, K.H. KIM, Pusan National University, South Korea, A.O. KUNRATH, D. ZHONG, J.J. MOORE, Colorado School of Mines, A.A. VOEVODIN, Air Force Research Laboratory, E.A. LEVASHOV, Moskow State Institute for Steel and Alloys, Russia	C1-1 Invited Review of Graded Thickness Thin Film Technologies for Unstable Laser Resonators, M. POIRIER, INO Microoptics & Microsystems, Canada
10:50 am	Invited talk continued.	Invited talk continued.
11:10 am	B7-1-3 Structure and Mechanical Properties of TiC/Cu Films Prepared by DC Magnetron Sputtering, J. SOLDAN, J. MUSIL, University of West Bohemia, Czech Republic	C1-3 Invited Nonlinear Optical Properties of High-Index-Contrast Semiconductor Waveguide Structures, J.F. YOUNG, A.R. COWAN, G.W. RIEGER, University of British Columbia, Canada
11:30 am	B7-1-4 Sputter-Deposited Boron Carbide Films: Structural and Mechanical Characterization, L.G. JACOBSOHN, M. NASTASI, Los Alamos National Laboratory	Invited talk continued.
11:50 am	B7-1-5 Nanostructure and Performance Evaluation of Sputtered TiAlB Thin Films, C.G. REBHOLZ, University of Cyprus, M.A. BAKER, M. MONCLUS, University of Surrey, United Kingdom, A. LEYLAND, A. MATTHEWS, The University of Sheffield, United Kingdom, J.M. SCHNEIDER, RWTH Aachen University, Germany	C1-5 Optical Properties of Co-Deposited Nb and Ti Oxide Films and Their Application in Complex Interference Filters, P. MA, F. LIN, National Research Council of Canada
12:10 pm	B7-1-6 The Reduction of Surface Discontinuities for Cr-DLC Coatings Deposited using a Reactive Sputtering Process, B. FENG, M.A. TAHER, H.K. YOON, Caterpillar Inc.	

Monday Morning, May 2, 2005

	Advanced Characterization of Coatings and Thin Films Room: California - Session F1/E3-1 Mechanical Properties and Adhesion Moderators: N.M. Jennett, National Physical Laboratory, D. Smith, NIST	Applications, Manufacturing, and Equipment Room: Royal Palm 1-3 - Session G4/E5 Coatings for Cutting and Forming Tools, and Green Manufacturing Applications Moderators: O. Knotek, Aachen University, T. Ovaert, University of Notre Dame
10:30 am	F1/E3-1-1 Thin Film Stress Measurement by Fiber Optic Strain-Gage, M. CREMONA, W.G. QUIRINO, S.M.M. QUINTERO, A.L.C. TRIQUES, Pontificia Universidade Catolica do Rio de Janeiro, Brazil, L.C.G. VALENTE, Gavea Sensors - Genesis, Brazil, C.A. ACHETE, Coppe - UFRJ, Brazil	G4/E5-1 About the Pulsed Sputtering Technology to Apply Advanced Tribological Coatings to High Precision Bearing Components, G. ERKENS, R. CREMER, T. RASA, CemeCon AG, Germany, G. SPACHTHOLZ, CH. BRECHER, WZL University of Aachen, Germany
10:50 am	F1/E3-1-2 Tensile and Compressive Stress in Hard Metal Films, G.C.A.M. JANSSEN, TU Delft, Netherlands, J.-D. KAMMINGA, NIMR, Netherlands	G4/E5-2 Multi-Functional Multi-Component PVD Coatings for Cutting Tools, M. KATHREIN, CERATIZIT Austria GmbH, Austria, C. MICHOTTE, M. PENOY, CERATIZIT Luxembourg S.a.r.l., Luxembourg, P. POLCIK, PLANSEE Ag, Austria, C. MITTERER, University of Leoben, Austria
11:10 am	F1/E3-1-3 Determination of Cohesive Strength of DLC Film on 316L Stainless Steel by Four Point Bend Test in Conjunction with Finite Element Analysis Method, M.M. MORSHED, B.J. MAC DONALD, D.C. CAMERON, M.S.J. HASHMI, Dublin City University, Ireland	G4/E5-3 CVD Diamond Tool Performance in Metal Matrix Composite Machining, Y.K. CHOU, J. LIU, University of Alabama
11:30 am	F1/E3-1-4 Residual Stresses in Titanium Nitride Thin Films Deposited by DC and Pulsed DC Unbalanced Magnetron Sputtering, M. BENEGRA, University of Sao Paulo, Brazil, D.G. LAMAS, M.E. FERNÁNDEZ DE RAPP, CINSO, Argentina, N. MINGOLO, Comision Nacional de Energia Atomica, Argentina, A.O. KUNRATH, Colorado School of Mines, R.M. SOUZA, University of Sao Paulo, Brazil	G4/E5-4 Non-Stick Coatings in Polymer Processing, P. NAVABPOUR, Loughborough University, United Kingdom, D.G. TEER, Teer Coatings Ltd., United Kingdom, D.J. HITT, M. GILBERT, Loughborough University, United Kingdom
11:50 am	F1/E3-1-5 Determination of the Adhesion and Hermiticity between Polymers and Oxides via a Capacitance-Voltage Technique, Y.-S. LIN, J.-M. TING, National Cheng Kung University, Taiwan	G4/E5-5 Cutting Performance Improvement Through Micro-Blasting on Well-Adherent PVD Films on Cemented Carbides Inserts, K.-D. BOUZAKIS, Aristoteles University of Thessaloniki, Greece, G. SKORDARIS, I. MIRISIDIS, N. MICHAILIDIS, Laboratory for Machine Tools and Manufacturing Engineering, Greece, G. ERKENS, CemeCon AG, Germany
12:10 pm		G4/E5-6 Performance of Low Friction Coatings in the Dry Drilling of Automotive Al-Si Alloys, N. WAIN, University of Warwick, United Kingdom, N.R. THOMAS, S. HICKMAN, Teer Coatings Ltd., United Kingdom, J. WALLBANK, University of Warwick, United Kingdom, D.G. TEER, Teer Coatings Ltd., United Kingdom

Monday Afternoon, May 2, 2005

	Coatings for Use at High Temperature Room: Sunrise - Session A1-2 Coatings to Resist High Temperature Corrosion and Wear Moderators: G.H. Meier, University of Pittsburgh, F.S. Pettit, University of Pittsburgh, B.A. Pint, Oak Ridge National Laboratory, A. Sanz, SKF Engineering and Research Center	Hard Coatings and Vapor Deposition Technology Room: Sunset - Session B5 Laser Assisted Coatings and Technologies Moderators: J.G. Jones, Air Force Research Laboratory, S. Weissmantel, University of Applied Sciences Mittweida
1:30 pm	A1-2-1 The Effect of Nitrogen on the Formation and Oxidation Behavior of Iron Aluminide Coatings Fabricated by Chemical Vapor Deposition, Y. ZHANG, Tennessee Technological University, B.A. PINT, K.M. COOLEY, J.A. HAYNES, Oak Ridge National Laboratory	B5-1 Remarkably Adherent, Thick and Tough Chromia (Cr_2O_3) Coatings on Steel Made by a New Process., A. BADZIAN, R. ROY, The Pennsylvania State University, P. MISTRY, QQC Inc., M.C. TURCHAN, Turchan Technologies
1:50 pm	A1-2-2 Aluminum Diffusion in Alumina Scales Grown on Fe-Cr-Al Alloys, J.A. NYCHKA, D.R. CLARKE, University of California Santa Barbara	B5-2 Characterization of Hybrid Plasmas Produced by Laser Ablation and Pulsed DC Magnetron Sputtering, J.G. JONES, C. MURATORE, A.A. VOEVODIN, J.S. ZABINSKI, Air Force Research Laboratory
2:10 pm	A1-2-4 Microstructure, Composition and Oxidation Resistance of Nanostructured Ni-Al-N Coatings Produced by Magnetron Sputtering, D. ZHONG, J.J. MOORE, Colorado School of Mines, E. SUTTER, Brookhaven National Laboratory, B. MISHRA, Colorado School of Mines	B5-3 Invited Laser-Arc-Module System for Industrial Series Deposition of Super Hard Coatings, H.J. SCHEIBE, Fraunhofer USA, Inc.
2:30 pm	A1-2-5 (Ti,Al)N Coatings for Aluminum Die Casting Dies: a Study of the Reactivity Between $Ti_{1-x}Al_xN$ and Aluminum., E.K. TENTARDINI, Universidade Federal do Rio Grande do Sul, Brazil, M. CASTRO, Universidade Federal de Minas Gerais, Brazil, A.O. KUNRATH, J.J. MOORE, Colorado School of Mines	Invited talk continued.
2:50 pm	A1-2-6 Coatings for Extreme Environments in the Bearing Contacts, A. SANZ, SKF Engineering and Research Center, Netherlands	B5-5 Pulsed Laser Deposition of Lanthanum Sulfide Thin Films, S.B. FAIRCHILD, Air Force Research Laboratory
3:10 pm	A1-2-7 Structure, Bonding, and Adhesion of $MoSi_2$/Fe and SiO_2/$MoSi_2$ from First Principles, D.E. JIANG, University of California, Los Angeles, E.A. CARTER, Princeton University	B5-6 Reduction of Particulates and Stress in c-BN Films Prepared by Ion-Assisted Pulsed Laser Deposition, G. REISSE, S. WEISSMANTEL, University of Applied Sciences Mittweida, Germany, D. ROST, University of Applied Sciences Mittweida
3:30 pm	A1-2-8 On the Strength of TiAlN Following to High Temperature Operations, A. ESCUDEIRO SANTANA, Swiss Federal Institute of Technology - Lausanne, Switzerland, A. KARIMI, EPFL, Switzerland, V.H. DERFLINGER, Balzers Ltd., Liechtenstein, A. SCHUTZE, Tribo Coating	B5-7 Invited Large-Area High-Rate Pulsed Laser Deposition; Principles, Applications and Potentialities in Industrial Coating, J.M. LACKNER, Joanneum Research, Austria
3:50 pm	A1-2-9 A Multifunctional Boron Coating on Metal Substrate, R. PETROVA, N. SUWATTANANONT, New Jersey Institute of Technology	Invited talk continued.
4:10 pm	A1-2-11 Tribological Performance of Duplex Treated (Ion Nitriding and PVD-TiAlN) AISI H13 Steel, M.R. CRUZ, M.H. STAIA, Central University of Venezuela	B5-9 Adhesion of Superhard Pulsed Laser Deposited ta-C films with Low Internal Stress on Silicon, WC-Hard Metal and Steel, S. WEISSMANTEL, G. REISSE, University of Applied Sciences Mittweida, Germany, D. ROST, University of Applied Sciences Mittweida
4:30 pm	A1-2-12 Microstructural and Tribological Characteristics of DLC Coated Al_2O_3 at Elevated Temperatures, K.Y. LEE, I.S. JUNG, Pukyong National University, South Korea, C. RINCON, R. WEI, Southwest Research Institute	B5-10 Hard Zirconium Carbide Thin Films Grown by Pulsed Laser Deposition, V. CRACIUN, J. WOO, G. BOURNE, University of Florida, D. CRACIUN, National Institute for Laser, Plasma, and Radiation Physics, Bucharest

Monday Afternoon, May 2, 2005

	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B7-2 Properties And Characterization of Hard Coatings And Surfaces Moderators: D. Gall, Rensselaer Polytechnic Institute, J. Patscheider, EMPA	Optical Thin Films Room: Royal Palm 4-6 - Session C4/F2 In-situ Monitoring and Control of Optical Film Growth Moderators: K. Klemm, Essilor of America, S.L. Rohde, University of Nebraska
1:30 pm	B7-2-1 Invited Designed Coatings: Correlation of Coating Properties to Application Results, W. KALSS, V.H. DERFLINGER, J.L. ENDRINO, C. GEY, Balzers AG, Liechtenstein	C4/F2-1 Effects of Low-Energy Ion Bombardment on Interface Formation and Thin Film Growth in a Plasma-CVD Environment, A. AMASSIAN, P. DESJARDINS, L. MARTINU, Ecole Polytechnique de Montreal, Canada
1:50 pm	Invited talk continued.	C4/F2-2 In-Situ Spectroscopic Ellipsometric Determination of Morphological and Electronic Properties of Plasma Deposited Ultra-Thin Metal Films, T.W.H. OATES, Forschungszentrum Rosendorf, Germany, L. RYVES, University of Sydney, Australia
2:10 pm	B7-2-3 Effect of Film Thickness and Ti Interlayer on the Structure and Properties of Nanocrystalline TiN Thin Film Deposited by Unbalanced Magnetron Sputtering, J.-H. HUANG, F.-Y. OUYANG, G.-P. YU, National Tsing Hua University, Taiwan	C4/F2-3 In Situ Investigation of Plasma Deposition of Silicon Sub-Oxide Films, E.D.VAN HATTUM, A. PALMERO, W.M. ARNOLDBIK, F.H.P.M. HABRAKEN, Utrecht University, Netherlands
2:30 pm	B7-2-4 Residual Stress Development in UMS TiN Coatings, M. BIELAWSKI, D. SEO, National Research Council, Canada	C4/F2-4 In Situ and Real Time Monitoring of the Growth of CVD TiO_2 Thin Films by IR Pyrometry., F.-D. DUMINICA, F. MAURY, CIRIMAT, CNRS/INPT, ENSIACET, France
2:50 pm	B7-2-5 The Effect of Plasma Immersion Ion Implantation on the Hardness and Composition of Cathodic arc deposited Titanium Nitride Thin Films, S.H.N LIM, D.G MCCULLOCH, RMIT University, Australia, M.M.M BILEK, D.R. MCKENZIE, M SWAIN, University of Sydney, Australia, J. DU. PLESSIS, RMIT University, Australia	C4/F2-5 Characterization of an Ar/O_2 Magnetron Sputtering Plasma using a Langmuir Probe and an Energy Resolved Mass Spectrometer, A. PALMERO, E.D.VAN HATTUM, W.M. ARNOLDBIK, F.H.P.M. HABRAKEN, Utrecht University, Netherlands
3:10 pm	B7-2-6 Structural and Chemical Properties of Sputtering Deposited Ti-Ge-N Thin Films, C.S. SANDU, IPMC-SB-EPFL, Switzerland, R. SANJINES, SB-EPFL, Switzerland, M. BENKAHOUL, M PARLINSKA-WOJTAN, IPMC-SB-EPFL, Switzerland, A. KARIMI, EPFL, Switzerland, F. LEVY, IPMC-SB-EPFL, Switzerland	C4/F2-6 In-Situ Ellipsometry Measurement of Palladium Caped Yttrium Thin Films during Hydrogenation and Dehydrogenation, T. AIZAWA, University of Tokyo, Japan, D.J.S. SANTJOJO, University of Brawijaya, Indonesia
3:30 pm	B7-2-7 Tribological Behavior of PVD Deposited Hard Coatings on Hard Metal Substrate, R.D. TORRES, Catholic University of Parana, Brazil, C.J.M. SIQUEIRA, Federal University of Parana, Brazil, C.M. LEPIENSKI, Catholic University of Parana, Brazil	
3:50 pm	B7-2-8 Decomposition of Supersaturated Ti-Al-N, P.H. MAYRHOFER, University of Leoben, Austria, A. HÖRLING, Linköping University, Sweden, C. MITTERER, University of Leoben, Austria, L. HULTMAN, Linköping University, Sweden	
4:10 pm	B7-2-9 High Thickness Ti/TiN Multilayer Thin Coatings for Wear Resistant Applications, C. PECCHIO, Istituto Scientifico Breda S.p.A., Italy, E. BEMPORAD, University of Rome, Italy, S. DE ROSSI, Istituto Scientifico Breda S.p.A., Italy, F. CARASSITI, University of Rome, Italy	

Monday Afternoon, May 2, 2005

	Tribology of Coatings and Thin Films Room: Royal Palm 1-3 - Session E5/G4 Tribological Studies of Coatings for Green Manufacturing and Dry Machining Moderators: O. Knotek, Aachen University, S. Watanabe, Nippon Institute of Technology, T. Ovaert, University of Notre Dame	Advanced Characterization of Coatings and Thin Films Room: California - Session F1/E3-2 Mechanical Properties and Adhesion Moderators: N.M. Jennett, National Physical Laboratory, D. Smith, NIST
1:30 pm	E5/G4-1 Invited Uniform Coating of DLC Film by Means of PBIID Process using Superimposed RF and High-Voltage Pulses, Y. NISHIMURA, Seisakusho, Japan, Y. OKA, M. YATSUZUKA, University of Hyogo, Japan	F1/E3-2-1 Nanotribological Testing of Nickel and DLC Coated Nickel for Microdevice Applications, J.M. JUNG, University of Minnesota, N.R. MOODY, Sandia National Laboratories, M.S. KENNEDY, Washington State University, S.V. PRASAD, T.E. BUCHHEIT, Sandia National Laboratories, D.F. BAHR, Washington State University, W.W. GERBERICH, University of Minnesota
1:50 pm	Invited talk continued.	F1/E3-2-2 Phase Transformation and Related Hardness of Ternary Ni-P-Al Alloy Coatings Under Heat Treatments, F.B. WU, J.G. DUH, National Tsing Hua University, Taiwan
2:10 pm	E5/G4-3 A Crystal Chemical Approach to the Formulation of Self-lubricating Nanocomposite Coatings, A. ERDEMIR, Argonne National Laboratory	F1/E3-2-3 Invited Ageing Under Mechanical Stress of a Silver Based Multilayered Mirror, A. LALO, CNES, France, G. RAVEL, CEA, France, M. IGNAT, CNRS (ITCPM - INPG), France
2:30 pm	E5/G4-4 In-Situ Formation of Self-Lubricating Tribofilms for Dry Machinability, T. SUMITOMO, S. YAMAMOTO, T. AIZAWA, University of Tokyo, Japan	Invited talk continued.
2:50 pm	E5/G4-5 Dry Machining Using Novel Chromium Based Coatings: Drawbacks and Opportunities, B.C. SCHRAMM, H. SCHEERER, E. ABELE, C. BERGER, H. HOCHE, Darmstadt University of Technology, Germany	F1/E3-2-5 Indenter Area Functions and Hardness Determination by Means of a FEM-Supported Simulation of Nanoindentation at Low Penetration Depths, K.-D. BOUZAKIS, Aristoteles University of Thessaloniki, Greece, N. MICHAILIDIS, Laboratory for Machine Tools and Manufacturing Engineering, Greece
3:10 pm	E5/G4-6 Invited Dry-Drilling of Aluminum Using Carbon-Based Tool Coatings, J.M. DASCH, General Motors R&D Center	F1/E3-2-6 The Effects of Pulse Frequency and Substrate Bias to the Mechanical Properties of CrN Coatings Deposited by Pulsed DC Magnetron Sputtering, J.W. LEE, S.-K. TIEN, National Tsing Hua University, Taiwan, Y.C. KUO, Tung Nan Institute of Technology, Taiwan, J.G. DUH, National Tsing Hua University, Taiwan
3:30 pm	Invited talk continued.	F1/E3-2-7 Use of Certified Reference Materials in Instrumented Indentation: Improved Methods for Indirect Calibrations, G. ALDRICH-SMITH, N.M. JENNETT, National Physical Laboratory, United Kingdom
3:50 pm	E5/G4-8 Smart Tools: Wear Resistant Coating System with Integrated Thin Film Sensors for flank wear measurement, H. LÜTHJE, Fraunhofer Institute for Surface Engineering and Thin Films, Germany, R. CREMER, S. BOLZ, CemeCon AG, Germany, K. NORDMANN, Nordmann GmbH&Co.KG, Germany, S. KOUPTSIDIS, Wolf Beschichtungstechnologie GmbH, Germany, R. SCHMITZ, WZL RWTH Aachen, Germany, M. HÜSKE, LPKF Laser & Electronics AG, Germany, T. HAMOUDI,	F1/E3-2-8 Analysing Nanoindentation Unloading Curves using Pharr's Concept of the Effective Indenter Shape, N. SCHWARZER, Technische Universität Chemnitz, Germany
4:10 pm	E5/G4-9 Tribological Behavior of Hard Coatings in Lubricating Contacts using Biodiesel, E.I. SERATIUK, R. FAORO, C.J.M. SIQUEIRA, Federal University of Parana, Brazil, J.L. BARREIRO, HEF do Brasil	F1/E3-2-9 The Effect of Heat Treatment on the Mechanical Properties and Microstructure of CrN/AlN Multilayer Coatings, J.G. DUH, K.L. LIN, S.-K. TIEN, National Tsing Hua University, Taiwan
4:30 pm	E5/G4-10 Nearing No-wear Conditions of Surface Tooling in Dry Cutting by Applying External Magnetic Field, M. EL MANSORI, ENSAM, France, D. PAULMIER, ERMES, France	F1/E3-2-10 Mechanical Behaviour of Thin Films Deposited on Ductile Substrates: Cracking and Critical Parameters for Damage Evolution, M. IGNAT, INP, Grenoble, France, M. LATELLA, ANSTO, Australia
4:50 pm	E5/G4-11 The Effect of Solid Lubricants on Tool Performance During Wet, Gas-Cooled and Dry Drilling, N.R. THOMAS, D.G. TEER, S. HICKMAN, Teer Coatings Ltd., U.K., N. WAIN, J. WALLBANK, S. BARNES, University of Warwick, U.K.	F1/E3-2-11 Combination of Normal and Lateral Force-Displacement Measurements as a New Technique for the Mechanical Characterization of Surfaces and Coatings, T. CHUDOBA, V. LINSS, ASMEC GmbH, Germany
5:10 pm	E5/G4-12 Adaptability of the TiAlCrN PVD Coating Under High Performance Machining Conditions, G.S. FOX-RABINOVICH, McMaster University, Canada, K. YAMAMOTO, Kobe Steel Ltd., Japan, S.C. VELDHUIS, McMaster University, Canada, A.I. KOVALEV, Metallophysical Institute, CNIICHERMET, Russia, J DOSBAEVA, McMaster University, Canada	

Tuesday Morning, May 3, 2005

	Coatings for Use at High Temperature Room: Sunrise - Session A3-1 Thermal Barrier Coatings Moderators: J.R. Nicholls, Cranfield Univ., M.J. Maloney, Pratt & Whitney Aircraft, C. Leyens, German Aerospace Cntr. & Brandenburg Univ. of Tech. Cottbus, C.G. Levi, Univ. of California Santa Barbara	Hard Coatings and Vapor Deposition Technology Room: Sunset - Session B2-1 Arc and E-Beam Coatings and Technologies Moderators: A. Anders, Lawrence Berkeley National Laboratory, G. Hakansson, Tixon, Brukens Sverige AB
8:30 am	A3-1-1 Invited Intriguing Prospects for Using Pt-Modified γ'- Ni_3Al Bondcoats +γ-Ni Bondcoats in Next-Generation TBC Systems, B. GLEESON, D.J. SORDELET, Iowa State University	B2-1-1 Invited Nanostructured Coatings and Polymer Surface Modfications by Filtered Cathodic Vacuum Arc and Plasma Immersion Ion Implantation (PIII), M.M.M BILEK, University of Sydney, Australia, L. RYVES, University of Sydney, Austrailia, B.K. GAN, D.R. MCKENZIE, University of Sydney, Australia
8:50 am	Invited talk continued.	Invited talk continued.
9:10 am	A3-1-3 Invited NASA's Experience with Low Conductivity/Sintering Resistant Combustor and Turbine Section Thermal Barrier Coatings, R.A. MILLER, D. ZHU, NASA-Glenn Research Center	B2-1-3 High-Temperature Oxidation Resistance of Nanostructured Chromium-Silicon Nitride Coatings Obtained by an Hybrid Reactive Arc-Magnetron Deposition Process, V. RACHPECH, V. CHAPUSOT, Laboratoire de Science et Génie des Surfaces, France, A. BILLARD, Ecole des Mines-Parc de Saurupt, France, J. VON STEBUT, Laboratoire de Science et Génie des Surfaces, France
9:30 am	Invited talk continued.	B2-1-4 (TiAlV)N Films Grown by using a Repetitive Pulsed Arc Discharge, A. DEVIA, Universidad Nacional de Colombia Sede Manizales, Colombia
9:50 am	A3-1-5 Improving the Phase Stability of TBCs with Yb Additions, J.M. CAIRNEY, University of New South wales, Australia, N.R. REBOLLO, University of California, Santa Barbara, A. CATANOIU, M. RÜHLE, Max Planck Institut fuer Metallforschung, Germany, C.G. LEVI, University of California, Santa Barbara	B2-1-5 Properties and Cutting Performance of (Ti,V)N Coatings Prepared by Cathodic Arc Ion Plating, Y. TANAKA, Mitsubishi Materials Corporation, Japan, Y. ONISHI, Mitsubishi Materials Kobe Tools Corporation, Japan, N. ICHIMIYA, K. MATSUMURA, Mitsubishi Materials Corporation, Japan
10:10 am	A3-1-6 Microstructural and Mechanical Property Characterization of TBC Bond Coats, K.J. HEMKER, R.J. THOMPSON, P. LILLEHOJ, D. BUTLER, Johns Hopkins University	B2-1-6 Thin Films of Super-Hard Cubic Zr_3N_4 Stabilized by Stress, M. CHHOWALLA, H.E. UNALAN, Rutgers University
10:30 am	A3-1-7 High Temperature and Room Temperature Erosion Testing of Gadolinia Doped EB PVD TBCs, R.G. WELLMAN, R. STEENBAKKER, J.R. NICHOLLS, Cranfield University, United Kingdom	B2-1-7 Structural and Mechanical Property of Si Incorprated (TiCrAl)N Coatings Deposited by AIP, K. YAMAMOTO, S. KUJIME, K. TAKAHARA, Kobe Steel Ltd., Japan
10:50 am	A3-1-8 A Platinum-Enriched γ+γ' Two-Phase Bond Coat on Ni-base Superalloys, B.A. PINT, Oak Ridge National Laboratory, Y. ZHANG, Tennessee Technological University, J.A. HAYNES, L.D. CHITWOOD, I.G. WRIGHT, Oak Ridge National Laboratory	B2-1-8 Deposition of Superhard TiAlSiN Thin Films by Cathodic Arc Plasma Deposition, S.K. KIM, University of Ulsan, Korea
11:10 am	A3-1-9 Processing and Mechanical Properties of Ultra-Thick Thermal Barrier Coatings Deposited Using the Solution-Precursor Plasma-Spray Method, A. JADHAV, N.P. PADTURE, E.H. JORDAN, M. GELL, University of Connecticut	
11:30 am	A3-1-10 Europia-doping for Luminescence Sensing of Thermal Barrier Coatings, M.M GENTLEMAN, University of California, Santa Barbara, D.R. CLARKE, University of California Santa Barbara, J.I. ELDRIDGE, Glenn Research Center, NASA	
11:50 am	A3-1-11 DVD Processing of $Sm_2Zr_2O_7$ with/out Substrate Rotation, H. ZHAO, H. WADLEY, University of Virginia	
12:10 pm	A3-1-12 Microstructure and Properties of Direct Current Magnetron Sputtered NiAl Coatings Containing up to 1 at% Hf addition, B. NING, M. SHAMSUZZOHA, M. WEAVER, The University of Alabama	

Tuesday Morning, May 3, 2005

	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B7-3 Properties And Characterization of Hard Coatings And Surfaces Moderators: D. Gall, Rensselaer Polytechnic Institute, J. Patscheider, EMPA	Optical Thin Films Room: Royal Palm 4-6 - Session C2/E6 Mechanical Characteristics of Optical Films Moderators: P. Warren, Pilkington European Technical Centre, J.E. Klemberg-Sapieha, Ecole Polytechnique de Montreal
8:30 am	B7-3-1 Synthesis and Mechanical Evaluation of New Quaternary Ti-Cr-Si-N Coatings Deposited by a Hybrid Method of Arc Ion Plating and Sputtering Techniques, D.K. LEE, D.S. KANG, K.H. KIM, P.K. SONG, Y. SHIGESATO, Pusan National University, South Korea	C2/E6-1 Invited A Concept for Measurment and Design of Optical Films in Respect to their Mechanical Strength, T. CHUDOBA, ASMEC GmbH, Germany
8:50 am	B7-3-2 Oxidation of Arc-Evaporated $Al_xCr_{1-x}N$ Coatings, A.E. REITER, Balzers Ltd., Liechtenstein, R. KAINDL, R. TESSADRI, University of Leboen, Austria, C. MITTERER, University of Leoben, Austria	Invited talk continued.
9:10 am	B7-3-3 The Effect of Multilayers on the Residual Stress in Chromium Nitride Coatings Deposited on Cemented Carbide by Physical Vapour Deposition, F. KEELY, S. CHOWDHURY, M.T. LAUGIER, University of Limerick, Ireland	C2/E6-3 Structural and Mechaincal Properties of ITO Films - Effect of Energetic Conditions, J.E. KLEMBERG-SAPIEHA, M. DUDEK, O. ZABEIDA, L. MARTINU, Ecole Polytechnique de Montreal, Canada
9:30 am	B7-3-4 CrN-Ag High-Temperature Self-Lubricating Composite Coatings, C.P. MULLIGAN, Benet Laboratories, D. GALL, Rensselaer Polytechnic Institute	C2/E6-4 Improvement of Mechanical Properties of photo-spacer for TFT LCD, J.H. HAHN, Korea Research Institute of Standards and Science, South Korea, G.S. KIM, HanKuk Aviation Unversity, South Korea, Y. PAE, H.-J. CHA, ADMS-Tech Co., Ltd., South Korea
9:50 am	B7-3-5 Magnetron Sputtered Nanocrystalline Metastable f.c.c. (Cr,Si)N Coatings, S. ULRICH, M. STÜBER, H. LEISTE, Forschungszentrum Karlsruhe, Germany	C2/E6-5 Nanaoindentation under Displacement Control for the Mechanical Assessment of Multilayer Optical Coatings, J. CHEN, S.J. BULL, University of Newcastle, United Kingdom
10:10 am	B7-3-6 Oxidation Behavior and Morphology of $Cr_xAl_yY_zN$, $Cr_xAl_yB_zN$, $Cr_xAl_ySi_zN$ - PVD Coatings, H. SCHEERER, B.C. SCHRAMM, H. HOCHE, E. BROSZEIT, E. ABELE, C. BERGER, Darmstadt University of Technology, Germany	C2/E6-6 The Influence of Deposition Parameters on the Structure and Properties of Magnetron Sputtered Titania Coatings, A.A. ONIFADE, Salford University, United Kingdom, P.J. KELLY, University of Salford, United Kingdom
10:30 am	B7-3-7 Nanocomposite AlTiNCO Coatings Deposited by the Reactive Cathodic Vacuum Arc Evaporation, J. VETTER, Metaplas Ionon, Germany, T. ISHIKAWA, N. SHIMA, Hitachi Tool Engineering Ltd., Japan	C2/E6-7 Optical and Mechanical Properties of Tantalum Oxynitride Thin Films Deposited by Reactive Magnetron Sputtering, O. BANAKH, P.-A. STEINMANN, L. DUMITRESCU-BUFORN, University of Applied Sciences, Le Locle, Switzerland
10:50 am	B7-3-8 Real-Time In-Situ Growth Study of TiN and TiC_xN_y Based Superhard Nanocomposite Coatings using Spectroscopic Ellipsometry, P.M. JEDRZEJOWSKI, A. AMASSIAN, E. BOUSSER, J.E. KLEMBERG-SAPIEHA, L. MARTINU, Ecole Polytechnique de Montreal, Canada	C2/E6-8 Improved Properties of Optical Coatings Through Substrate Pre-Treatment, G.T. WEST, P.J. KELLY, University of Salford, United Kingdom
11:10 am	B7-3-9 Syntheses and Mechanical Properties of $TiAlC_xN_{1-x}$ Coatings Deposited by Arc Ion Plating, C.S. JANG, J.H. JEON, P.K. SONG, Y. SHIGESATO, K.H. KIM, Pusan National University, South Korea	
11:30 am	B7-3-10 Characterisation and Applications of Cr-Al-N Coatings, E. SPAIN, Tecvac Ltd, United Kingdom, J.C. AVELAR-BATISTA, Tecvac Ltd., United Kingdom, M. LETCH, Tecvac Ltd, United Kingdom, J. HOUSDEN, Tecvac Ltd., United Kingdom	

Tuesday Morning, May 3, 2005

	Tribology of Coatings and Thin Films Room: California - Session E3/F1Mechanical Properties and Adhesion Moderators: Y.T. Cheng, General Motors R&D Center, S. Hainsworth, University of Leicester	Applications, Manufacturing, and Equipment Room: Royal Palm 1-3 - Session G5 Large Area Production Coatings for Webs, Plasma Cleaning and Pretreatment of Large Surfaces Moderators: J.F. Groves, University of Virginia, Chr. Metzner, Fraunhofer Institut fuer Elektronenstrahl- und Plasmatechnik
8:30 am	E3/F1-1 Invited Stress Induced Delamination Methods for the Study of Adhesion of Pt Thin Films to Si Substrates, W.D. NIX, Standord University	G5-1 Invited Plasma and Ion Sources in Large Area Coatings: A Review, A. ANDERS, Lawrence Berkeley National Laboratory
8:50 am	Invited talk continued.	Invited talk continued.
9:10 am	E3/F1-3 The use of Raman Spectroscopy to Identify Strain and Strain Relaxation in Strained Si/SiGe Structures., P. DOBROSZ, S.J. BULL, University of Newcastle, United Kingdom	G5-3 Invited Flexible Displays and Stable High Efficiency Four Terminal Solar Cells using Thin Film Silicon Technology, A. MADAN, MV Systems Inc. and Colorado School of Mines
9:30 am	E3/F1-4 Response to Loading and Stiffness of Coated Substrates Indented by Spheres, I. PANE, E. BLANK, Ecole Polytechnique Federal de Lausanne, Switzerland	Invited talk continued.
9:50 am	E3/F1-6 Material Properties Extracted from Indentation Experiments by Inverse Finite Element Calculations, S. STAUSS, Swiss Federal Institute of Technology Lausanne, EPFLd, Switzerland, J. MICHLER, Swiss Federal Laboratories for Materials Testing and Research (EMPA), Switzerland, E. BLANK, Ecole Polytechnique Federal de Lausanne, Switzerland	G5-5 Properties of Ag-Based Low-E Films Deposited by High Power Pulse Magnetron Sputtering, A. PFLUG, F. RUSKE, M. SIEMERS, W. WEMER, B. SZYSZKA, Fraunhofer Institute for Surface Engineering and Thin Films, Germany, D.J. CHRISTIE, Advanced Energy Industries, Inc., M. GEISLER, Applied Films GmbH & Co.KG, Germany
10:10 am	E3/F1-7 Atomic Level Modeling of the Interface Bonding Between the Aluminum and Silicon Surfaces, V.M. STOILOV, L. INCI, A.M. ALPAS, University of Windsor, Canada	G5-6 Plasma Treatment of Metallurgical Surfaces, E.S. SENOKOSOV, AOZT Klaster, Russia, G. NAUMANN, GFD Innovation und Plasmatechnik, Russia, H. HARTMANN, FQZ Brandenburg GmbH, Germany, A.E. SENOKOSOV, GFD Innovation und Plasmatechnik, Russia
10:30 am	E3/F1-8 Developments in Nano-Impact Testing: A Comparison of Static and Dynamic Measurements of Hardness and Fracture Toughness, N.M. JENNETT, G. ALDRICH-SMITH, J.W. NUNN, National Physical Laboratory, United Kingdom	G5-7 Transparent Abrasion Resistant Layers on Plastic and Metal Substrates by Plasma Activated High Rate Deposition, H. MORGNER, O. ZYWITZKI, F.-H. ROEGNER, CHR. METZNER, Fraunhofer Institut fuer Elektronenstrahl- und Plasmatechnik Germany
10:50 am	E3/F1-9 Impact Test on PVD-Coatings and on Various Substrates at Elevated Temperatures, K.-D. BOUZAKIS, Aristoteles University of Thessaloniki, Greece, E. LILI, A. SAMPRIS, N. MICHAILIDIS, G. MALIARIS, S. KOMPOGIANNIS, Laboratory for Machine Tools and Manufacturing Engineering, Greece	G5-8 On-Line Process Control by X-Ray Fluorescence, J. PILTZ, Amtec GmbH, Germany
11:10 am	E3/F1-10 Thin Film Stress Measurement by Instrumented Optical Fibre Displacement Sensor, S. CHOWDHURY, M.T. LAUGIER, University of Limerick, Ireland	G5-9 Properties of TiO_2 Layers Deposited onto Large Areas by Reactive Plasma-activated High-Rate Electron Beam Evaporation, CHR. METZNER, TH. MODES, B. SCHEFFEL, O. ZYWITZKI, Fraunhofer Institut fuer Elektronenstrahl- und Plasmatechnik, Germany, E. REINHOLD, CHR. STEUER, Von Ardenne Anlagentechnik GmbH Dresden, Germany
11:30 am	E3/F1-11 Processing of Chromium Tungsten Nitride Hard Coatings for Glass Molding, C.H. LIN, J.G. DUH, National Tsing Hua University, Taiwan	
11:50 am	E3/F1-12 Deposition of AlN films on Al substrates for Tribological Applications, U. FIGUEROA, ITESM-CEM, Mexico, O. SALAS, J. OSEGUERA, ITESM, Mexico	

Tuesday Afternoon, May 3, 2005

	Coatings for Use at High Temperature Room: Sunrise - Session A3-2 Thermal Barrier Coatings Moderators: J.R. Nicholls, Cranfield Univ., M.J. Maloney, Pratt & Whitney Aircraft, C. Leyens, German Aerospace Cntr. & Brandenburg Univ. of Tech. Cottbus, C.G. Levi, Univ. of California Santa Barbara	Hard Coatings and Vapor Deposition Technology Room: Sunset - Session B2-2 Arc and E-Beam Coatings and Technologies Moderators: A. Anders, Lawrence Berkeley National Laboratory, G. Hakansson, Tixon, Brukens Sverige AB
1:30 pm	A3-2-1 Invited Thermal Barrier Coating Life Improvement Options, K.S. MURPHY, Howmet Castings and Alcoa Business	B2-2-1 High Current Pulsed Arc for Nano-Materials Applications: Developments in Electronic Discharge Triggering, Cathode Spot Control and Multilayer Deposition, L. RYVES, R.N. TARRANT, University of Sydney, Australia, T.W.H. OATES, Forschungszentrum Rossendorf, Germany, M.M.M BILEK, D.R. MCKENZIE, University of Sydney, Australia
1:50 pm	Invited talk continued.	B2-2-2 Influence of Background Gas Pressure on Copper Film Deposition and Ion Current in A Hot Refractory Anode Vacuum Arc, I.I. BEILIS, A. SHASHURIN, R.L. BOXMAN, S. GOLDSMITH, Tel-Aviv University, Israel
2:10 pm	A3-2-3 Invited Enhancing the Reliability of Thermal Barrier Coatings by Advanced Process Control, S. SAMPATH, A.N. VAIDYA, T. STREIBL, M. FRIIS, State University of New York	B2-2-3 Invited Current Issues in Arc Deposition Technology: An Industry Perspective, L. KARLSSON, SECO Tools AB, Sweden
2:30 pm	Invited talk continued.	Invited talk continued.
2:50 pm	A3-2-5 Formation of Vertical Cracks In Solution Precursor Plasma Spray Thermal Barrier Coatings, M. GELL, L. XIE, D. CHEN, F. WU, University of Connecticut, X.Q. MA, Inframat Corporation, E.H. JORDAN, N.P. PADTURE, A. OZTURK, B.M. CETEGEN, University of Connecticut	B2-2-5 Effect of Ion Energy on Structure and Composition of Cathodic Arc Deposited Alumina Thin Films, J. ROSEN, RWTH Aachen, Germany, S. MRAZ, RWTH-Aachen, Germany, U. KREISSIG, Research Center Rossendorf, Germany, D. MUSIC, J.M. SCHNEIDER, RWTH-Aachen, Germany
3:10 pm	A3-2-6 The Effect of Oxidation Pre-Teatment on the Cyclic Life of EB-PVD Thermal Barrier Coatings with Platinum-Aluminide Bond Coats, V.K. TOLPYGO, D.R. CLARKE, University of California Santa Barbara	B2-2-6 Combination of Ion Plating and Metal Ion Implantation for Low-Temperature Coating on Rapid Prototyping Materials, P.K. SINGH, A.N. PANCKOW, Otto-von-Guericke University, Germany
3:30 pm	A3-2-7 Directed Vapor Deposition of Al-Ni-Cr Bond Coats, Z. YU, H. WADLEY, University of Virginia	B2-2-7 Changes in Microstructural and Mechanical Properties of TiAlN/Metal Nitride Multilayers by Thermal Annealing, K. ICHIJO, T. YAMAMOTO, H. HASEGAWA, Keio University, Japan, K. YAMAMOTO, Kobe Steel Ltd., Japan, T. SUZUKI, Keio University, Japan
3:50 pm	A3-2-8 Thermal Cycling Life of Thermal Barrier Coatings using Cryomilled NiCrAlY Powders as Bond Coat Material, L. AJDELSZTAJN, F. TANG, University of California, Davis, G. KIM, Perpetual Technologies, Canada, V. PROVENZANO, National Institute of Standards and Technology, J.M. SCHOENUNG, University of California	B2-2-8 Deposition of Yttria-Stablized Zirconia Films using Arc Ion Plating, J.T. CHANG, C.H. YEH, J.L. HE, K.C. CHEN, Feng Chia University, Taiwan, A. MATTHEWS, A. LEYLAND, The University of Sheffield, United Kingdom
4:10 pm	A3-2-9 Using Thermal Phase Shift Method for Investigating the Influence of Deposition Process on Thermal Diffusivity of EB-PVD Thermal Barrier Coatings, F. YU, T.D. BENNETT, University of California, Santa Barbara, K. LAWSON, J.R. NICHOLLS, Cranfield University, United Kingdom	B2-2-9 Erosion Resistance Coatings Base on the TiN, Produced by Modification of Vacuum Arc Deposition, V.A. ZAVALEYEV, V.T. TOLOK, A.A. ROMANOV, Kharkov National University, Ukraine, V.I. FARENIK, Scientific Physics and Technics Center, Ukraine, I.M. NEKLYUDOV, National Science Center Kharkov Institute of Physics and Technology, Ukraine, V.V. KUNCHENKO, Y.V. KUNCHENKO, National
4:30 pm	A3-2-10 Plasma Sprayed Thick Thermal Barrier Coatings with Improved Thermal Shock Resistance, H. GUO, National Institute for Materials Science, Japan, H. MURAKAMI, The University of Tokyo, Japan, S. KURODA, National Institute for Materials Science, Japan, R. VASSEN, D. STOEVER, Juelich Research Center, Germany	
4:50 pm	A3-2-11 Effect of Morphology of EB-PVD PYSZ TBCs on Thermal Conductivity, A. FLORES RENTERIA, H.-J. RAETZER-SCHEIBE, U. SCHULZ, B. SARUHAN, German Aerospace Center (DLR)-Cologne, Germany	

Tuesday Afternoon, May 3, 2005

	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B8-1 Hard and Multifunctional Nano-structured Coatings Moderators: J.S. Zabinski, Air Force Research Laboratory, A. Inspektor, Kennemetal, Inc.	Optical Thin Films Room: Royal Palm 4-6 - Session C6 Optical Thin Films for Active Devices Moderators: E. Kurman, JDS Uniphase Corporation, D. Reicher, S. Systems
1:30 pm	B8-1-1 Invited A Review of Multifunctional Wear and Corrosion Resistant Coatings, F.M. KUSTAS, Engineered Coatings, Inc.	C6-1 Invited Mechanics of Optical Coatings in Extreme Thermal Environments, J.J. TALGHADER, University of Minnesota
1:50 pm	Invited talk continued.	Invited talk continued.
2:10 pm	B8-1-3 Nanocomposite Tribological Coatings Prepared by a Hybrid of Filtered Cathodic Arc and Magnetron Sputtering. Part I: Deposition Process, Coating Structure and Basic Property Characterization, V.I. GOROKOVSKY, C. BOWMAN, P.E. GANNON, D. VANVOROUS, Arcomac Surface Engineering, LLC, A. RUTKOWSKI, A.A. VOEVODIN, Air Force Research Laboratory, R.J. [illegible]	C6-3 White OLED Using β-Diketones Rare Earth Bi-Nuclear Complex As Emitting Layer, M. CREMONA, W.G. QUIRINO, C. LEGNANI, Pontificia Universidade Catolica do Rio de Janeiro, Brazil, P.P. LIMA, S.A. JUNIOR, O.L. MALTA, Universidade Federal de Pernambuco, Brazil
2:30 pm	B8-1-4 Nanocomposite Tribological Coatings Prepared by a Hybrid of Filtered Cathodic Arc and Magnetron Sputtering. Part II: Friction, Wear and Corrosion Protective Properties, V.I. GOROKOVSKY, C. BOWMAN, P.E. GANNON, D. VAN VOROUS, Arcomac Surface Engineering, LLC, A. RUTKOWSKI, A.A. VOEVODIN, Air Force Research Laboratory	C6-4 Structure and Electrochromic Property Characterizations of $Ta_{0.3}W_{0.7}O_x$ Thin Films Deposited by Pulsed Laser Ablation, D. YANG, L. XUE, National Research Council Canada
2:50 pm	B8-1-5 Interface Smoothening in Multilayers Deposited by Unbalanced Magnetron Sputtering, J.C. CANCIO, EMPA, Switzerland, F. LEVY, IPMC-SB-EPFL, Switzerland, H.-J. HUG, J. PATSCHEIDER, EMPA, Switzerland	C6-5 Combinatorial Deposition of EL Phosphor Thin Films by r.f. Magnetron Sputtering using a Subdivided Powder Target, T. MINAMI, Y. MOCHIZUKI, T. MIYATA, Kanazawa Institute of Technology, Japan
3:10 pm	B8-1-6 Formation of Nano-Multilayered Coatings in Industrial Hybrid Coater and their Cutting Performance, S. KUJIME, Kobe Steel Ltd.,, Japan, K. TAKAHARA, K. YAMAMOTO, Kobe Steel Ltd., Japan	C6-6 Invited Material Aspects for Transparent and Conductive ZnO Films being Importnat for a-Si:H/μc-Si:H Thin Film Solar and Display Applications, B. SZYSZKA, V. SITTINGER, A. PFLUG, F. RUSKE, Fraunhofer Institute for Surface Engineering and Thin Films, Germany
3:30 pm	B8-1-7 Manufacture, Microstructure and Mechanical Properties of CrWN and CrN/WN Nanolayered Coatings, F.B. WU, S.-K. TIEN, J.G. DUH, National Tsing Hua University, Taiwan	Invited talk continued.
3:50 pm	B8-1-8 The Crystalline Structure, Hardness and Thermal Stability of AlN-CrN Superlattice Coatings Prepared by D.C. Magnetron Sputtering, J.-K. PARK, Korea Institute of Science and Technology, Korea, Y.-J. BAIK, Korea Institute of Science and Technology, South Korea	C6-8 Transparent Thin Film Resistive Heaters, Y.-D. CHEN, J.-M. TING, National Cheng Kung University, Taiwan
4:10 pm		C6-9 The Effects of Oxygen Partial Pressure on Lattice Dynamics and Electrical Properties for Ga-Doped ZnO Thin Films, M. OSADA, National Institute for Materials Science, Japan, T. YAMAMOTO, S. KISHIMOTO, Kochi University of Technology, Japan

Tuesday Afternoon, May 3, 2005

	Carbon and Nitride Materials: Synthesis-structure-property Relationships Room: Royal Palm 1-3 - Session D3 Low-dimensional Carbon Nanostructured Materials Moderators: M. Chhowalla, Rutgers University, C. Ronning, University of Göettingen, S. Ravi	Carbon and Nitride Materials: Synthesis-structure-property Relationships Room: Royal Palm 1-3 - Session D4 Diamon-Based Materials and Devices Moderators: B.R. Stoner, MCNC, V. Mammana, International Technology Center
1:30 pm	D3-1 Invited Carbon Nanotubes for HDTVs and Progress, J.M. KIM, Samsung Inc., South Korea	
1:50 pm	Invited talk continued.	
2:10 pm	D3-3 Temperature-Dependent Microstructure of Carbon Nanosheets, B.L. FRENCH, J. WANG, M. ZHU, D.M. MANOS, B.C. HOLLOWAY, College of William and Mary	
2:30 pm	D3-4 Low Temperature Growth of Carbon Nanotubes by Microwave CVD with Sm-Co Catalyst, J.T. TSAI, Tatung University, Taiwan	
2:50 pm	D3-5 On the Characteristics of Iron-Silicon Thin Film Catalysts for Rapid, Low-Temperature Growth of Carbon Nanotubes, K.-H. LIAO, S.-W. HUNG, W.-J. LIU, Mina Materials Lab, Taiwan, J.-M. TING, National Cheng Kung University, Taiwan	
3:10 pm	D3-6 Invited Gigahertz Carbon Nanotube/Fiber Cathodes, K.B.K. TEO, University of Cambridge, Department of Engineering, United Kingdom, O. GROENING, EMPA, Switzerland, E. MINOUX, Thales Research and Technology, United Kingdom, L. GANGLOFF, University of Cambridge, United Kingdom, J.P. SCHNELL, P. LEGAGNEUX, Thales Research and Technology, United Kingdom, D. DIEUMEGARD, F.BEAUGER, Thales	
3:30 pm	Invited talk continued.	
3:50 pm	D3-8 First Principles Calculation of the Field Emission of Nitrogen/Boron-Doped Carbon Nanotube, H.-S. AHN, Seoul National University, South Korea, S. HAN, Ewha Womans University, South Korea, K.-R. LEE, Korea Institute of Science and Technology, South Korea, D.-Y. KIM, Seoul National University, South Korea	
4:10 pm		D4-9 Invited The Use of CVD Diamond Electrodes in the Oxidation of Organics, P.M. NATISHAN, US Naval Research Laboratory, F.J. MARTIN, Geo Centers, Inc., B.R. STONER, MCNC, J. FARRELL, University of Arizona, H.B. MARTIN, Case Western Reserve University, P.L. HAGANS, W.E. O'GRADY, US Naval Research Laboratory
4:30 pm		Invited talk continued.
4:50 pm		D4-11 Diamond/Nanodiamond Vacuum Field Emission Devices, J.L. DAVIDSON, W.P. KANG, R. TAKALKARA, K. SUBRAMANIAN, Vanderbilt University
5:10 pm		D4-12 Plasma Enhanced Synthesis of Diamond Nanocones, Q. YANG, University of Saskatchewan, Canada
5:30 pm		D4-13 Preparation of Highly Stable, Low Capacitance, Active Carbon by Polymer Blend, J.Y. HWANG, J.H. WANG, National Taiwan University, Taiwan, O.M. CHYAN, University of North Texas, L.C. CHEN, C.-H. SHEN, C.W. CHEN, National Taiwan University, Taiwan, K.H. CHEN, Academic Sinica, Taiwan

Tuesday Afternoon, May 3, 2005

Applications, Manufacturing, and Equipment
Room: California - Session G1
Innovations in Surface Coatings and Treatments
Moderators: P.Eh. Hovsepian, The Sheffield Hallam University, A. Schuetze, Tribo Coating

1:30 pm	G1-1 Invited New Developments in Thermo-Chemical Diffusion Processes, W. GRÄFEN, B. EDENHOFER, Ipsen International GmbH, Germany	
1:50 pm	Invited talk continued.	
2:10 pm	G1-3 Nitrocoat: Science and Application of Duplex Coatings, J.-D. KAMMINGA, Netherlands Institute for Metals Research, Netherlands, G.C.A.M. JANSSEN, TU Delft, Netherlands	
2:30 pm	G1-4 Effect of Coating Thickness and Deposition Methods on The Stripping Rate of Cr-N Coatings, J.C. AVELAR-BATISTA, Tecvac Ltd., United Kingdom, E. SPAIN, Tecvac Ltd, United Kingdom, J. HOUSDEN, Tecvac Ltd., United Kingdom, G. FUENTES, R. RODRIGUEZ, Centre of Advanced Surface Engineering-AIN, Spain, F. MONTALA, L.J. CARRERAS, Tratamientos Termicos Carreras (TTC), Spain, T.J. TATE, IC Consultants Ltd., United Kingdom	
2:50 pm	G1-5 Invited Plasma Surface Modification of Particles, H. KERSTEN, V. BRUESER, G. THIEME, INP Greifswald, Germany, M. QUAAS, H. WULFF, University of Greifswald, Germany	
3:10 pm	Invited talk continued.	
3:30 pm	G1-7 Fluoride Films Produced by Ion Assisted Deposition using a Gridless Ion Source, D.M. GARDNER, W.G. SAINTY, Macquarie University, Australia	
3:50 pm	G1-8 Cubic Boron Nitride (CBN) Based Nanocomposite Coatings on Cutting Tools with Chip Breakers for Hard Turning Applications, W. JIANG, NanoMech LLC, A.P. MALSHE, University of Arkansas, C. GOFORTH, NanoMech LLC	
4:10 pm	G1-9 Quantum Cascade Laser-Absorption Spectroscopy: A Useful Tool for On-Line Process Monitoring, S. GLITSCH, F. HEMPEL, J. RÖPCKE, S. SAß, H. ZIMMERMANN, INP-Greifswald, Germany	

Wednesday Morning, May 4, 2005

	Coatings for Use at High Temperature Room: Sunrise - Session A3-3 Thermal Barrier Coatings Moderators: J.R. Nicholls, Cranfield Univ., M.J. Maloney, Pratt & Whitney Aircraft, C. Leyens, German Aerospace Cntr. & Brandenburg Univ. of Tech. Cottbus, C.G. Levi, Univ. of California, Santa Barbara	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B8-2 Hard and Multifunctional Nano-structured Coatings Moderators: J.S. Zabinski, Air Force Research Laboratory, A. Inspektor, Kennemetal, Inc.
8:30 am	A3-3-1 Invited Characterisation of Thermal Barrier Coatings using Impedance Spectroscopy, P. XIAO, University of Manchester, United Kingdom	B8-2-1 Invited Superhard Nanocomposites: Past, Present and Future, S. VEPREK, Technical University Munich, Germany
8:50 am	Invited talk continued.	Invited talk continued.
9:10 am	A3-3-3 Defect Evolution in Thermal Barrier Coating Systems Under Multi-Axial Thermomechanical Loading, B. BAUFELD, B. BARTSCH, German Aerospace Center, Germany, S. DALKILIC, Anadolu University, Turkey, M. HEINZELMANN, University of Applied Science, Rheinbach, Germany	B8-2-3 Effect of Process Parameters on the Properties of Si-Ti-N Nanostructured Coatings, J. HAFIZ, R. MUKHERJEE, X. WANG, University of Minnesota, M. CULLINAN, Swarthmore College, W. MOOK, W.W. GERBERICH, P MCMURRY, J.V.R. HEBERLEIN, S.L. GIRSHICK, University of Minnesota
9:30 am	A3-3-4 Damage Evolution In Plasma-Sprayed TBCs Under Predominant Oxidation Loading, R. HERZOG, E. TRUNOVA, P. BEDNARZ, W.J. QUADAKKERS, F. SCHUBERT, L. SINGHEISER, Research Centre Jülich, Germany	B8-2-4 The Effect of Ni Addition into nc-TiN/a-SiN_x Nanocomposite Thin Films, S.Y. ZHANG, D. SUN, Nanyang Technological University, Singapore, Y. FU, University of Cambridge, United Kingdom, H. DU, Nanyang Technological University, Singapore
9:50 am	A3-3-5 Rumpling of a PtAl Bond Coat: Comparison Between Experiment and Simulation, A.W. DAVIS, Princeton University, A.G. EVANS, University of California, Santa Barbara	B8-2-5 Exploring the Potential of New Nanocomposite Coatings, M. RUZICKA, Pivot a.s., Czech Republic, M. SIMA, SHM Ltd., Czech Republic, O. CODDET, M. MORSTEIN, Platit AG, Switzerland
10:10 am	A3-3-6 Observations and Analyses of Failure Mechanisms in Thermal Barrier Systems with Two Phase Bond Coats, S. FAULHABER, C. MERCER, T. XU, University of California Santa Barbara, A.G. EVANS, University of California, Santa Barbara	B8-2-6 Investigation of the Tribological Properties of Hard Nanocomposite TiN/Si_3N_4 Coatings on Si Under Dynamic Loading, B. BEAKE, Micro-Materials, Wrexham, United Kingdom, R. VALIZADEH, V.M. VISHNAYAKOV, J.S. COLLIGON, Manchester Metropolitan University, United Kingdom
10:30 am	A3-3-7 Effects of Phase Constituents and Microstructure near Thermally Grown Oxide on the Thermal Cycling Lifetime and Failure of Thermal Barrier Coatings, J. LIU, J.W. BYEON, Y.H. SOHN, University of Central Florida	B8-2-7 Nanocomposite Nc-TiN/a-Si_3N_4 Intermediate Layers on HSS and their Effectiveness in Improving Diamond Coating Adhesion and Wear Resistance, N. ALI, University of Aveiro, Portugal, M. AMAR, W. AHMED, Manchester Metropolitan University, United Kingdom, G. CABRAL, University of Aveiro, Portugal, J.A. MCLAUGHLIN, University of Ulster, Northern Ireland, United Kingdom, V.F. NETO, University of Aveiro, A STAMBOULIS, P. LEMOINE, University of Ulster, United Kingdom, E. TITUS,
10:50 am	A3-3-8 High Temperature Aging of YSZ Coatings and Subsequent Transformation at Room Temperature, V. LUGHI, D.R. CLARKE, University of California Santa Barbara	B8-2-8 Influence of Si on the Microstructure of Arc Evaporated $Ti_{1-x}Si_xN$ Thin Films, A. FLINK, Linköping University, Sweden, J. SJÖLÉN, SECO Tools AB, Sweden, T. LARSSON, Fagersta, Sweden, L. KARLSSON, SECO Tools AB, Sweden, L. HULTMAN, Linköping University, Sweden
11:10 am	A3-3-9 Monitoring Damage Evolution in Thermal Barrier Coatings with Thermal Wave Imaging, B. FRANKE, Y.H. SOHN, University of Central Florida, X. CHEN, J.R. PRICE, Solar Turbines Incorporated	B8-2-9 High-Temperature Oxidation Resistance of Ternary Zr-Si-N and W-Si-N Films with a High Si Content, P. ZEMAN, J. MUSIL, University of West Bohemia, Czech Republic
11:30 am	A3-3-10 Microstructure Degradation of TBCs under Molten CMAS, S. KRAEMER, J. YANG, University of California Santa Barbara, C.G. LEVI, University of California, Santa Barbara	B8-2-10 Advanced Finite Element Method Modeling of Non-Linear, Pressure-Dependent Mechanical Properties of Superhard Nanocomposites Upon Indentation, R.G. VEPREK, Federal Institute of Technology (ETH), Switzerland, D.M. PARKS, A.S. ARGON, Massachusetts Institute of Technology, M. FARSHAD, EMPA, Switzerland, S. VEPREK, Technical University Munich, Germany
11:50 am	A3-3-11 Thermal Conductivity Imaging of Thermal Barrier Coatings, X. ZHENG, D.G. CAHILL, University of Illinois at Urbana-Champaign, J.-C. ZHAO, General Electric Global Research	
12:10 pm	A3-3-12 Non-destructive Thermal Barrier Coating (TBC) Damage Assessment using Photothermal Radiometry, B. HEEG, MetroLaser, Inc., D.R. CLARKE, University of California Santa Barbara	

Wednesday Morning, May 4, 2005

	Carbon and Nitride Materials: Synthesis-structure-property Relationships; Room: Royal Palm 1-3 - Session D1-1 Carbon Nitride, Boron Nitride and Group-III (Al, Ga, In) Nitride Materials Moderators: K. Bewilogua, Fraunhofer IST, S. Gwo, National Tsing-Hua University	Tribology of Coatings and Thin Films Room: California - Session E1 Friction and Wear of Coatings I: Lubrication and Surface Effects Moderators: J. Lince, The Aerospace Corporation, J. Fontaine, Ecole Centrale de Lyon
8:30 am	D1-1-1 Invited Ion Bombardment for Stress Release in Cubic Boron Nitride Thin Films, W. MÖLLER, Forschungszentrum Rossendorf e.V., Germany	E1-1 Co-Sputtered Mo:S:C:Ti:B Based Coating for Tribological Applications, I. EFEOGLU, Ataturk University, Turkey
8:50 am	Invited talk continued.	E1-2 Growth, Structure, and Tribology of Atomic Layer Deposited Hard and Solid Lubricant Thin Films, T.W. SCHARF, S.V. PRASAD, M.T. DUGGER, P.G. KOTULA, R.S. GOEKE, T.M. MAYER, N.R. MOODY, Sandia National Laboratories
9:10 am	D1-1-3 Microstructure Evolution of Turbostratic Boron Nitride with Ion Bombardment, J.-H. JEONG, J.-K. PARK, Y.-J. BAIK, Korea Institute of Science and Technology, South Korea	E1-3 Lubrication of Multilayered and Composite Sb_2O_3 Doped MoS_2, DLC, and MoS_2/Graphite Coatings Grown by PVD: Performance and Mechanisms, J.S. ZABINSKI, J.H. SANDERS, B.S. PHILLIPS, J.E. BULTMAN, J.J. HU, Air Force Research Laboratory
9:30 am	D1-1-4 In Situ Deposition of B_4C / BCN / c-BN Multilayered Thin Films by r.f. Magnetron Sputtering, G. BEJARANO, SENA, Colombia, J.M. CAICEDO, G. ZAMBRANO, E. BACA, O. MORAN, P. PRIETO, Universidad del Valle, Colombia	E1-4 Invited The Effect of Nitrogen and Hydrogen on Reducing Friction of Carbon-Based Coatings, K. KOJI, K. ADACHI, Tohoku University, Japan
9:50 am	D1-1-5 Boron Carbide and Boron Carbonitride Thin Films As Protective Coatings in Ultra-High Density Hard Disk Drives, Y.F. CHEN, Northwestern University, Y.W. CHUNG, Northwestern University, S.Y. LI, Northwestern University	Invited talk continued.
10:10 am	D1-1-6 The Deposition and Characteristics evaluation of BCN Films by Cathodic Arc Evaporation, P.C. TSAI, National Huwei University of Science and Technology, Taiwan, K.H. CHEN, Academic Sinica, Taiwan	E1-6 Tribological Properties of Oriented Carbon Nanotube Coatings Produced by Plasma-Enhanced Chemical Vapor Deposition, J.J. HU, A.A. VOEVODIN, Air Force Research Laboratory, S.H. JO, Z.F. REN, Boston College, J.S. ZABINSKI, Air Force Research Laboratory
10:30 am	D1-1-7 Boron Based and cBN Combination Coatings - Characterization and Application Tests, M. KEUNECKE, Fraunhofer-Institute for Surface Engineering and Thin Films (IST), Germany, K. BEWILOGUA, Fraunhofer-Institute for Surface Eng. and Thin Films, Germany, E. WIEMANN, Institute for Machine Tools and Factory Management, Germany, K. WEIGEL, R. WITTORF, H. THOMSEN, Fraunhofer-Institute for Surface Eng. and Thin Films, Germany	E1-7 Nano Tribological Properties of Perfluoropolyether-Coated Magnetic Disk Evaluated by Vertical and Lateral Vibration Wear Tests, S. MIYAKE, M. WANG, S. NINOMIYA, Nippon Institute of Technology, Japan
10:50 am	D1-1-8 Reactive Magnetron Sputtering of Hard Si-B-C-N Films and Their Properties, J. VLCEK, S. POTOCKY, J. HOUSKA, P. ZEMAN, Z. SOUKUP, University of West Bohemia, Czech Republic, V. PERINA, J. ZEMEK, Academy of Sciences, Czech Republic, L. MARTINU, Ecole Polytechnique de Montreal, Canada	E1-8 Relation Between Oxidation Behavior and Tribological Properties of Ti Al-V-N Coatings, K. KUTSCHEJ, Materials Center Leoben, Austria, P.H. MAYRHOFER, University of Leoben, Austria, M. KATHREIN, CERATIZIT Austria GmbH, Austria, P. POLCIK, PLANSEE Ag, Austria, C. MITTERER, University of Leoben, Austria
11:10 am	D1-1-9 Invited Synthesis and Properties of CN_x Films Deposited by Magnetron Sputtering Amplified by RF Inductive Plasma, P.-Y. TESSIER, B. ANGLERAUD, University Nantes, France, H.F. HILDEBRAND, Ecole Nationale Supérieure de Mécanique et d'Aérotechniques, France, P. VILLECHAISE, Faculté de Médecine, France, M.P. BESLAND, A. DJOUADI, University Nantes, France	E1-9 Superelastic (Cr,Al)N Coatings for High End Spindel Bearings, L. LUGSCHEIDER, O. KNOTEK, K. BOBZIN, M. MAES, C. BRECHER, G. SPACHTHOLZ, Aachen University, Germany
11:30 am	Invited talk continued.	E1-10 Tribological Behaviour of Self-Lubrication Coating Deposited using Electrolytic Plasma Process, L. WANG, Univerisity of Windsor, Canada, A.T. ALPAS, X. NIE, University of Windsor, Canada
11:50 am	D1-1-11 Nanoindentation Response of High Performance Fullerene-Like CN_x, J.F. PALACIO, S.J. BULL, University of Newcastle, United Kingdom, J. NEIDHARDT, L. HULTMAN, Linkoping University, Sweden	

Wednesday Morning, May 4, 2005

	New Horizons in Coatings and Thin Films Room: Royal Palm 4-6 - Session H3 Thin Films for Next Generation Devices Moderator: A. Iliadis, University of Maryland	Topical Sessions Room: Sunset - Session TS2-1 Coatings and Automotive Applications Moderators: A. Ravagni, Balzers AG, E. Bergmann, Geneva School of Engineering
8:30 am	H3-1 Invited Macroscopic Hierarchical Nanowire Thin Films and Devices, Y. LU, Tulane University	TS2-1-1 Invited Future Demands for Surface Treatments in Engines, R. ELLENSOHN, IVECO, Switzerland
8:50 am	Invited talk continued.	Invited talk continued.
9:10 am	H3-3 Hetero-Epitaxy Growth of $B_{12}P_2$ on Various Substrates by MOCVD, D. ZHONG, J.J. MOORE, Colorado School of Mines, T.L ASELAGE, Sandia National Laboratories, H. KLEEBE, Colorado School of Mines, A. MADAN, MV Systems Inc. and Colorado School of Mines, A.O. KUNRATH, B. MISHRA, Colorado School of Mines	TS2-1-3 Surface Treatment Seletion for Automotive Applications, J. VETTER, Metaplas Ionon, Germany, G. BARBEZAT, Sulzer Metco AG, Switzerland, J. CRUMMENAUER, Metaplas Ionon, Germany, J. AVISSAR, Sulzer Metaplas (US) Inc.
9:30 am	H3-4 Electrolytic Deposition of Valve Metal Oxide Thin Films - Characterization of Coating Morphology, Structure, Chemistry and Nano-Mechanical Properties, P. KERN, Swiss Federal Institute for Materials Testing and Research (EMPA), Switzerland, L. PHILIPPE, Swiss Federal Institute of Materials Testing and Research (EMPA), Switzerland, J. MICHLER, Swiss Federal Laboratories for Materials Testing and Research (EMPA), Switzerland	TS2-1-4 Application of CrN Coatings on Piston Rings, K.W. MAIER, Mahle GmbH, Germany
9:50 am	H3-5 Structure-Electrical Properties Relationship of Sodium Superionic Conductor Sputter-Deposited Coatings, D. HORWAT, Laboratoire de Science et Génie des Surfaces, France, E. SIEBERT, LEPMI, France, A. BILLARD, École des Mines Parc de Saurupt, France	TS2-1-5 Applications of Arc PVD Coatings for Automotive Parts, H. TAMAGAKI, H. KAWAGUCHI, H. FUJII, Kobe Steel, Ltd., Japan
10:10 am	H3-6 Parameterized Approach to MEMS Mechanical Gear Design, E.S. KOLESAR, C.A. EDWARDS, Texas Christian University	TS2-1-6 Invited Industrial use of Plasma Deposited Coatings for Components of Automotive Fuel Injection Systems, C. TREUTLER
10:30 am	H3-7 Deposition of TaN Thin Films by DC-Magnetron Sputtering of Ceramic TaN Sputtering Targets, A. SCHINTLMEISTER, P. WILHARTITZ, Plansee AG, Austria, B. SARTORY, University of Innsbruck, Austria	Invited talk continued.
10:50 am	H3-8 Memory Effect of Sol-Gel Derived V-doped $SrZrO_3$ Thin Films, C.-Y. LIU, National Chiao-Tung University, Taiwan, C.-C. CHUANG, National Chiao-Tung University, Taiean, J.-S. CHEN, National Chiao-Tung University, Taiwan, A. WANG, W.-Y. YANG, J.-C. YOUNG, K.-Y. CHIU, Winbond Electronics Corp., Taiwan, T.-Y. TSENG, National Chiao-Tung University, Taiwan	TS2-1-8 Tribological Systems Compatible to Environment through Suitable Material Compounds and Fluids at the Rolling Bearing Example, P.W. GOLD, J. LOOS, M. KUHN, IME RWTH Aachen, Germany
11:10 am	H3-9 Protein Immobilization on Thin ZnO Films Grown on (100) p-Si for Biosensor Applications, S KRISHNAMOORTHY, University of Maryland, T. BEI, National Institute of Health, A. ILIADIS, University of Maryland	TS2-1-9 Coating Design for Automotive Applications, M. DIPPEL, O. MASSLER, A. RAVAGNI, Balzers AG, Liechtenstein
11:30 am	H3-10 Deposition and Characterization of a Novel Integrated ZnO Nanorod/ZnO Thin Film Structure on Glass, T.L. CHOU, J.-M. TING, National Cheng Kung University, Taiwan	TS2-1-10 A Synergistic Approach on DLC Coatings for Performance Engines Applications, P. MAURIN-PERRIER, HEF R&D, France, R. RIAND, Del West Europe, Switzerland, C. HEAU, HEF R&D, France, B. ENGELRIC, Del West Europe, Switzerland, A. SOMMER, Del West Engineering Inc.
11:50 am		TS2-1-11 DLC and Multilayer Coatings for Racing Applications, Y. SAMPEUR, F. DÉRANGÈRE, ICC, Innovative Coating Company, France, T. OZYCZ, ADC, Applied Diamond Coatings

Wednesday Afternoon, May 4, 2005

	Coatings for Use at High Temperature Room: Sunrise - Session A4 Clearance Control Moderators: R.C. Tucker, The Tucker Group, LLC, T.A. Taylor, Praxair Surface Technologies	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B8-3 Hard and Multifunctional Nano-structured Coatings Moderators: J.S. Zabinski, Air Force Research Laboratory, A. Inspektor, Kennemetal, Inc.
1:30 pm	A4-1 Invited Turbomachine Interface Sealing, R.C. HENDRICKS, NASA Glenn Research Center, R.E. CHUPP, General Electric Global Research, S.B. LATTIME, B.M. STEINETZ, NASA Glenn Research Center	B8-3-1 Structure of Sputtered nc-Cr-C/a-C:H Thin Films, G. GASSNER, University of Leoben, Austria, E. HEGEDŰS, I. KOVACS, L. TÓTH, B. PÉCZ, MFA Research Institute for Technical Physics and Materials Science, Hungary, J. PATSCHEIDER, EMPA, Switzerland, P.H. MAYRHOFER, C. MITTERER, University of Leoben, Austria
1:50 pm	Invited talk continued.	B8-3-2 Characterization of High Temperature Behavior of Metal-Containing Hydrogenated Carbon Coatings, B. SHI, W.J. MENG, Louisiana State University
2:10 pm	A4-3 Thermal and Mechanical Testing and Analysis of Abradable Coating Materials, N.P. HOPKINS, Rolls-Royce, United Kingdom	B8-3-3 Deposition of Ti-B-C-N Nanocomposite Coatings by DC Unbalanced Magnetron Sputtering: Effects of Substrate Temperature and Bias Voltage, I.W. PARK, Colorado School of Mines, K.H. KIM, Pusan National University, South Korea, A.O. KUNRATH, D. ZHONG, J.J. MOORE, Colorado School of Mines, A.A. VOEVODIN, Air Force Research Laboratory, E.A. LEVASHOV, Moskow State Institute for Steel and Alloys, Russia
2:30 pm	A4-4 Abradable Coating Development for Industrial Gas Turbines, D.B. ALLEN, Siemens Westinghouse Power Corporation	B8-3-4 High-Temperature Oxidation and Wear Properties of Nanocrystalline AlCrN and CrAlN Coatings Deposited by Closed Field Unbalanced Magnetron Sputtering, G.S. KIM, S.Y. LEE, HanKuk Aviation Unversity, South Korea, J.H. HAHN, Korea Research Institute of Standards and Science, South Korea
2:50 pm	BREAK	B8-3-5 Adaptive Nanocomposite Tribological Coatings for use at High Temperature, C. MURATORE, A.A. VOEVODIN, J.J. HU, J.J. JONES, J.S. ZABINSKI, Air Force Research Laboratory
3:10 pm	A4-6 High Temperature Abradables for Gas Turbine Applications, F. GHASRIPOOR, R.E. CHUPP, Y.C. LAU, General Electric Global Research	B8-3-6 Role of the Interface in the Mechanical Properties of nc-ZrN/a-M (M=Ag, Au, or Pd) Nanocomposite Films, S.M. AOUADI, S. EL-HANAFI, A. BOHNHOFF, P.K. SHREEMAN, Q. GE, Southern Illinois University, J. XU, S.R. MISHRA, University of Memphis, P. FILIP, Southern Illinois University
3:30 pm	A4-7 Future Abradable Requirements Needed by Aerospace OEM's and Their Material and Equipment Suppliers, M.R. DORFMAN, Sulzer Metco (US) Inc., K. HAJMRLE, P. FIALA, Sulzer Metco Inc., Canada, C. BRITTON, Sulzer Metco Ltd., United Kingdom, M.M. NONNI, Sulzer Metco (US) Inc.	B8-3-7 Production and Characterization of TiN-Sn Nanocomposite Coatings, M. URGEN, A. OZTURK, B. DARYAL, V. ERIZMIK, A.F. CAKIR, Istanbul Technical University, Turkey
3:50 pm	A4-8 Abradable Testing Capabilities at Sulzer Innotec, S. WILSON, Sulzer Innotec, Sulzer Markets & Technology AG, Switzerland	B8-3-8 Nanocomposite Alumina-Zirconia Thin Films by Dual RF Magnetron Sputtering from Oxide Targets, D.H. TRINH, H. HÖGBERG, J. ANDERSSON, Linköping University, Sweden, M. COLLIN, I. REINECK, AB Sandvik Tooling, Västberga, Sweden, U. HELMERSSON, L. HULTMAN, Linköping University, Sweden
4:10 pm	A4-9 Rub Test Rig at Praxair Surface Technologies, T.A. TAYLOR, Praxair Surface Technologies	B8-3-9 Applications of Nanoscale Surface Topografies of TiAlN- and TiO_2-Coatings, F. BURMEISTER, G. KLEER, Fraunhofer Institute for mechanics of materials, germany, A. GOMBERT, B. BLAESI, Fraunhofer Institute for Solar Energy Systems, Germany

Wednesday Afternoon, May 4, 2005

	Carbon and Nitride Materials: Synthesis-structure-property Relationships; Room: Royal Palm 1-3 - Session D1-2 Carbon Nitride, Boron Nitride & Group-III (Al, Ga, In) Nitride Matls. Carbon Nitride, Boron Nitride & Group-III (Al, Ga, In) Nitride Materials; Moderators: K. Bewilogua, Fraunhofer IST, S. Gwo, National Tsing-Hua University	Tribology of Coatings and Thin Films Room: California - Session E4 Tribology of Diamond, Diamond-like and Related Carbon Coatings/Thin Films Moderators: C. Donnet, University Jean Monnet, K. Miyoshi, NASA - John Glenn Research Center
1:30 pm	D1-2-1 Invited Optical Properties of InN, V.YU. DAVYDOV, A.A. KLOCHIKHIN, V.V. EMTSEV, A.F.Ioffe Physico-Technical Institute, RAS, Russia	E4-1 Invited Different Carbon Based Thin Films and their Microtribological Behaviour in MEMS Applications, R. BANDORF, H. LÜTHJE, C. HENKE, J. WIEBE, J.-H. SICK, Fraunhofer IST, Germany
1:50 pm	Invited talk continued.	Invited talk continued.
2:10 pm	D1-2-3 Clear-Cut Evidence for Nitrogen-Excess in InN Thin Films, H. TIMMERS, S.K. SHRESTHA, University of New South Wales at the Australian Defence Force Academy, Australia, K.S.A. BUTCHER, M WINTREBERT-FOUQUET, P.P.T. CHEN, Macquarie University, Australia	E4-3 Tribological Properties of Carbon and Titanium Carbide Multilayer Hard and Solid Lubricating Films, T.H HASHIZUME, S.M. MIYAKE, S. WATANABE, Nippon Institute of Technology, Japan, M.S. SATO, Oiles Corporation, Japan
2:30 pm	D1-2-4 AlN Buffer Layer Depedent Optical Properties of Wurzite InN Epitaxial Films on Si(111) Studied by Spectroscopic Ellipsometry, C.-H. SHEN, C.-L. WU, S. GWO, National Tsing-Hua University, Taiwan, H. AHN, Industrial Technology Research Institute, Taiwan	E4-4 Material Transfer Phenomena During Friction of Metal-Doped Ta-C, J. FONTAINE, M. BELIN, Ecole Centrale de Lyon, France, N. BENCHIKH, F. GARRELIE, C. DONNET, University Jean Monnet, France
2:50 pm	D1-2-5 Invited Metalorganic Vapor Phase Epitaxial (MOVPE) Growth of InN, A. YAMAMOTO, H. MIWA, A. HASHIMOTO, University of Fukui, Japan	E4-5 Tribology and Adhesion of Diamond-like Nanocomposite Coatings for MEMS Applications, S.V. PRASAD, T.E. SCHARF, Sandia National Laboratories
3:10 pm	Invited talk continued.	E4-6 Effect of Counterface Materials on the Humidity Dependence of Tribological Behaviors of Diamond-like Carbon, S.-J. PARK, K.-R. LEE, S.-C LEE, T.-Y. KIM, Korea Institute of Science and Technology, South Korea, D.-H. KO, Yonsei University, South Korea
3:30 pm	D1-2-7 Commensurately Matched InN/AlN Heterojunction Grown by Plasma Assisted Molecular-Beam Epitaxy, C.-L. WU, C.-H. SHEN, H.-W. LIN, H.-M. LEE, S. GWO, National Tsing-Hua University, Taiwan	E4-7 Effect of Temperature and Environment on the Tribological Behavior of the Magnetron Sputtered Non-Hydrogenated Diamond-Like Carbon Coatings Against 319 Aluminum Alloy, Tungsten Carbide, and Sapphire, E. KONCA, University Of Windsor, Canada, Y.T. CHENG, A.M. WEINER, J.M. DASCH, General Motors R&D Center, A.T. ALPAS, University of Windsor, Canada
3:50 pm	D1-2-8 Invited Physics of Electron Transport in InN/GaN/AlN Alloys, M.S. SHUR, Rensselaer Polytechnic Institute	E4-8 Invited Application of DLCs and other Carbon Based Nano-Particles for Aeronautics and Space Applications, K.W. STREET, S.V. PEPPER, NASA - Glenn Research Center, R.L. VANDER WAL, A.J. TOMASEK, National Center for Microgravity Research, W.R. JONES, Sest, Inc, M.J. JANSEN, University of Toledo, V.N. KHABASHESKU, Rice University, R. ANDREWS, Center for Applied Energy Research
4:10 pm	Invited talk continued.	Invited talk continued.
4:30 pm	D1-2-10 InN Quantum Dots Grown on GaN and AlN by Plasma Assisted Molecular-Beam Epitaxy, C.-H. SHEN, H.-W. LIN, H.-M. LI, C.-L. WU, S. GWO, National Tsing-Hua University, Taiwan	E4-10 Wear Resistant Coatings For Polymer Substrates, S.K. FIELD, D.G. TEER, S. YANG, Teer Coatings Ltd., United Kingdom
4:50 pm	D1-2-11 Synthesis, Structural and Optical Studies of InN Nanobelts and InN GaN Nanocables, C.W. HSU, Academia Sinica, Taiwan, M.S. HU, W.C. LAI, K.H. CHEN, L.S. HONG, C.W. CHEN, L.C. CHEN, National Taiwan University, Taiwan	E4-11 Carbon Coatings with Optimised Sliding Behaviour for Precision Components in Industrial and Automotive Applications, O. MASSLER, M. DIPPEL, H. EBERLE, M. GRISCHKE, A. RAVAGNI, Balzers AG, Liechtenstein
5:10 pm	D1-2-12 Electrical Properties of Single Gan Nanowire Field-Effect Transistor Patterned by Shadow Mask, C.Y. CHANG, B.J. PONG, Y.M. LAIO, G.C. CHI, National Central University, Taiwan, J.T.H. TSAI, Tatung University, Taiwan, W.M. WANG, L.C. CHEN, National Taiwan University, Taiwan, K.H. CHEN, Academic Sinica, Taiwan	

Wednesday Afternoon, May 4, 2005

	New Horizons in Coatings and Thin Films Room: Royal Palm 4-6 - Session H1-1 Nanostructured Coatings and Novel Deposition Strategies Moderators: G.S. Fox-Rabinovich, McMaster University, P.H. Mayrhofer, University of Leoben	New Horizons in Coatings and Thin Films Room: Royal Palm 4-6 - Session H4 Novel Approaches to Nonchromate Corrosion Protection Moderators: N.N. Voevodin, University of Dayton Research Institute, V.N. Balbyshev, Universal Technology Corporation
1:30 pm		H4-1 Invited Pigment Grade Corrosion Inhibitors: a Progress Review on their Chemistry and Mechanism, J. SINKO, Wayne Pigment Corporation
1:50 pm		Invited talk continued.
2:10 pm		H4-3 Invited Modifying the Corrosion Behavior of Active Metals by Conjugated Polymer Coatings, D.E. TALLMAN, J. HE, K. LEVINE, G.P. BIERWAGEN, North Dakota State University
2:30 pm		Invited talk continued.
2:50 pm		H4-5 Non-Chromated Coating Systems for Corrosion Protection of Aircraft Aluminum Alloys, N.N. VOEVODIN, University of Dayton Research Institute, V.N. BALBYSHEV, A.N. KHRAMOV, Universal Technology Corporation, J. JOHNSON, R.A. MANTZ, Air Force Research Laboratory
3:10 pm		H4-6 Organo-Silicate Coatings with Phosphonate Functionalities for Corrosion Protection of Magnesium Alloys, A.N. KHRAMOV, V.N. BALBYSHEV, Universal Technology Corporation, L.S. KASTEN, University of Dayton Research Institute, R.A. MANTZ, Air Force Research Laboratory
3:30 pm		H4-7 Optimization of Electrolytic Plasma Process (EPP) for Coating Mg Alloys for Corrosion Protection, Y. MA, X. NIE, D.O. NORTHWOOD, H. HU, University of Windsor, Canada
3:50 pm	H1-1-8 Invited Self-Organization of Nanostructures in Semiconductor Heteroepitaxy, C. TEICHERT, University of Leoben, Austria	
4:10 pm	Invited talk continued.	
4:30 pm	H1-1-10 Spatially-Defined Arrays of Metal Oxide Quantum Dots on $SrTiO_3$ (100), Y. DU, J.F. GROVES, University of Virginia, I. LYUBINETSKY, S. THEVUTHASAN, D. BAER, Pacific Northwest National Lab	
4:50 pm	H1-1-11 Preparation and Characterization of Nanocrystalline Porous TiO_2/WO_3 Composite Thin Films, C.S. HSU, C.K. LIN, C.C. CHAN, C.C. CHANG, Feng Chia University, Taiwan	
5:10 pm	H1-1-12 Self-Organization of the Coating Deposited by Gas-Dynamical Method, J.S. GERSHMAN, All-Russian Railway Research Institute, Russia, S.I. SOLDATENKOV, Moscow State Industrial University, Russia	

Wednesday Afternoon, May 4, 2005

Topical Sessions
Room: Sunset - Session TS2-2
Coatings and Automotive Applications
Moderators: A. Ravagni, Balzers AG,
E. Bergmann, Geneva School of Engineering

1:30 pm	TS2-2-1 Friction and Wear Properties of Ta-C and a-C:H Coating Under Ultra High Vacuum, C. MEUNIER, FEMTO-ST/CREST, France, P. ALERS, Vacotec SA, Switzerland, J. STAUFFER, CAFI, Centre Analyses par Faisceau Ionique, Switzerland, N. RANDALL, CSM-Instruments Inc., S. MIKHAILOV, CAFI, Centre Analyses par Faisceau Ionique, Switzerland	
1:50 pm	TS2-2-2 Tribological Reactions between Oil Additives and DLC Coatings for Automotive Applications, B. PODGORNIK, University of Ljubljana, Slovenia	
2:10 pm	TS2-2-3 Invited Equipment Design Aspects of Large Scale Automotive Applications., R. TIETEMA, T. KRUG, Hauzer Techno Coating BV, Netherlands, C. STRONDL, Hazuer Techno Coating BV, Netherlands	
2:30 pm	Invited talk continued.	
2:50 pm	TS2-2-5 Invited Advanced Thermal Spray Technology and Coating for Lighweight Engine Blocks for the Automotive Industry, G. BARBEZAT, Sulzer Metco AG, Switzerland	
3:10 pm	Invited talk continued.	
3:30 pm	TS2-2-7 Invited Future Demands for Coatings in Gasoline and Diesel Fuel Systems, T. BORDEWYK, Delphi Automotive Systems	
3:50 pm	Invited talk continued.	
4:10 pm	TS2-2-9 Study of Self-Lubricated Coatings on Angular Bearing used in Gear Boxes., N.M. RENEVIER, T. SPERRING, F. VELASCO, I. SHERRINGTON, University of Central Lancashire, United Kingdom, R.D. ARNELL, University of Salford, United Kingdom	
4:30 pm	TS2-2-10 Sputter Coatings for Bearing Applications, WALTER GÄRTNER, Del West	
4:50 pm	TS2-2-11 Nitriding of Metallic Bipolar Plate Materials for PEM Fuel Cells, X. LI, D.O. NORTHWOOD, University of Windsor, Canada, L. WANG, Univerisity of Windsor, Canada, X. NIE, University of Windsor, Canada	

Thursday Morning, May 5, 2005

	Coatings for Use at High Temperature Room: Sunrise - Session A2 Coatings for Use in Fuel Cells, Catalysis and Membranes Moderators: D. Lipkin, General Electric Research, D.R. Mumm, University of California, Irvine	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B1-1 Sputtering Coatings and Technologies Moderators: F. Richter, TU Chemnitz, D. Glocker, Isoflux, Inc.
8:30 am	A2-1 Invited Coatings and Deposition Processes for Solid Oxide Fuel Cells (SOFC): a Review, P. SINGH, L. PEDERSON, Pacific Northwest National Laboratory	B1-1-1 Invited Measuring the Plasma Characteristics in Pulsed DC Magnetron Sputtering Discharges, J.W. BRADLEY, University of Liverpool, United Kingdom
8:50 am	Invited talk continued.	Invited talk continued.
9:10 am	A2-3 A Comparison of Electrical Properties of Sputter-Deposited Electrolyte Coatings Dedicated to Intermediate Temperature Solid Oxide Fuel Cells, P. BRIOIS, Laboratoire de Science et Génie des Surfaces, France, A. BILLARD, Ecole des Mines-Parc de Saurupt, France	B1-1-3 Cathode Current Distributions in Unbalanced Magnetrons, G.C.B. CLARKE, P.J. KELLY, University of Salford, United Kingdom, J.W. BRADLEY, University of Liverpool, United Kingdom
9:30 am	A2-4 Processing of Yttria-Stabilized Zirconia (YSZ) Thin Films for SOFC Electrolyte Application, Y. PAN, J.H. ZHU, Tennessee Technological University, M.Z. HU, Oak Ridge National Laboratory, E.A. PAYZANT, Oak Rudge National Laboratory	B1-1-4 Influence of the Target Temperature on the Sputtering Mode Stability for Reactive Deposition of Oxides and Nitrides, D. MERCS, Laboratoire d'Etudes et de recherche des matériaux. Les procédés et les surfaces (UTBM-LERMPS), France, A. BILLARD, École des Mines Parc de Saurupt, France
9:50 am	BREAK	B1-1-5 Optical Emission Spectroscopy in an Inverted Cylindrical Magnetron Plasma, A.D. SRIVASTAVA, A. KHANNA, D.G. BHAT, M.H. GORDON, University of Arkansas
10:10 am	A2-6 High Temperature Oxidation and Surface Electrical Conductivity of Ferritic Steel with and without Filtered Arc Cr-Al-O-N Coatings, P.E. GANNON, M.C. DEIBERT, R.J. SMITH, Montana State University, V.I. GOROKOVSKY, Arcomac Surface Engineering, LLC	B1-1-6 Magnetron Rod Cathode for Inner Cylinder Coatings, F. LÖFFLER, Pysikalisch-Technische Bundesanstalt, Germany
10:30 am	A2-7 Influence of Post Treatments on the Contact Resistance of Plasma Sprayed $La_{0.8}Sr_{0.2}MnO_3$ Coating on SOFC Metallic Interconnector, D.P. LIM, D.S. LIM, Korea University, South Korea, J.S. OH, I.W. LYO, Research & Development Division for Hyundai Motor, South Korea	B1-1-7 Growth Mechanisms and Corrosion Characteristics of Magnetron Sputtered Cr Films, R. WEI, K.-T. CHIANG, J. DANTE, E. LANGA, C. RINCON, J. ARPS, Southwest Research Institute
10:50 am	A2-8 Fabrication of of Self-Supported Pd-Alloy Membranes using Vacuum Deposition Methods, B.R. LANNING, C.A. ENGEL, W.J. RIGGS, Southwest Research Institute, E. ARSLAN, Ataturk University, Turkey, J.D. WAY, O. ISHTEIWY, Colorado School of Mines	B1-1-8 Fabrication and Characterization of Non-Evaporable Porous Getter Films, C.-C. LI, J.-L. HUANG, National Cheng-Kung University, Taiwan, R.-J. LIN, Industrial Technology Research Institute, Taiwna
11:10 am	A2-9 Protonic Conductivity Nanostructured Film with Improved Co_2 Resistance at High Temperature, X.Q. MA, J.X. DAI, H. ZHANG, D. REISNER, US Nanocorp, Inc.	B1-1-9 W-Fe Alloy Nanolayer Growth by Magnetron Co-Sputtering, P. PLANTIN, Universite d'Orleans-CNRS, France, P. BRAULT, A.-L. THOMANN, GREMI Universite d'Orleans-CNRS, France, TH. SAUVAGE, CERI CNRS Orleans, France, P.-O. RENAULT, D. FAURIE, LMP CNRS - Universite Poitiers, France, P. GOUDEAU, Universite Poitiers, France, E. LE BOURHIS, LMP CNRS - Universite Poitiers, France
11:30 am	A2-10 Processing of Manganese Substituted Hexaluminate Coatings and their Catalytic Properties for NO_x-Emission Reduction, B. SARUHAN, German Aerospace Center (DLR)-Cologne, Germany, G.C. MONDRAGON RODRIGUEZ, M. STRANZENBACH, DLR German Aerospace Center, Germany	B1-1-10 Reactive Pulsed Power Magnetron Sputtering of Niobium Nitride, Oxide and Oxynitride, M. FENKER, R. BRETZLER, H. KAPPL, K. PETRIKOWSKI, FEM, Schwäbisch Gmünd, Germany
11:50 am		B1-1-11 Nanostructured Nitride Films of Multi-Element High-Entropy Alloys by Reactive DC Sputtering, T.K. CHEN, National Dong Hwa University, Taiwan, T.T. SHUN, Industrial Technology Research Institute, Taiwan, J.W. YEH, National Tsing Hua University, Taiwan, M.S. WONG, National Dong Hwa University, Taiwan
12:10 pm		B1-1-12 Tailoring of Wear-Resistant Coatings on H-13 Tool Steel Produced by PVD, A. ROJO, ITESM-TOL, Mexico, J. OSEGUERA, O. SALAS, ITESM, Mexico

Thursday Morning, May 5, 2005

	Hard Coatings and Vapor Deposition Technology Room: Sunset - Session B3 CVD Coatings and Technologies Moderators: C. Bernard, Institut national Polytechnique de Grenoble, A. Sanjurjo, SRI International	Carbon and Nitride Materials: Synthesis-structure-property Relationships; Room: Royal Palm 1-3 - Session D2-1 Special Forum World Market Perspective of Diamond and Diamond-Like Carbon Moderators: K.-R. Lee, Korea Institute of Science and Technology, Y.K. Koga, Natl. Inst. of Advanced Industrial Sci. & Tech.
8:30 am	B3-1 Chromium Based Coatings by Atmospheric Pressure Chemical Vapor Deposition at Low Temperature from $Cr(co)_6$, A. DOUARD, F. MAURY, CIRIMAT, CNRS/INPT, ENSIACET, France	D2-1-1 Invited Industrial Applications of Diamond, Nanotubes and Amorphous Carbon Films: Selected Options and Future Outlook, P.K. BACHMANN, Z. CHEN, V. VAN ELSBERGEN, H. NIKOL, C. RIBBING, D.U. WIECHERT, Philips Research Laboratories, Germany
8:50 am	B3-2 Al-Pt MOCVD Coatings for the Protection of Ti6242 Alloy Against Oxidation at Elevated Temperature, M. DELMAS, D. POQUILLON, CIRIMAT, France, C. VAHLAS, CIRIMAT-CNRS, France	Invited talk continued.
9:10 am		D2-1-3 Invited Diamond-Like Carbon Films for PET Bottles and Medical Applications, A. SHIRAKURA, Kirin Brewery Co., Ltd., Japan, Y.K. KOGA, National Institute of Advanced Industrial Science and Technology, Japan, H. KODAMA, T. HASEBE, T. SUZUKI, Keio University School of Science and Technology, Japan
9:30 am	B3-4 Field Emission Properties of Tungsten Films Prepared by Hot-Filament Chemical Vapor Deposition, C.-T. HSIEH, J.-M. TING, National Cheng Kung University, Taiwan	Invited talk continued.
9:50 am	B3-5 Invited SiC Crystal Growth by High Temperature CVD, A. ELLISON, B. SUNDQVIST, B. MAGNUSSON, Okmetic AB, Sweden, E. JANZÉN, Linköping University, Sweden	D2-1-5 Invited Status and Trends of Commercially Available CVD Diamond and Diamond-Like Carbon Materials, A North American Perspective, B.L. CLINE, H.S. CLINE, Cline Innovations, LLC
10:10 am	Invited talk continued.	Invited talk continued.
10:30 am	B3-7 Syntheses and Mechanical Properties of Ti-B-C Films by a Plasma-Enhanced Chemical Vapor Deposition, J.-T. OK, Pusan National University, South Korea, J.J. MOORE, Colorado School of mines, K.H. KIM, Pusan National University, South Korea	D2-1-7 Invited DLC to Meet Industrial Demand: Reality and Challenge, S. XU, C.L. KANG, Nanofilm Technologies International Pte Ltd., Singapore
10:50 am	B3-8 Chemical Vapor Deposition of Magnesium Oxide : Modeling and Experiment, M. MANIN, CEA, France, S. THOLLON, Commisariat à l'Energie Atomique, France, M. PONS, INPG / Laboratoire de Thermodynamqiue et Physico Chimie Metallurgique	Invited talk continued.
11:10 am	B3-9 Preparation of Titanium Dioxide Photocatalytic Film using Chemical Vapor Deposition and Application on the Degradation of Aromatic Organic Compounds, J.J. WU, C.K. LIN, P.L. LU, M.S. LEE, Feng Chia University, Taiwan	D2-1-9 Invited Industrial Applications and the Outlook of Market of DLC Coatings, Y. JUN, J&L Tech Co., Ltd., Korea
11:30 am	B3-10 Deposition of MgO Thin Film by Liquid Pulsed Injection MOCVD, M. MANIN, CEA, France, F. EMIEUX, S. THOLLON, Commisariat à l'Energie Atomique, France, G. BERTHOME, INPG / Laboratoire de Thermodynamique et Physico Chimie Metallurgique, France, M. PONS, INPG / Laboratoire de Thermodynamqiue et Physico Chimie Metallurgique, France, H. GUILLON, Qualiflow, France	Invited talk continued.
11:50 am	B3-11 Multilayered Coatings by Chemical Vapor Deposition in a Fluidized Bed Reactor at Atmospheric Pressure (AP/FBR-CVD), J. PEREZ-MARIANO, Institut Quimic de Sarria, Spain, K-H. LAU, A. SANJURJO, SRI International, C. COLOMINAS, Institut Quimic de Sarria, Spain	

Thursday Morning, May 5, 2005

	Applications, Manufacturing, and Equipment Room: California - Session G6-1 Coatings and Thin Films for Biomedical Applications Moderators: M.H. Staia, Central University of Venezuela, S.M. Aouadi, Southern Illinois University	New Horizons in Coatings and Thin Films Room: Royal Palm 4-6 - Session H1-2 Nanostructured Coatings and Novel Deposition Strategies Moderators: G. Radhakrishnan, The Aerospace Corporation., S. Walck, PPG Industries
8:30 am	G6-1-1 Invited Modified Coatings and Surfaces for Targeted Biomaterial Applications, D.M. GRANT, University of Nottingham, United Kingdom	H1-2-1 Invited Carbon Nanotube Peapods: A New Form of Nano-Carbon, H. SHINOHARA, Nagoya University, Japan
8:50 am	Invited talk continued.	Invited talk continued.
9:10 am	G6-1-3 Anodic Thin Films on Titanium used as Masks for Surface-Micropatterning of Biomedical Devices, CH JAGGI, P. KERN, Swiss Federal Institute for Materials Testing and Research (EMPA), Switzerland, J. MICHLER, Swiss Federal Laboratories for Materials Testing and Research (EMPA), Switzerland, T. ZEHNDER, Ion Beam Analysis Center, Switzerland, H. SIEGENTHALER, University of Bern, Switzerland	H1-2-3 Invited Engineered Nano-Rare Earth Coatings for Corrosion Prevention, S. SEAL, University of Central Florida
9:30 am	G6-1-4 Surface Modification and Thin-Film Formation by Intense Ion Beams for In-Body Applications[1], T.J. RENK, P.P. PROVENCIO, S.V. PRASAD, T.E. BUCHHEIT, Sandia National Laboratories, D.W. PETERSEN, University of Alabama (Birmingham)	Invited talk continued.
9:50 am	G6-1-5 Low-Temperature Plasma Deposition of Silica Thin Films for Bio-Functionalisation of Biomedical Implant Materials, S. KUMAR, University of South Australia	H1-2-5 A Survey of Nanostructured Thin Films Created with Glancing Angle Deposition, C. ELLIOTT, K. ROBBIE, C. BUZEA, K. KAMINSKA, J. YANG, Queen's University, Canada
10:10 am	G6-1-6 Invited Amorphous Diamond Coatings for Biomedical Applications, R. LAPPALAINEN, University of Kuopio, Finland	H1-2-6 Nanostructure Growth by Glancing Angle Ion Beam Assisted Deposition, E. SCHUBERT, F. FROST, Leibniz-Institut fuer Oberflachenmodifizierung, Germany, TH. HOECHE, Leibniz-Institut fueOberflachenmodifizierung, Germany, B. RAUSCHENBACH, Leibniz-Institut fuer Oberflachenmodifizierung, Germany
10:30 am	Invited talk continued.	H1-2-7 Two-Component Nanopillars Grown by Glancing Angle Deposition, S.V. KESAPRAGADA, D. GALL, Rensselaer Polytechnic Institute
10:50 am	G6-1-8 Multiwalled Carbon Nanotube/Polymer Nanocomposites As Biomimetic Artificial Muscles, D.Y. LEE, Daelim College of Technology, South Korea, M.-H. LEE, Korea Institute of Ceramic Engineering and Technology, South Korea, K.J. KIM, S. HEO, University of Nevada, B.Y. KIM, Daelim College of Technology, South Korea, S.J. LEE, Kyungsung University, South Korea	H1-2-8 Change of C-Plane Oriented Ru Films by Sputtering in Ar-N_2 Mixed Gas, M. KAWAMURA, K. YAGI, Y. ABE, K. SASAKI, Kitami Institute of Technology, Japan
11:10 am	G6-1-9 Tribological Response of DLC Coated Biomaterials, S.T. DECHANDT, V.P. POLIAKOV, C.J.M. SIQUEIRA, Federal University of Parana, Brazil, C.M. LEPIENSKI, Catholic University of Parana, Brazil	H1-2-9 In-Situ Ultrasonic Assisted Growth of Tungsten Oxide Films, A.R. ROMANYUK, University of Basel, Switzerland, V.P. MELNIK, IHP - Microelectronics, Germany, P. OELHAFEN, University of Basel, Switzerland
11:30 am	G6-1-10 Electrochemical Impedance Spectroscopy Studies of TiAlN and TiN Films on Ni-Based Alloys Under Biological Media, K.-T. LIU, National Tsing-Hua University, Taiwan, J.G. DUH, National Tsing Hua University, Taiwan, K.H. CHUNG, Institute of Oral School of Density, Taiwan, J.H. WANG, Chunghwa Telecom Co. Ltd., Taiwan	H1-2-10 Characterization of Elecrophoretically Deposited Nanocrystalline Titanium Dioxide Composite Thin Films, C.K. LIN, T.J. YANG, C.H. LEE, Feng Chia University, Taiwan, C.Y. SU, National Taipei University of Technology, Taiwan, P.Y. LEE, National Taiwan Ocean University, Taiwan
11:50 am	G6-1-11 Coating of Ni-based Dental Alloys with TiN and TiAlN and its Effect on Attachment and Spreading of Cells, G.-T. LIU, National Tsing-Hua University, Taiwan, J.G. DUH, National Tsing Hua University, Taiwan, K.H. CHUNG, Institute of oral school of Density	H1-2-11 Reactively Sputtered Doped Titanium Oxide Films as Visible Light Photocatalysts, M.S. WONG, H.B. CHOU, S.H. WANG, T.K. CHEN, T.S. YANG, National Dong Hwa University, Taiwan

Thursday Afternoon, May 5, 2005

	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B1-2 Sputtering Coatings and Technologies Moderators: F. Richter, TU Chemnitz, D. Glocker, Isoflux, Inc.	Hard Coatings and Vapor Deposition Technology Room: Sunset - Session B6 Plasma Assisted CVD, Thermochemical Treatments and Duplex Technology Moderators: A. Leyland, The University of Sheffield, M. Delplancke-Ogletree, Universite Libre de Bruxelles
1:30 pm	B1-2-1 The Structure and Properties of Chromium Diboride Coatings Deposited by Pulsed Magnetron Sputtering of Powder Targets, M. AUDRONIS, The University of Sheffield, United Kingdom, P.J. KELLY, R.D. ARNELL, University of Salford, United Kingdom, A. LEYLAND, A. MATTHEWS, The University of Sheffield, United Kingdom	B6-1 Effect of Reactor Geometry on the PECVD Deposited SiO_2 Films, A.M. MAHAJAN, D.K. GAUTAM, North Maharshtra University, India
1:50 pm	B1-2-2 Structural, Mechanical and Tribological Properties of CrAlN Coatings Deposited by Reactive Unbalanced Magnetron Sputtering, X.Z. DING, X.T. ZENG, Singapore Institute of Manufacturing Technology, Singapore	B6-2 Tantalum-Carbide Layers and Micro-Composite Material Produced by Duplex Plasma and Thermal Treatments, A. RAVEH, NRC-Negev, Israel, J.E. KLEMBERG-SAPIEHA, L. MARTINU, Ecole Polytechnique de Montreal, Canada
2:10 pm	B1-2-3 Mechanical Behavior of Nanoscale Metal/Nitride Multilayers Grown by Ion Beam Sputtering, G. ABADIAS, Y.Y. TSE, A. MICHEL, C. TROMAS, Universite de Poitiers, France, S.N. DUB, Institute of Superhard Materials, Ukraine	B6-3 Growth of Non-Regular CN_x Cluster Arrays on Pulse Plasma Nitrided Hot Work Steel Samples, M. ZLATANOVIC, Faculty of Electrical Engineering, Serbia & Montenegro, N. POPOVIC, Nuclear Science Institute Vinca, Belgrade, S. ZLATANOVIC, University of California San Diego
2:30 pm	B1-2-4 Properties of Sputtered a-Si_3N_4/MoN_x Nanocomposite Coatings with High (>20 at.%) Si Content, J. MUSIL, P. DOHNAL, P. ZEMAN, University of West Bohemia, Czech Republic	B6-4 Investigation of Mechanical Properties of TiN-MoS_x Coating on Plasma Nitrided Subtrate, M. RAHMAN, J. HAIDER, M.S.J. HASHMI, NCPST and MPRC, Ireland
2:50 pm	B1-2-5 A New Route Towards the Scaling-Up of Solid Lubricant TiC-C Coatings, M. STÜBER, S. ULRICH, U. ALBERS, Forschungszentrum Karlsruhe, Germany, A. SCHINTLMEISTER, P. WILHARTITZ, Plansee AG, Austria	B6-5 Growth Kinetics of Nitride Layers During Microwave Post-Discharge Nitriding, F. CASTILLO, ITESM-CEM, Mexico, J.L. BERNAL, ITESM-TOL, Mexico, J. OSEGUERA, ITESM, Mexico, A. FRAGUELA, Benemerita Universidad de Puebla, Mexico
3:10 pm	B1-2-6 Thermal Stability of MAX Phase Ti_3SiC_2 Thin Films Prepared by DC Magnetron Sputtering, J. EMMERLICH, H. HÖGBERG, P. EKLUND, Linköping University, Sweden, O. WILHELMSSON, Uppsala University, Sweden, H. WILLMAN, University of Leoben, Austria, U. JANSSON, Uppsala University, Sweden, L. HULTMAN, Linköping University, Sweden	B6-6 Fabrication of Iron Nitride Thick Coatings by Reactive RF Plasma Spraying, M.Y. YAMADA, M.F. FUKUMOTO, T.Y. YASUI, Toyohashi University of Technology, Japan
3:30 pm	B1-2-7 Development of Thick, Hard Coatings for Erosion Protection Applications, R. WEI, C. RINCON, E. LANGA, J. ARPS, Southwest Research Institute	B6-7 Structure and Properties of Plasma Nitrided AISI 316 Stainless Steel After Heating Post-Treatments, V.H. BAGGIO-SCHEID, G. DE VASCONCELOS, A.J. ABDALLA, Aerospace Technical Center, Brazil
3:50 pm	B1-2-8 The Influence of Composition and Annealing Temperature on Magnetic Domain Structure of Fe-Co-Ni-Based Multi-component Thin Film, H.-K. CHEN, S.-H. LEE, J.G. DUH, National Tsing Hua University, Taiwan	B6-8 Invited Improvements in the Understanding and Application of Duplex Coating Systems using Arc Plasma Technology, J.L. HE, K.C. CHEN, Feng Chia University, Taiwan
4:10 pm	B1-2-9 Tarnishing Resistance of Silver Thin Films, M. DORIOT-WERLÉ, P-A GAY, P.-A. STEINMANN, O. BANAKH, University of Applied Sciences, Switzerland	Invited talk continued.
4:30 pm	B1-2-10 On the Characteristics of Nano-Scaled Metal and Carbon Thin Films for the Explanation of A Self-assembling Process, W.-Y. WU, C.-W. HSU, J.-M. TING, National Cheng Kung University, Taiwan	
4:50 pm	B1-2-11 Effect of Deposition Conditions on Mechanical and Tribological Properties of Nanostructured TiN/CN_x Multilayer Films, A. VYAS, K.Y. LI, Z.F. ZHOU, Y.G. SHEN, City University of Hong Kong, China	

Thursday Afternoon, May 5, 2005

	Carbon and Nitride Materials: Synthesis-structure-property Relationships; Room: Royal Palm 1-3 - Session D2-2 Special Forum World Market Perspective of Diamond and Diamond-Like Carbon Moderators: K.-R. Lee, Korea Institute of Science and Technology, Y.K. Koga, National Inst. of Adv. Industrial Sci. & Tech.	Applications, Manufacturing, and Equipment Room: California - Session G3 Atmospheric Plasma, Hollow Cathode and Hybrid Plasma Processing Moderators: H. Baránková, Uppsala University, L. Bárdos, Uppsala University
1:30 pm	D2-2-1 Invited Industrial Applications of DLC Coatings in the Automotive Industry, C. STRONDL, Hazuer Techno Coating BV, Netherlands, T. KRUG, R. TIETEMA, Hauzer Techno Coating BV, Netherlands	
1:50 pm	Invited talk continued.	
2:10 pm	D2-2-3 Invited Diamond-Like Carbon Materials- Applications, Markets, Research and Development in Taiwan, D.-Y. WANG, Institute of Material and System Engineering, Mingdao University, Taiwan	
2:30 pm	Invited talk continued.	
2:50 pm	D2-2-5 Pulsed Gas Time-Modulated CVD Process for the Deposition of Multilayered and Nano-Sized Diamond Films, Y. KOUSAR, N. ALI, E. TITUS, J. GRACIO, University of Aveiro, Portugal	G3-5 Invited Atmospheric Pressure Plasma Deposition of Thin Films by Townsend Dielectric Barrier Discharge, F. MASSINES, CNRS - LGET UPS-CNRS, France, N. GHERARDI, LGET-CNRS, France
3:10 pm	D2-2-6 A Comparative Study on the Performance Testing of Diamond Coated Micro-Drills used in Nanotechnology Applications, G. CABRAL, N. ALI, V.F. NETO, E. TITUS, J. GRACIO, University of Aveiro, Portugal, A.A. OGWU, University of Paisley, United Kingdom	Invited talk continued.
3:30 pm	D2-2-7 Nanocrystalline Diamond/Amorphous Carbon Composite Films for Applications in Tribology, Optics and Biomedicine, C. POPOV, W. KULISCH, University of Kassel, Germany, M. JELINEK, Institute of Physics, ASCR, Czech Republic	G3-7 The Effect of N_2 Flow Rate in $He/O_2/N_2$ on the Characteristics of Large Area Pin-To-Plate Dielectric Barrier Discharge, Y.H. LEE, S.J KYUNG, G.Y. YEOM, Sungkyunkwan University, South Korea
3:50 pm	D2-2-8 Similarities and Differences in Polarization Effects in CVD Diamond Film Devices., V. RICHTER, R. KALISH, SH. BORUCHIN, Technion-Israel Institute of Technology, Israel	G3-8 Invited Atmospheric Pressure Plasma CVD and Plasma Chemical Etching for High Throughput Processing of Parts, V. HOPFE, Fraunhofer IWS, Germany
4:10 pm	D2-2-9 Hot Filament Chemical Vapour Deposition and Wear Resistance of Diamond Films on WC-Co Substrates Coated by PVD-Arc Deposition Technique, R. POLINI, F. PIGHETTI, Universita' di Roma Tor Vergata, Italy, R. VALLE, F. CASADEI, Centro Svilippo Materiali SpA, Italy	Invited talk continued.
4:30 pm	D2-2-10 CVD - Diamond Coated Cutting Tools, R. CREMER, O. LEMMER, D. BREIDT, CemeCon AG, Germany	G3-10 Study of Atmospheric Plasma Photo-Resistances and Polymers Strip Technology, W.-J. LIU, Y.C. CHEN, I-Shou University, Taiwan, C.-M. CHENG, National Chiao Tung University, Taiwan
4:50 pm	D2-2-11 Toward the World Best Performance of Diamond Coated Cutting Tools, H. HANYU, Osg Corporation, Japan, S. KAMIYA, Nagoya Institute of Technology, Japan, Y MURAKAMI, Osg Corporation, Japan	G3-11 Effect of Ferromagnetic Substrates on the Film Growth in Magnetized Plasma Systems, L-E. GUSTAVSSON, H. BARÁNKOVÁ, L. BÁRDOS, Uppsala University, Sweden
5:10 pm	D2-2-12 High Rate Deposition of DLC Based Hard Coatings on Grounded Flat Substrates, M. WEBER, K. BEWILOGUA, R. WITTORF, Fraunhofer IST, Germany	G3-12 Characterization of Hot Wall Grown 1,4 -Hydroxy-9,10-Anthraquinone Films for Device Applications, A. MAHAJAN, D. A. V. College, India, R.K. BEDI, H. GUPTA, Guru Nanak Dev University, India

Thursday Afternoon, May 5, 2005

	Applications, Manufacturing, and Equipment Room: California - Session G6-2 Coatings and Thin Films for Biomedical Applications Moderators: M.H. Staia, Central University of Venezuela, S.M. Aouadi, Southern Illinois University	New Horizons in Coatings and Thin Films Room: Royal Palm 4-6 - Session H1-3 Nanostructured Coatings and Novel Deposition Strategies Moderators: S. Walck, PPG Industries, G. Radhakrishnan, The Aerospace Corporation.
1:30 pm	G6-2-1 Invited Nanotribology of Biomolecules on Silicon Based Surfaces, B. BHUSHAN, D.R. TOKACHICHU, Ohio State University	H1-3-1 Invited Nanostructured Materials: Processing and Applications, B.H. KEAR, Rutgers University
1:50 pm	Invited talk continued.	Invited talk continued.
2:10 pm	G6-2-3 Electrostatic Deposited Coating of Nanostructured Hydroxyapatite (HAp) Coating for Biomedical Applications, W. JIANG, NanoMech LLC, G. NYANDOTO, L. SUN, A.P. MALSHE, University of Arkansas	H1-3-3 Structural Studies of Thin Zno-Poly(styrene-Acrylic Acid) Nanocomposite Films, H.A. ALI, A. ILIADIS, L. MARTINEZ-MIRANDA, D. STRATAKIS, University of Maryland
2:30 pm	G6-2-4 Integrated Tribo-SPM Nano-Micro-Metrology of Thin Films, N.V. GITIS, A. DAUGELA, S. KUIRY, Center for Tribology, Inc.	H1-3-4 Sputter Deposition of ZnO Nanorods/Thin Film Structure on Si with Controllable Orientation and Area-Density, M.-T. CHEN, J.-M. TING, National Cheng Kung University, Taiwan
2:50 pm		H1-3-5 Plasma-Based Techniques to Reduce Particle Contamination in Sputtering Systems, D. RUZIC, H.-J. SHIN, B. JURCZYK, D. ALMAN, University of Illinois Urbana-Champaign
3:10 pm		H1-3-6 Deposition of γ-Al_2O_3 Coatings by Bipolar Pulsed Magnetron Sputtering, L. LUGSCHEIDER, K. BOBZIN, M. MAES, C. PIÑERO, Aachen University, Germany
3:30 pm		H1-3-7 Dynamics, Strength and Vibration Damping Properties of Nanoscale-Reinforced Composite Materials and Coatings, M.V. KIREITSEU, University of New Orleans
3:50 pm		H1-3-8 Fabrication of Ceramic Coatings by a Novel Slurry Method, X. WANG, P. XIAO, University of Manchester, United Kingdom
4:10 pm		H1-3-9 Nanocrystalline Grain Size Effects on the Mechanical Properties of Gold-Copper Deposits, A.F. JANKOWSKI, Lawrence Livermore National Laboratory
4:30 pm		H1-3-10 Electrochromic Properties of Nanocrystalline WO_3 Coatings Prepared by a Modified Plasma Arc Gas Condensation Technique, C.Y. SU, National Taipei University of Technology, Taiwan, C.K. LIN, Feng Chia University, Taiwan, S.C. LIN, National Taipei University of Technology, Taiwan
4:50 pm		H1-3-11 Photocatalytic Properties of Nanocrystalline TiO_2 Thin Films with Various Metal Additions, C.C. CHANG, C.K. LIN, C.C. CHAN, C.S. HSU, Feng Chia University, Taiwan

Topical Sessions; Room: Sunrise - Session TS1
The Atomistics of Thin Film Growth: Computational and Experimental Studies
Moderators: S. Kodambaka, University of Illinois, V. Chirita, Linköping University

1:30 pm	TS1-1 Invited To Be Announced, N.C. BARTELT, Sandia National Laboratories	
1:50 pm	Invited talk continued.	
2:10 pm	TS1-3 Long Jumps in Surface Self-Diffusion of Tungsten*, G. ANTCZAK, G. EHRLICH, University of Illinois at Urbana-Champaign	
2:30 pm	TS1-4 Low-Energy Electron Microscopy Studies of Thermal Etching Kinetics on Cr(001), S.-J. TANG, S. KODAMBAKA, W. SWIECH, J.E. GREENE, University of Illinois, I. PETROV, University of Illinois at Urbana Champaign, T.-C. CHIANG, University of Illinois	
2:50 pm	TS1-5 Epitaxial CrN(001) Layers: Surface Morphology and Nanopipe Formation, J.R. LYNCH, J. D'ARCY-GALL, D. GALL, Rensselaer Polytechnic Institute	
3:10 pm	TS1-6 Mechanisms of Forming the Microstructure of Niobium Films under Ion-Atomic Deposition, I.G. MARCHENKO, Scientific Centre of Physical Technologies, Ukraine, I.M. NEKLYUDOV, National Science Center Kharkov Institute of Physics and Technology, Ukraine	
3:30 pm	TS1-7 Invited Two Examples of Synergy between Experiment and Computation in Nano-Science, S.V. KHARE, The University of Toledo	
3:50 pm	Invited talk continued.	
4:10 pm	TS1-9 Co/CoAl/Co Trilayer Fabrication using Spontaneous Intermixing of Co and Al: Molecular Dynamics Simulation, S.-P. KIM, Y.-C. CHUNG, Hanyang University, South Korea, S.-C LEE, K.-R. LEE, Korea Institute of Science and Technology, South Korea, S. SEO, D.-S. KIM, Hanyang University, South Korea	
4:30 pm	TS1-10 A Comparison of the Bonding in Nanolayered Ternary Carbides and Nitrides, J.M. SCHNEIDER, Z. SUN, D. MUSIC, RWTH Aachen University, Germany, R. AHUJA, Uppsala University, Sweden	
4:50 pm	TS1-11 The Kirkendall Effect: Void Formation During Low Temperature SiO_2 Formation in the Au/Si(100) System, B.A. JULIES, D. ADAMS, University of the Western Cape, South Africa, J.W. MAYER, Arizona State University	

Thursday Afternoon Poster Sessions

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

Symposium A Poster Session
5:30 pm – 8:00 pm

AP-1 Corrosion Behavior of Cr(N,O)/CrN Double-Layered Coatings by Cathodic Arc Deposition, W.-Y. HO, Mingdao University, Taiwan, C.-H. HSU, Tatung University, R.O.C., D.-H. HUANG, Y.-P. CHENG, Y.-C. LIN, Tatung University, Taiwan

AP-3 Thermal Stability of Ta-Al Thin Film Resistor by Magnetron Sputtering, C.K. CHUNG, Y.L. CHANG, T.C. CHEN, P.J. SU, National Cheng Kung University, Taiwan

AP-5 Evaluation of the Effect of Ni-P Coating on the Corrosion Resistance of the Aluminium 7075-T6 Alloy, L. JIMENEZ, Corrosion Studies Center, Venezuela, L. GIL, UNEXPO, Venezuela, M.H. STAIA, Central University of Venezuela

AP-6 Correlation between Microstructural Characteristics and the Abrasion Wear Resistance of Sealed Thermal Sprayed Coatings, S. LISCANO, L. GIL, UNEXPO, Venezuela, M.H. STAIA, Central University of Venezuela

AP-7 The Influence of the Period Size on the Corrosion and the Wear Abrasion Resistance of TiN/Ti Multilayers, M. FLORES, Universidad de Guadalajara, Mexico, S. MUHL, L. HUERTA, IIM-UNAM, Mexico, E. ANDRADE, IF-UNAM, Mexico

AP-8 Growth of Ti/TiN/DLC Multilayers using a Pulsed Vacuum Arc System, D. DEVIA, Universidad Nacional de Colombia Sede Manizales, Colombia

AP-9 Comparison between Graded an Multilayer Coatings of Ti/TiN/TiCN Grown by Sputtering DC, E. RESTREPO, Universidad Nacional de Colombia Sede Manizales, Colombia

AP-10 Heat Treatment of Co-Deposited Aluminium'SiliconCoating on Ferritic Steels by CVD=FBR Technology, F.J. PÉREZ, M.P. HIERRO, J.A. TRILLEROS, M.C. CARPINTERO, F.J. BOLÍVAR, L. SÁNCHEZ, Universidad Complutense de Madrid, Spain

AP-11 Sliding Wear Behavior of a Nitrided Intermetallic Alloy Fe-40Al, A. FISCHER, H. BIERMANN, H.-J. SPIES, Freiberg University of Mining and Technology, Germany, M.H. STAIA, Central University of Venezuela

AP-12 Preferential Orientation of Alpha-Alumina in Thermally Grown Oxide (TGO) on FeCr Alloy Measured using Fluorescence Spectroscopy, X.F. ZHAO, X. WANG, University of Manchester, United Kingdom, P. XIAO, University of Manchester, UK

AP-13 Electrochemical and Structural Characterization on PEM Fuel Cell Enhanced with Pt/Pt-Ru Multilayered Catalysts Prepared by Unbalanced Magnetron Sputtering Method, C.-L. CHANG, T.-C. CHANG, J.-Y. JAO, D.-Y. WANG, Mingdao University, Taiwan

AP-14 Characterization of Surface Characteristics and Interfacial Structure in Lithium Nickel Oxides, P.-Y. LIAO, J.G. DUH, National Tsing Hua University, Taiwan, S.-R. SHEEN, Academia Sinica, Taiwan

AP-15 Characterization and Photocatalytic Activity of TiO_2 Thin Film by Radio-Frequency (RF) and Micro-Wave (MW) Plasma Treatment Methods, C.K. JUNG, Sungkyunkwan Univeristy, South Korea, Y.H. SONG, J.-H. BOO, Sungkyunkwan University, South Korea

AP-16 Influence of Nitrogen on the Photocatalytic Properties of Titanium Dioxide Reactively Sputter-Deposited Coatings, E. AUBRY, V. DEMANGE, A. BILLARD, Ecole des Mines-Parc de Saurupt, France

AP-17 Sputter Deposition of Pt Nanocluster and Thin Film on PEM Fuel Cell Electrodes, M. ALVISI, Enea Cr Brindisi, Italy, V. CONTINI, ENEA CR CASACCIA, Italy, G. GALTIERI, ENEA CR BRINDISI, Italy, L. GIORGI, R. GIORGI, A. POZIO, E. SERRA, ENEA CR CASACCIA, Italy, M.A. SIGNORE, ENEA CR BRINDISI, Italy

AP-18 Structure-Electrical Properties of Lanthanum Manganite Coatings Obtained by Magnetron Sputtering of Two Targets in Argon-Oxygen Reactive Mixtures, E. SEMINSKAYA, Laboratoire de Science et Génie des Surfaces, France, A. BILLARD, École des Mines Parc de Saurupt, France

AP-19 Characterization of YSZ Thin Film for SOFCs by XPS., E.B. RAMIREZ, L. HUERTA, A. HUANOSTA, A. ORTIZ, J.C. ALONSO, Instituto de Investigaciones en Materiales, Mexico

AP-20 New Surface Modification Material for $LiMn_2O_4$ Cathode Material in Li-ion Battery, H.-W. CHAN, J.G. DUH, National Tsing Hua University, Taiwan, S.-R. SHEEN, Academia Sinica, Taiwan, S.Y. TSAI, C.R. LEE, Minghsin University of Science and Technology, Taiwan

AP-21 Method of Resolution to Inhibit the Growth of Alumina in the Intermetallic NiAl FG 75 Alloy to Increase TBC Lifetime, K. LACKNER, L. LUGSCHEIDER, K. BOBZIN, M. MAES, Aachen University, Germany

AP-22 Evaluation of Laser-Glazed Plasma-Sprayed Thermal Barrier Coatings Under High Temperature Exposure to Molten Salts, C. BATISTA, A. PORTINHA, R.M. RIBEIRO, V. TEIXEIRA, University of Minho, Portugal, C.R. OLIVEIRA, IDIT - Institute for Development and Tecnological Inovation, Portugal

AP-23 Characterization of Aluminized Layer Formation on Ti-5Al-3Mo-1V Alloy Coated by Al Film During Annealing, S.E. ROMANKOV, E. ERMAKOV, Institute of Physics & Technology, Kazakhstan

AP-24 Search for a Suitable Diffusion Barrier Layer for Annealing Films of Gd-Si-Ge Sputter Deposited on Silicon, S.N. SAMBANDAM, B. BETHALA, S. BHANSALI, University of South Florida, D.K. SOOD, Royal Melbourne Institute of Technology, Australia

Thursday Afternoon Poster Sessions

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

Symposium B Poster Session
5:30 pm – 8:00 pm

BP-1 Tribological Enhancement of CrN Coatings by Metal Plasma Ion-Implantation of Vanadium and Carbon Ions, K.-W. WENG, D.-Y. WANG, Mingdao University, Taiwan

BP-2 A Gridless Ion Source for Pulsed Ion-Assisted Deposition, D.M. GARDNER, W.G. SAINTY, Macquarie University, Australia

BP-3 Influence of the Aluminum Content on the $Cr_{1-x}Al_xC$ Thin Films Properties by Unbalanced Reactive Magnetron Sputtering on the High-Speed Steel, G.-W. LI, T.-C. FU, C.H. HSIEH, National Kaohsiung First University of Science and Technology, Taiwan

BP-4 Deposition of SiO_xN_y Films by PE-CVD for OLED Passivation, J.H. LEE, C.H. JEONG, S.J KYUNG, G.Y. YEOM, Sungkyunkwan University, South Korea

BP-5 Deposition of (Ti,Cr)N-MoS_2 Thin Films by D. C. Magnetron Sputtering, S.K. KIM, J.H. KIM, University of Ulsan, Korea

BP-6 The Effect of Nitrogen Ion Implantationon the Corrosion Behaviour of Stainless Steels in Chloride Media, L. MARTÍNEZ, F.J. PÉREZ, C. GÓMEZ, Universidad Complutense de Madrid, Spain

BP-7 Deposition of Silicon Dioxide Films for Large Area Flexible Electronics using a Modulated Electron Beam Generated Plasma, D. LEONHARDT, S.G. WALTON, US Naval Research Laboratory

BP-8 Deposition of Multicomponent Chromium Boride Based Coatings by Pulsed Magnetron Sputtering of Powder Targets, M. AUDRONIS, University of Salford and University of Sheffield, United Kingdom, P.J. KELLY, R.D. ARNELL, University of Salford, United Kingdom, A. LEYLAND, A. MATTHEWS, The University of Sheffield, United Kingdom

BP-9 Microstructure and Mechanical Properties of $Ti_{1-x}Al_xN$/a-Si_3N_4 Nanoscale Multilayered Coatings Prepared by D.C. Magnetron Sputtering, J.-K. PARK, Korea Institute of Science and Technology, Korea, Y.-J. BAIK, Korea Institute of Science and Technology, South Korea

BP-10 Modification of Maize Starch Films by Plasma Deposition, R.M.S.M. THIRE, UFRJ, Brazil, R.A. SIMAO, Coppe - UFRJ, Brazil, C.T. ANDRADE, UFRJ, Brazil, C.A. ACHETE, Coppe - UFRJ, Brazil

BP-11 Gas Sensing Properties of SnO_2 Thin Films Prepared by E-Beam Evaporation Technique, A. KHANNA, University of Arkansas, R. KUMAR, Khalsa College, India, D.G. BHAT, University of Arkansas

BP-12 Interfacial Thermally Activated Relaxations and Thermal Stability of Superhard nc-TiN/a-Si_3N_4 and nc-(TiAl)N/a-si_3N_4 Nanocomposites Studied by Means of Internal Friction Measurements, S.Z. LI, Qingdao University of Science and Technology, China, Q.F. FANG, Q. LIU, Chinese Academy of Sciences, China, J. GAO, Chengdu Tool Research Institute, P. NESLADEK, J. PROCHAZKA, P. KARVANKOVA, M.G.J. VEPREK-HEIJMAN, S. VEPREK, Technical University Munich, Germany

BP-13 Studies on the Low Dielectric SiOC(-H) Thin Films Deposited using MTMS and Oxygen as Precursors by UV Source Assisted PECVD, K. MEERA, C.S. YANG, C.K. CHOI, Cheju National University, South Korea

BP-14 Decorative and Functional Coatings on Aluminium Alloys by Plasma Electrolysis, T. PILKINGTON, A.L. YEROKHIN, A. LEYLAND, A. MATTHEWS, The University of Sheffield, United Kingdom

BP-15 Thermionic Electron Emission Enhancement of PZT Thin Films Sputter Deposition, Y.F. LAN, T.Y. GUO, J.C. CHANG, W.L. CHANG, J.L. HE, Feng Chia University, Taiwan

BP-16 Syntheses and Characteristics of Quaternary Cr-Si-C-N Coatings Deposited by a Hybrid Coating System, J.H. JEON, C.S. JANG, K.H. KIM, Pusan National University, South Korea

BP-17 Anticorrosion Properties of Oxide Films on Al Produced by Plasma Electrolytic Oxidation in Alkaline Electrolytes with Various Passivating Additions, A.L. YEROKHIN, T. PILKINGTON, A. LEYLAND, A. MATTHEWS, The University of Sheffield, United Kingdom

BP-18 Modification of Photocatalytic AIP-TiO_2 Films by Doping Chromium and Nitrogen, J.T. CHANG, Y.F. LAI, J.L. HE, Feng Chia University, Taiwan

BP-19 Low Temperature Plasma Nitriding of Stainless Steel by Saddle Field Neutral Fast Atom Beam Source, M. RAHMAN, J. HAIDER, M.S.J. HASHMI, Dublin City University, Ireland

BP-20 CVD Diamond Deposition on Steel Substrate using Boride Interlayer, F.C. BARBIERI, Instituto Nacional de Pesquisas Espaciais, Brazil, V.J. TRAVA-AIROLDI, Instituo Nacional de Pesquisas Espaciais, Brazil, E.J. CORAT, Instituto Nacional de Pesquisas Espaciais, Brazil

BP-21 Combined Nitriding and CN_x Coating Deposition in Pulse Plasma Processing, M. ZLATANOVIC, Faculty of Electrical Engineering, Serbia & Montenegro, N. POPOVIC, Z. BOGDANOV, Nuclear Science Institute Vinca, Belgrade

BP-22 Pulse Plasma Treatment of Aluminium Alloy Extrusion Dies, M. ZLATANOVIC, Faculty of Electrical Engineering, Serbia & Montenegro, V. ZLATANOVIC, Batalab, Belgrade

BP-23 Investigation of Nanocrystalline Cubic Boron Nitride Thin Films Grown using Ion Beam Assisted Deposition, W OTAÑO, V.M. PANTOJAS, University of Puerto Rico at Cayey

BP-24 Plasma Chemistry of a Nb/Ar/O_2 Magnetron Discharge, S. MRÁZ, M. WUTTIG, J.M. SCHNEIDER, RWTH Aachen University, Germany

BP-25 Effect of Ion Irradiation During Deposition on the Structure of Alumina Thin Films Grown by Plasma Assisted Chemical Vapour Deposition, D. KURAPOV, O. KYRYLOV, J.M. SCHNEIDER, RWTH Aachen University, Germany

BP-26 Vacuum Arc Deposition of Nanostructured Zirconium-Based Boronitride Films, V. CHAPUSOT, Laboratoire de Science et Génie des Surfaces, France, J.F. PIERSON, Pole Universitaire, France, B. STAUDER, E. DAMOND, Bodycote, France, A. BILLARD, École des Mines Parc de Saurupt, France

BP-27 Effects of Boron Contents on Microstructures and Micro-Hardness in Cr_XAl_YN Films Synthesized by Cathodic Arc Method, T. SATO, T. YAMAMOTO, H. HASEGAWA, T. SUZUKI, Keio University, Japan

BP-28 Properties of Superhard ta-C and c-BN Films, D. ROST, S. WEISSMANTEL, G. REISSE, University of Applied Sciences Mittweida, Germany

BP-29 The Effects of Concentration on the Etch Characteristics of Removing TiN Coating by Chemical Solution Method, C.-L. CHANG, S.-M. LI, D.-Y. WANG, Mingdao University, Taiwan

BP-30 Effects of Substrate Bias on the Reactive Sputtered Zr-Al-N Diffusion Barrier Films, J.-L. RUAN, J.-L. HUANG, J.-S. CHEN, National Cheng-Kung University, Taiwan, D.-F. LII, Cheng Shiu University, Taiwan

BP-31 Modeling of Diode Configuration Glow Discharge Impedance Connected to Pulse Power Supply, I. POPOVIC, V. RAJOVIC, M. ZLATANOVIC, Faculty of Electrical Engineering, Serbia & Montenegro

BP-32 Amorphization of Ta-Al Films using the Magnetron Sputtering, P.J. SU, C.K. CHUNG, National Cheng Kung University, Taiwan

BP-33 Cathodic Arc Deposited TiAlCN/TiCN Multilayer Coating for Dry Machining, C.-H. HSU, J.-K. LU, K.-L. LAI, Tatung University, Taiwan, W.-Y. HO, Mingdao University, Taiwan

BP-35 Effect of the Zr Content on the Mechanical Properties of Cr-Zr-N Film Synthesized by Closed Field Unbalanced Magnetron Sputtering, S.Y. LEE, G.S. KIM, HanKuk Aviation Unversity, South Korea, J.H. HAHN, Korea Research Institute of Standards and Science, South Korea

BP-36 Time-Resolved Investigation of an Asymmetric Bipolar Pulsed Reactive Magnetron Discharge, TH. DUNGER, TH. WELZEL, ST. WELZEL, Chemnitz University of Technology, Germany, F. RICHTER, TU Chemnitz, Germany

BP-37 ZrAlN Thin Films: Mechanical Properties and Thermal Stability, R. LAMNI, IPMC-SB-EPFL, Switzerland, R. SANJINES, SB-EPFL, Switzerland, F. LEV Y, IPMC-SB-EPFL, Switzerland

BP-38 Thermal Stability and Microstructure Characterization of CrN/WN Multilayer Coatings Fabricated by Ion-Beam Assisted Deposition, Y.-Z. TSAI, J.G. DUH, National Tsing Hua University, Taiwan

BP-39 The Synthesis of Teflon Thin Film Deposited by RF Magnetron Sputtering System, K.S. SHIN, H.Y. LEE, K.H. NAM, J.G. HAN, Sungkyunkwan University, South Korea

BP-40 Sputtered Fe_{1-x} $(N_{1-y}C_y)_x$ Films Obtained in Various (Ar-N_2-CH_4) Reactive Plasmas, I. JOUANNY, A. BILLARD, TRAN HUU LOI, V. DEMANGE, E. BAUER-GROSSE, École des Mines, France

BP-41 Effect of Heat Treatment on the Nanocrystalline TiN Films Deposited by Unbalanced Magnetron Sputtering, J.-H. HUANG, K.-J. YU, National Tsing Hua University, Taiwan, P. SIT, City University of Hong Kong, G.-P. YU, National Tsing Hua University, Taiwan

BP-42 Determination of the Neutral Gas Temperature of Nitrogen Containing Low Pressure Plasmas using a Two-Temperature Model, V. LINSS, ASMEC GmbH, Germany, H. KUPFER, TU Chemnitz, Germany, S PETER, F. RICHTER, TU Chemnitz

BP-43 The Challenge of Nano-Wire for Advanced Interconnects, H.-W. CHEN, H.-C. CHEN, Y.-L. CHENG, J.-H. LIN, C.-T. LIN, Taiwan Semiconductor Manufacturing Company, Ltd., Taiwan, S.-P. JENG, C.-M. WU, Taiwan Semiconductor Manufacturing Company, Ltd., Taiwna

BP-44 Structural and Mechanical Properties of Nanocomposite TiAlCrN Coatings Synthesized by a Cathodic-Arc Deposition Process, Y.-Y. CHANG, D.-Y. WANG, C.-Y. HUNG, Mingdao University, Taiwan

BP-45 Size Effects in Strengthening Mechanisms of AlN/TiN Multilayer Thin Films, A. KARIMI, TH. VASCO, R. SANJINES, EPFL, Switzerland

BP-46 Influence of Plasma Nitriding and PAPVD Cr-N Coating in The Corrosion Resistance of an AISI H13 Steel: A Topographical and Structural Approach, J.K. MORAIS, C. GODOY, V.T.L. BUONO, Universidade Federal de Minas Gerais, Brazil, J.C. AVELAR-BATISTA, Tecvac Ltd., United Kingdom

BP-47 The Microstructure and Mechanical and Tribological Properties of Novel Multi-Component Nanolayered Nitride Coatings, Q. YANG, L.R. ZHAO, National Research Council, Canada

BP-48 Improvement in Corrosion and Nickel Release Behavior of Plasma-Treated Porous NiTi Shape Memory Alloys, S.L. WU, C.Y. CHUNG, J.P.Y. HO, P.K. CHU, City University of Hong Kong

BP-49 Characteristics of Interface between Ta_2O_5 Thin Film and Si (100) Substrate, A.P. HUANG, P.K. CHU, City University of Hong Kong

BP-51 Diffusion Barrier Performance of Amorphous/Nanocrystalline Ta-Zr-N Thin Films in Cu Metallization, Z.Z. TANG, J.H. HSIEH, S.Y. ZHANG, Nanyang Technological University, Singapore

BP-52 Time Evolutions of Electron Energy Distribution Function and Plasma Parameters in Pulsed Magnetron Discharges, S.-H. SEO, J.-H. IN, H.-Y. CHANG, KAIST, South Korea, J.G. HAN, Sungkyunkwan University, South Korea

BP-53 On the Spinodal Nature of the Phase Segregation and Formation of Stable Nanostructure in the Ti-Si-N System, R.F. ZHANG, Tsinghua University, China, S. VEPREK, Technical University Munich, Germany

BP-54 Silicon Nitride Films by Chemical Vapor Deposition in Fluidized Bed Reactors at Atmospheric Pressure (AP/FBR-CVD), J. PEREZ-MARIANO, S. BORROS, Institut Quimic de Sarria, Spain, J.A. PICAS, A. FORN, Universitat Politecnica de Catalunya, Spain, C. COLOMINAS, Institut Quimic de Sarria, Spain

BP-55 Formation Behavior of Nano-Structured CrAlN Coatings by Cathodic Arc Plasma Deposition, S.S. KIM, Institute for Advanced Engineering, South Korea, J.G. HAN, Sungkyunkwan University, South Korea

Optical Thin Films
Room: Town & Country - Session CP

Symposium C Poster Session
5:30 pm – 8:00 pm

CP-1 Fabrication and Characterization of Indium Tin Oxide Film using Paste System, M.-H. LEE, Korea Institute of Ceramic Engineering and Technology, Korea, S.-I. KIM, W.S. SEO, Korea Institute of Ceramic Engineering and Technology, South Korea, D.Y. LEE, B.Y. KIM, Daelim College of Technology, South Korea, W.-K. BANG, Korea Nano Co., LTD, South Korea

CP-2 The Low Temperature Synthesis of Al Doped ZnO Films on Polymer using Pulsed Co-Magnetron Sputtering, Y.M. CHUNG, C.S. MOON, J.G. HAN, Sungkyunkwan University, South Korea

CP-3 Fabrication and Optical Properties of ZnO Thin Films with Various Orientations and their Nitrogen-Doping Behavior, Y.F. MEI, R.K.Y. FU, G.G. SIU, P.K. CHU, City University of Hong Kong, Y.C. LAU, General Electric Global Research, H.C. ONG, Chinese University of Hong Kong, C.L. YANG, Z.M. LI, W.K. GE, Z.K. TANG, Hong Kong University of Science & Technology, Hong Kong

CP-4 Electrical Properties of Transparent Conductive Al_a-Ga_{1-a}-ZnO Thin Films Prepared by RF Magnetron Sputtering, J.K. LEE, T.H. KIM, I.H. KIM, W.M. KIM, Korea Institute of Science and Technology, South Korea

CP-5 Effect of ZnO Addition on Electrical and Structural Properities of SnO_2 Thin Films, I.H. KIM, Korea Institute of Science and Technology, South Korea, J.H. KO, D. KIM, Korea University, South Korea, K.S. LEE, J.-K. PARK, T.S. LEE, Y.-J. BAIK, B.K. CHEONG, W.M. KIM, Korea Institute of Science and Technology, South Korea

CP-6 Effect of AZO Film Depositions on The Photovoltaic Properties of AZO/Cu_2O Heterojunction Devices, T. MINAMI, T. MIYATA, K. IHARA, Y. MINAMINO, S. TSUKADA, Kanazawa Institute of Technology, Japan

CP-7 Structural, Optical and Electrical Properties of Li-Doped ZnO Films for the Application of Acoustic Device, B.N. PARK, S.H. JEONG, S.-B. LEE, J.-H. BOO, Sungkyunkwan University, South Korea

CP-8 Polymer and Amorphous Silicon Films for Arrayed Waveguide Grating Application, S. CHEN, W.-J. LIU, H.-Y. CHENG, Y.-T. LAI, P.-H. LEE, I-Shou University, Taiwan, C.-M. CHENG, Y.-C. LAI, National Chiao Tung University, Taiwan, M.-H. WENG, National Nano Devices Laboratories, Taiwan

CP-9 Oxide Films of Multi-Element FeCoNiCrCuAl$_{0.5}$ Alloy by Reactive DC Sputtering, T.K. CHEN, M.S. WONG, National Dong Hwa University, Taiwan

CP-10 Characterizatin of Thermally Evaporated Silver Phthalocyanine Films, R.K. BEDI, H. GUPTA, Guru Nanak Dev University, India, A. MAHAJAN, D. A. V. College, India

CP-11 Spectroscopic Ellipsometry Monitoring of ITO Thin Film Properties Evolution during Amorphous-To-Crystalline Transition, M. VINNICHENKO, Kyiv National Taras Shevchenko University, Ukraine and Forschungszentrum Rossendorf, Germany, A. ROGOZIN, Institute of Ion Beam Physics and Materials Research, Germany, N. SHEVCHENKO, A. KOLITSCH, U. KREISSIG, W. MOELLER, Forschungszentrum Rossendorf, Germany

Thursday Afternoon Poster Sessions

Carbon and Nitride Materials: Synthesis-structure-property Relationships
Room: Town & Country - Session DP

Symposium D Poster Session
5:30 pm – 8:00 pm

DP-1 Surface Acoustic Wave Filter Devices on the Aluminum Nitride / Unpolished Nucleation Side of Hot Filament CVD Diamond, J.-H. SONG, J.-L. HUANG, National Cheng-Kung University, Taiwan, J.C. SUNG, Kinik Company, and National Taipei University of Technology, Taiwan, M.-C. KAN, Kinik Company, Taiwan

DP-2 DLC-SiO_x Nanocomposite Films Deposited from CH_4:SiH_4:O_2 Gas Mixtures, J.C. DAMASCENO, S.S. CAMARGO JR., COPPE - Universidade Federal do Rio de Janeiro, Brazil

DP-3 Three Dimensional A-C:H Film Coating by Low Pressure Inductively Coupled Plasma, Y.K. KOGA, National Institute of Advanced Industrial Science and Technology, Japan

DP-4 Effects of Ti- and Zr- Based Interlayer Coatings on the Hot Filament Chemical Vapour Deposition of Diamond on High Speed Steel, R. POLINI, F. PIGHETTI, Universita' di Roma Tor Vergata, Italy, M. BRIAC, National Institute for Optoelectronics, Italy, M. AMAR, M. AHMED, Manchester Metropolitan University, United Kingdom

DP-5 Photocurrent Analysis of Fluorine Doped Thin DLC Films for Electronic Applications, S.C. TRIPPE, CenPRA - Centro de Pesquisas Renato Archer, Brazil, R.D. MANSANO, University of San Paulo, Brazil, J.C. MADALENO, E. PEREIRA, L. PEREIRA, University of Aveiro, Portugal

DP-6 Thin Polycrystalline Diamond Films: Structural Characterisation and Related Electrical Properties, J.C. MADALENO, University of Aveiro, Portugal, S.C. TRIPPE, CenPRA - Centro de Pesquisas Renato Archer, Brazil, L. PEREIRA, University of Aveiro, Portugal

DP-7 Effect of Amorphous Si Layer on the Reaction of Carbon and Silicon in the C/Si Multilayer by IBS under UHV, C.K. CHUNG, M.Q. TSAI, B.H. WU, National Cheng Kung University, Taiwan

DP-8 Effect of Target Power Density and Gas Pressure on the Synthesis and Physical Properties of Sputtered A-C Films, H.S. MYUNG, Sungkyunkwan University, Korea, Y.S. PARK, A.R. JEON, B.Y. HONG, J.G. HAN, L.R. SHAGINYAN, Sungkyunkwan University, South Korea

DP-9 Characterization of CVD Diamond Films by Cycling Gas Flow Rate, T.-G. KIM, H.-S. KIM, Miryang National University, South Korea, S.-H. KIM, Silla University, South Korea, C.-W. LEE, Jinju National University, South Korea, M.-S. SONG, Shinhan Diamond Industrial. Co., Ltd., South Korea

DP-10 Carbon Nanotubes Deposition by Atmospheric Pressure PE-CVD Using Nickel Catalyst, S.J KYUNG, C.W. KIM, Y.H. LEE, J.H. LEE, G.Y. YEOM, Sungkyunkwan University, South Korea

DP-11 Effects of Patterned Catalysts on Structural and Field-Emissive Properties of Carbon Nanotubes Grown by ICP-CVD, C.K. PARK, J.P. KIM, S.T. HONG, H.S. UHM, J.S. PARK, Hanyang University, South Korea

DP-12 Growth of Aligned CNTs using MPCVD System without Applying Bias, Y.M. LU, Kun Shan University, Taiwan, C.M. LO, Kun Shan University of Technology, Taiwan

DP-13 Purification and Characterization of Carbon Nanotubes, E. TITUS, N. ALI, J. GRACIO, University of Aveiro, Portugal, B.P. RAMESH, Trinity College, Ireland, P.K. TYAGI, A. MISRA, D.S. MISRA, Indian Institute of Technology, India

DP-15 Mechanical Properties of Hard Si-C-N and Si-B-C-N Films, Z. SOUKUP, J. VLCEK, S. POTOCKY, J. CIZEK, M. KORMUNDA, University of West Bohemia, Czech Republic, V. PERINA, Academy of Sciences, Czech Republic

DP-16 Photoconductivity and Transport Properties of Amorphous Silicon Carbon Nitride Thin Film and its Application for Deep UV Detection, C.W. CHEN, Y.Y. LIN, National Taiwan University, Taiwan, C.H. SHEN, Academic Sinica, Taiwan, L.C. CHEN, National Taiwan University, Taiwan, K.H. CHEN, Academic Sinica, Taiwan

DP-17 Comparative Study Between Ammonia and Nitrogen used in SiCN Films Deposition By Radio Frequency Magnetron Sputtering, C.A. ACHETE, Coppe - Ufrj, Brazil, R.T. BRITTO, Coppe- Ufrj, Brazil, L.F. SENNA, R.A. SIMAO, M. MICHEL, Coppe - Ufrj, Brazil, C.M. LEPIENSKI, Catholic University of Parana, Brazil

DP-18 Thermal Stability of Hard Si-B-C-N Films Prepared by Reactive Magnetron Sputtering, J. KALAS, J. VLCEK, S. POTOCKY, S. HREBEN, R. CERSTVY, University of West Bohemia, Czech Republic, V. PERINA, Academy of Sciences, Czech Republic, P. ZEMAN, University of West Bohemia, Czech Republic

DP-19 Influence of Deposition Parameters on Si-C-N Thin Films Produced by PVD Techniques: Raman Analysis, J. LEME, C. MOURA, L. CUNHA, Universidade do Minho, Portugal, E.J. LIANG, Zhengzhou University, PR China

DP-20 Comparison of Raman Spectroscopy on Amorphous Carbon Nitride Prepared from Graphitic-Like and Diamond-Like Carbon Matrixes, A. CHAMPI, F.C. MARQUES, IFGW/UNICAMP, Brazil

DP-21 Influence of Nitrogen Bonding Environments and Microstructural Features on the Optical Properties of Carbon Nitride Thin Films, M. VINNICHENKO, Kyiv National Taras Shevchenko University, Ukraine and Forschungszentrum Rossendorf, Germany, G. ABRASONIS, Forschungszentrum Rossendorf, Germany, R. GAGO, Forschungszentrum Rossendorf, Germany and Universidad Autonoma de Madrid, Spain, J. NEIDHARDT, L. HULTMAN, Linköping University, Sweden, A. KOLITSCH, W. MOELLER, Forschungszentrum Rossendorf, Germany

DP-22 Fatigue Properties of a SAE 4340 Steel Coated with TiCN by PAPVD, E.S. PUCHI-CABRERA, Universidad Central de Venezuela, D. QUINTO, Balzers, New York, C.J. VILLALOBOS-GUTIERREZ, J. LA BARBERA-SOSA, M. MORENO-CASTILLO, L. CABEZAS-HERNANDEZ, Universidad Central de Venezuela, G. MESMACQUE, University of Lille, France

DP-23 Adherent Diamond Coatings on Cemented Tungsten Carbide Substrates with New Fe/Ni/Co Binder Phase, R. POLINI, Universita' di Roma Tor Vergata, Italy, M. DELOGU, G. MARCHESELLI, Fabbrica Italiana Leghe Metalliche Sinterizzate (FILMS) SpA, Italy

DP-24 Using Thermal Annealing to Correlate Substrate-Stress with Diamond Nucleation on Coarse and Micro-Grain Cemented WC-Co Substrates, G. CABRAL, N. ALI, University of Aveiro, Portugal, R. POLINI, Universita di Roma Â´Tor Vergata, Rome, Italy, E. TITUS, V.F. NETO, J. GRACIO, University of Aveiro, Portugal

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

Symposium E Poster Session
5:30 pm – 8:00 pm

EP-1 Friction Properties of Co-sputtered Sulfide/DLC Solid Lubricating Films, J. NOSHIRO, S. WATANABE, T. SAKURAI, S.M. MIYAKE, Nippon Institute of Technology, Japan

EP-2 Comparison of Structure and Tribological Properties of Mo_xS_y-Ti Films Deposited by Biased-dc and Pulsed-dc, I. EFEOGLU, E. ARSLAN, F. BULBUL, A. CELIK, Ataturk University, Turkey

EP-3 Tribological Properties of DLC Film on a Silicon Substrate with and without Metal Interlayers, Y.S. JEON, W.S. CHOI, B. HONG, C.W. CHO, Y.Z. LEE, Sungkyunkwan University, South Korea

EP-4 Deposition of Ternary B-C-N Thin Films by Means of Ion-Plating, S. WATANABE, S.M. MIYAKE, T. EZURA, M. MURAKAWA, Nippon Institute of Technology, Japan

EP-5 High Speed Wear Behaviors of CrSiN Coatings for the Industrial Applications of Water Hydraulics, S.D. KIM, HanKuk Aviation University, South Korea, S.Y. LEE, G.S. KIM, Y.S. HONG, HanKuk Aviation Unversity, South Korea

EP-6 Tribological Performance of Chromium / Chromium Carbide Multilayers Deposited by r.f. Magnetron Sputtering, M.A. GÓMEZ, J. ROMERO, A. LOUSA, J. ESTEVE, Universitat de Barcelona, Spain

EP-7 Tribology of Nanostructured Protective Coatings for Jet Engine Blades, D.L. SCHULZ, A SHANKARAN, G.J. MCCARTHY, North Dakota State University, R.C. TUCKER, The Tucker Group, LLC, M. RAY, G.E. MCGUIRE, International Technology Center, P. SUNAL, M.W. HORN, R. MESSIER, Pennsylvania State University

EP-8 A Study on the Effects of the Coating Properties on the Corrosion Behavior in Multilayered WC-$Cr_{1-x}Al_xN$ Coatings on AISI D2 Steel, W.J. KIM, Sungkyunkwan University, South Korea, S.H. AHN, Hyundai Motors, South Korea, J.G. KIM, Sungkyunkwan University, South Korea

EP-9 LARC Tribological Coatings for Green Machining, M. MORSTEIN, O. CODDET, Platit AG, Switzerland, M. RUZICKA, Pivot a.s., Czech Republic, O.T. ZINDULKA, SHM, s.r.o., Czech Republic

EP-10 Mechanical Characteristics and Performance Evaluation by Cutting Edge Honing of Superhard TiN and Ti-Al-N Coating Tool, J.H. PARK, M.C. KANG, J.S. KIM, J.-T. OK, K.W. KIM, Pusan National University, South Korea

EP-11 Study of Thin Films Degradations under Severe Micro Abrasive Conditions, N.M. RENEVIER, M. BODILL, I. SHERRINGTON, University of Central Lancashire, United Kingdom

EP-12 Influence of Plasma Nitriding and PVD Coating in The Cavitation Erosion Resistance of an AISI 1045 Steel, R.D. MANCOSU, C. GODOY, M.M. LIMA, P.J. MODENESI, Universidade Federal de Minas Gerais, Brazil, J. HOUSDEN, J.C. AVELAR-BATISTA, Tecvac Ltd., United Kingdom

EP-13 Fatigue Behavior of a 7075-T6 Aluminum Alloy Coated with an Electroless Ni-P Deposit, E.S. PUCHI-CABRERA, C.J. VILLALOBOS-GUTIERREZ, Universidad Central de Venezuela, I. IRAUSQUIN, Universidad Simon Bolivar, Venezuela, J. LA BARBERA-SOSA, Universidad Central de Venezuela, G. MESMACQUE, University of Lille, France

EP-14 The Nano Scratch Tester as a Tool to Measure the Coefficient of Friction, E. POIRÉ, Micro Photonics, Inc.

EP-15 Wear Mechanism of Ni-P-BN(h) Composite Autocatalytic Coatings, O.A. LEÓN, Polytechnic Experimental National University (UNEXPO), Puerto Ordaz, Venezuela, M.H. STAIA, Central University of Venezuela, H.E. HINTERMANN, Neuchatel University, Switzerland

EP-16 Wear-Corrosion Performance of Plasma-Sprayed Cast Iron Coatings on Aluminum Alloy for Automotive Components, W.J. KIM, Sungkyunkwan University, South Korea, S.H. AHN, Hyundai Motors, South Korea, J.G. KIM, Sungkyunkwan University, South Korea, I. OZDEMIR, Dokuz Eylul University, Japan, Y. TSUNEKAWA, Toyota Technological Institute, Japan

EP-17 Optimization of Plasma Nitriding Process for Duplex Treatment, E.Y. KIM, HanKuk Aviation University, South Korea, G.S. KIM, S.Y. LEE, HanKuk Aviation Unversity, South Korea, S.D. KIM, HanKuk Aviation University, South Korea

EP-18 Finite Element Modeling of the Stresses during the Sliding of a Rigid Cylinder Over a Coated System with Soft Substrate, L.I. NEGRIN, Universidad Central Marta Abreu de Las Villas, Brazil, E.A. PEREZ, Universidad de Ibague, Coruniversitaria, Colombia, R.M. SOUZA, University of Sao Paulo, Brazil

EP-19 Characterisation and Applications of WC-C Coatings Produced by Magnetron Sputtering, E. SPAIN, Tecvac Ltd, United Kingdom, J.C. AVELAR-BATISTA, J. HOUSDEN, Tecvac Ltd., United Kingdom

EP-20 Deposition of Self-Lubricant Nanocomposite Coatings in Air Plasma Spray Process, X. MA, T. DECARMINE, T.D. XIAO, Inframat Corporation

EP-21 Mechanical Properties and Surface Morphology of Sputter Deposited Zr-Ti-Cu-Ni-Be Thin Films, S.N. SAMBANDAM, S. BHANSALI, V.R. BHATHANABOTLA, University of South Florida, D.K. SOOD, Royal Melbourne Institute of Technology, Australia

Thursday Afternoon Poster Sessions

Advanced Characterization of Coatings and Thin Films
Room: Town & Country - Session FP

Symposium F Poster Session
5:30 pm – 8:00 pm

FP-1 A Novel Nanoacoustic Microscope in Study of Thin Films, O.G. LYSENKO, N.V. NOVIKOV, V.I. GRUSHKO, Institute for Superhard Materials, Ukraine

FP-2 Nano-Rod Structure of Ferroelectric Lanthanum-Doped Bismuth Titanate, C.I. KIM, K.T. KIM, Chungang University, South Korea, S.G. LEE, Seonam University, South Korea

FP-3 An X-Ray Scattering Study of Ferroelectric $Ba_{0.48}Sr_{0.52}TiO_3/LaNiO_3$ Superlattice Prepared by RF Magnetron Sputtering, K.-F. WU, National Tsing Hua University, Taiwan, H.-Y. LEE, H.-J. LIU, National Synchrotron Radiation Research Center, Taiwan, C.-H. LEE, National Tsing Hua University, Taiwan

FP-4 Surface Evolution and Dynamic Scaling of Heteroepitaxial Growth of $(La,Ba)MnO_3$ Films on $SrTiO_3$ Substrate by RF Magnetron Sputtering, Y.-C. LIANG, National Tsing Hua University, Taiwan, H.-Y. LEE, H.-J. LIU, National Synchrotron Radiation Research Center, Taiwan, T.-B. WU, National Tsing Hua University, Taiwan

FP-5 Characterization of Photocatalytic TiO_2 Thin Films Enhanced by Metal Plasma Ion Implantation, D.-Y. WANG, H.-C. LIN, Mingdao University, Taiwan

FP-6 Magnetic Response of Cobalt Oxide Films Prepared by Pulsed Liquid Injection MOCVD, L.M. APATIGA, H. BOEHNEL, V.M. CASTANO, UNAM, Mexico

FP-7 Properties of MoN_xO_yyThin Films as a Function of the N/O Ratio, J. BARBOSA, L. CUNHA, L. REBOUTA, F. VAZ, Universidade do Minho, Portugal, E. ALVES, ITN, Portugal, P. GOUDEAU, J.P. RIVIÈRE, Universite Poitiers, France, S. CARVALHO, Universidade do Minho, Portugal

FP-8 Effect of Sodium Lauryl Sulfate on Electrodeposition of Ni-P Layer as a Under Bump Metallization, Y.-C. LIN, J.G. DUH, National Tsing Hua University, Taiwan

FP-9 The Effect of Trioctylphosphine Oxide as a Capping Organic Molecule on the Electronic Structure of CdSe Nanocrystal Film, H.H. PARK, H.J. CHOI, J.K. YANG, S. YOON, Yonsei University, South Korea, H.J. CHANG, Dankook University, South Korea

FP-10 Enhancing the Rate Capability and High-Temperature Capacity of Carbon-Coated $LiFePO_4$ by an Unique Coating Technology, T. FANG, J.G. DUH, National Tsing Hua University, Taiwan, S.-R. SHEEN, Academia Sinica, Nankang, Taiwan

FP-11 Interface Control of Y_2O_3 Thin Film with Si(100) in a Metal-(Ferroelectric)-Insulator-Semiconductor Structure, H.H. PARK, C.K LEE, Yonsei University, South Korea, S.K. KWON, J.D. KIM, Electronics and Telecommunications Research Institute, South Korea

FP-12 Annealing Effect on the Phase Stability of $ZrO_2Gd_2O_3$ PVD Coatings, A. PORTINHA, V. TEIXEIRA, J.O. CARNEIRO, C. MOURA, M.F. COSTA, University of Minho, Portugal

FP-13 Silicon Effects on Oxide Coatings on Aluminium Alloys, X. NIE, L. WANG, University of Windsor, Canada

FP-14 The Pore Distribution Control of Chemical Vapor Infiltrated SiC Whisker on the Porous SiC Body., B.I. JOO, W.S. PARK, D.J. CHOI, Yonsei University, South Korea, H.D. KIM, Korea Institute of Machinery and Materials, South Korea

FP-15 Characterization of Paraffin Thin Films Deposited on Hidrogened Amorphous Carbon Substrates, M.E.R. DOTTO, M. FERREIRA, S.S. CAMARGO JR., COPPE - Universidade Federal do Rio de Janeiro, Brazil

FP-16 Chemical Bonding Investigation of Amorphous Hydrogenated Si-N Alloys Deposited by Plasma Immersion Ion Implantation, L.G. JACOBSOHN, I.V. AFANASYEV-CHARKIN, R.K. SCHULZE, Los Alamos National Laboratory, L.L. DAEMEN, Manuel Lujan Jr. Neutron Scattering Center, M. NASTASI, Los Alamos National Laboratory

FP-17 The Stoichiometric and Bonding Characterization of Si-C-O-H Films Deposited using Remote PECVD, S.H. CHO, Y.J. LEE, D.J. CHOI, Yonsei University, South Korea, T.S. KIM, Korea Institute of Science and Technology

FP-18 The Characterization of SiC:H Films Deposited using HMDS Precursor with C_2H_2 Dilution Gas by Remote PECVD System, S.H. CHO, D.J. CHOI, Yonsei University, South Korea, T.S. KIM, Korea Institute of Science and Technology, South Korea

FP-19 The Effect of Bias on the Structure and Property of ZrN Thin Film Deposited by UBM Sputtering, Y.-W. LIN, J.-H. HUANG, G.-P. YU, National Tsing Hua University, Taiwan

FP-20 Mechanical Properties and Residual Stress of Ceramic Coatings, X.J. LU, X. WANG, P. XIAO, University of Manchester, United Kingdom

FP-21 Measurement of Yield Strength and Ultimate Strength of Hard Coatings., S. KAMIYA, S. AMAKI, Nagoya Institute of Technology, Japan, H. HANYU, Osg Corporation, Japan

FP-22 Electron Microscopy Evaluation of Interfacial Reaction in Lead-Free Solder and Sn-Pb Solder with Ni/Cu Under-Bump Metallization, L.-Y. HSIAO, J.G. DUH, National Tsing Hua University, Taiwan

FP-23 Behavior of Tin Whisker Growth on Surface Finish in the Lead-Free Solder Plating, K.S. KIM, Yeojoo Institute of Technology, South Korea, K.T. KIM, SeoJeong College, South Korea, C.H. YU, Electronics and Telecommunications Research Institute, South Korea, H.L. KIM, University of California, Los Angeles

FP-24 The Comparison Study of CVD Process for Triso Coated Fuel through Computational Simulation and Actual Experiment, E.S KUM, J.H JUN, D.J. CHOI, S.S KIM, H.L LEE, Yonsei University, South Korea, Y.W LEE, J.Y. PARK, Korea Atomic Energy Research Institute, South Korea

FP-25 Model Calculations of the Electron Energy-Loss Function from Electron Density Oscillations in Metallic Nanoparticles and Complex Structures, H.J. STEFFEN, Steffen Engineering Inc., Germany

FP-26 Effects of Residual Stresses on the Thermo-Mechanical Integrity of High Temperature Coatings, X.C. ZHANG, B.S. XU, H.D. WANG, Y.X. WU, Shanghai Jiaotong University, China

FP-27 The Universal Nanomechanical Tester (UNAT) - A New Concept for the Characterization of the Mechanical Properties of Surfaces and Thin Films, T. CHUDOBA, V. LINSS, ASMEC GmbH, Germany

Thursday Afternoon Poster Sessions

Applications, Manufacturing, and Equipment
Room: Town & Country - Session GP

Symposium G Poster Session
5:30 pm – 8:00 pm

GP-1 Creation of C_3N_4 by Electron beam Processing, P.I. PETROV, Institute of Electronics, Bulgaria

GP-2 The Investigation of Structural, Mechanical and Tribological Properties of Plasma Nitrocarburized AISI 1020 Steel, A. CELIK, M. KARAKAN, A. ALSARAN, I. EFEOGLU, Ataturk University, Turkey

GP-3 Characteristics of Organic Light-Emitting Devices by the Surface Treatment of Indium Tin Oxide Surfaces using Atmospheric Pressure Plasmas and Low-Pressure Plasmas, C.H. JEONG, J.H. LEE, Y.H. LEE, G.Y. YEOM, Sungkyunkwan University, South Korea

GP-4 A Comparative Study on Cutting Performance of TiN Coated Tungsten Carbide Cutting Tool with and without a Cobalt Interlayer, D.H. KWON, M.C. KANG, S.Y. YOON, J.H. JEON, K.W. KIM, Pusan National University, South Korea

GP-5 Cutting Performance using High Reliable Device of Coated Cutting Tool for High Speed interrupted Machining, M.C. KANG, J.S. KIM, K.W. KIM, Pusan National University, South Korea

GP-6 Relationship Between Morphology, Mechanical Properties and Gas Separation of Polyimide/Poly (silsesquioxane) Nanocomposite Thin Film, M.-H. TSAI, C.-J. KO, Y.-L. CHEN, S.-L. HUANG, National Chin Yi Institute of Technology, Taiwan

GP-7 Preparation and Performance of Novel MEA with Multi Catalyst Layer Structure for PEFC by Magnetron Sputter Deposition Technique, C.-H. WAN, Q.-H. ZHUANG, M.-T. LIN, Mingdao University, Taiwan

GP-8 In Vitro Investigation of Hemocompatibility of Hydrophilic SiN_x:H Films Fabricated by PECVD, G.J. WAN, City University of Hong Kong, P. YANG, Southwest Jiaotong University, X.J. SHI, Hong Kong University of Science & Technology, Hong Kong, H.F. ZHOU, N. HUANG, Southwest Jiaotong University, P.K. CHU, City University of Hong Kong

GP-9 Surface Modification of Silicon Wafer for Biomedical Application, X.Y. LIU, J.P.Y. HO, P.K. CHU, City University of Hong Kong, C.X. DING, Shanghai Institute of Ceramics, Chinese Academy of Sciences

GP-10 Improvement of Bioactivity and Corrosion Resistance of Titanium Metal via Electrolytic Deposition Anatase TiO2 Coatings, C-.M. LIN, National ChungHsing University, Taiwan

GP-11 Effects of Fluorine Doping of Amorphous Diamond-Like Carbon Films on Platelet Adhesion and Activation, S. YOHENA, Keio University School of Science and Technology, Japan, T. HASEBE, Tachikawa Hospital/Keio University School of Science and Technology, Japan, T. SAITO, Y. MATSUOKA, Keio University School of Science and Technology, Japan, A. KAMIJO, K. TAKAHASHI, The University of Tokyo Hospital, Japan, T. SUZUKI, Keio University School of Science and Technology, Japan

GP-12 Biocompatible Titanium Dioxide Overlayer on Titanium Nitride Films Prepared by Annealing, H.-Y. CHEN, Taichung Healthcare and Management University, Taiwan

GP-13 Bioactive Titanium-Particle-Containing Dicalcium Silicate Coating, Y.T. XIE, P.K. CHU, City University of Hong Kong

GP-14 Effect of Additives on the Durability and Bioactivity of Plasma-Sprayed Dicalcium Silicate Coatings, Y.T. XIE, City University of Hong Kong, C.X. DING, Shanghai Institute of Ceramics, Chinese Academy of Scienc, X.Y. LIU, P.K. CHU, City University of Hong Kong

GP-15 Plasma Nitriding of Various Substrates using D.C. Glow Discharges Under a Triode Configuration, J.C. AVELAR-BATISTA, Tecvac Ltd., United Kingdom, E. SPAIN, Tecvac Ltd, United Kingdom, J. HOUSDEN, Tecvac Ltd., United Kingdom, A. MATTHEWS, Sheffield University, United Kingdom, F. MONTALA, Tratamientos Termicos Carreras (TTC), Spain

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

Symposium H Poster Session
5:30 pm – 8:00 pm

HP-2 Industrially-Styled Room-Temperature Pulsed Laser Deposition of ZnO:Al Films, W. WALDHAUSER, J.M. LACKNER, G. JAKOPIC, A. FIAN, Joanneum Research, Austria

HP-3 Nano-Scale Electrical Phase-Change Recording on Ge-Sb-Te Media with Protective Overcotings, C.S. LEE, S.-H. KIM, M.S. SUH, K.I. LEE, J.K. SHIN, Korea Electronics Technology Institute, South Korea

HP-4 Fabrication, Microstructure and Magnetic Properties of FeCoNiPAl Multicomponent Coatings, F.B. WU, C.Y. LEE, J.G. DUH, National Tsing Hua University, Taiwan

HP-5 The Synthesis of WC/TiB_2 Heterostructure Film using Closed Field Magnetron Sputtering System, H.Y. LEE, K.H. NAM, J.G. HAN, Sungkyunkwan University, South Korea, J.H. KIM, S.M. SEO, E.H. BAE, Max Plasma Co., South Korea

HP-6 Fabrication of Periodic Nickel Silicide Nanodot Arrays using Nanosphere Lithography, S.L. CHENG, C.H. LI, S.W. LU, Y.C. CHANG, National Central University, Taiwan

HP-7 Ir Oxide Coatings on Ti Electrode Deposited by UBM Sputtering Process, S.S. KIM, H.S. UHM, C.S. CHOI, Hanyang University, South Korea

HP-8 A Study on 2-Layer Copper Clad Lamination (CCL) for Flexible Circuit Board, W.S. JUNG, Sung Kyun Kwan University, Korea, Y.M. CHUNG, H.Y. LEE, K.H. NAM, J.G. HAN, Sungkyunkwan University, South Korea

HP-9 A Comparative Study of Cu, Ag and Au Respectively in Contact with Si(100), B.A. JULIES, D. ADAMS, University of the Western Cape, South Africa, J.W. MAYER, Arizona State University

HP-10 Electroless-Plated Copper for ULSi Interconnect Metallization - A Comparison of the Catalytic Effect by Plasma Immersion Ion Implantation between Cu and Pd, J.-H. LIN, W.-J. HSIEH, National Tsing-Hua University, Taiwan, T.-L. LEE, National Chiao-Tung University, Taiwan, H.-C. SHIH, National Tsing-Hua University, Taiwan

HP-11 Interfacial Band Offset of $(La_2O_3)_{1-x}(SiO_2)_x$ $(0 \le x < 1)$/n-GaAs (001) Structure, H.H. PARK, J.K. YANG, Yonsei University, South Korea

HP-12 Structure and Thermal Stability of $(Zr_{0.6}Al_{0.4})O_{1.8}$ Thin film on Strained SiGe Layer, Z.F. DI, P.K. CHU, City University of Hong Kong, M. ZHANG, W.L. LIU, Z.T. SONG, C.L. LIN, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Hong Kong

HP-13 Effect of Inter-Level Dielectrics on Electromigration in Damascene Copper Interconnect, Y.-L. CHENG, R.H. LIU, National Chiao-Tung University, Taiwan

HP-14 Optimization and Integration of Trimethylsilane-Based Organosilicate Glass and Organo Fluorinatted Silicate Glass Dielectric Thin Films For Cu Damascene Process, Y.-L. CHENG, National Chiao-Tung University, Taiwan, R.O.C.

HP-15 Structure-Dependent Mechanical Properties of Surfactant-Templated Mesoporous Silica Thin Film for Low-k Application, H.H. PARK, S.B. JUNG, Yonsei University, South Korea

HP-16 $SrTiO_3$-SiO_2 Binary Oxides for High-K Gate Dielectric Applications, C.-C. LIN, L.-W. LAI, C.-Y. LIN, T.-Y. TSENG, National Chiao-Tung University, Taiwan

HP-17 Structure-Resistivity Relationship of Iridium and Ruthenium Dioxide Films Reactively Sputter-Deposited at Various Temperatures from Metallic Targets, B. LAFORGE, CEA Grenoble DTEN / SCSE / LSEM, France, V. RACHPECH, Laboratoire de Science et Génie des Surfaces, France, A. BILLARD, École des Mines Parc de Saurupt, France, R. SALOT, CEA Grenoble DTEN / SCSE / LSEM, France

HP-18 A Novel Fabrication Process for Aln-Based FBAR Devices and Analysis on the Effects of Electrode Metals on Frequency Response Characteristics, B.H. KIM, D.H. CHO, D.Y. KIM, J.S. PARK, Hanyang University, South Korea

HP-19 Preparation of $La_{0.7}Sr_{0.3}MnO_3/LaNiO_3$ Magnetic Oxide Superlattice Structure by RF Sputtering, H.-Y. LEE, H.-J. LIU, National Synchrotron Radiation Research Center, Taiwan

HP-20 In-Situ Monitoring of Byproducts on the Etching of (Pb,Sr)TiO_3 Thin Film, C.I. KIM, G.H. KIM, K.T. KIM, Chungang University, South Korea

HP-21 Ferroelectricity of $BiFeO_3$ Thin Films on $LaNiO_3$ Electrodes Prepared by Metal Organic Decomposition Method, C.I. KIM, K.T. KIM, Chungang University, South Korea

HP-22 Dry Etching of $LaNiO_3$ Thin Films using Inductively Coupled Plasma, C.I. KIM, G.H. KIM, K.T. KIM, Chungang University, South Korea, D.P. KIM, KDG Engineering Corporation, South Korea

HP-23 A Method of Coating and implanting Carbon Nanotube with Iron by Inductively Coupled Plasma, C.I. KIM, J.S. KIM, G.H. KIM, K.T. KIM, Chungang University, South Korea, D.P. KIM, KDG Engineering Corporation, South Korea, O.J. YOON, J.K. JUNG, Chungang University, South Korea

HP-24 Diffusion Low-Temperature Welding of Titanium with Alumina by Means of Nano-Scale Vacuum Coatings, B.A. EIZNER, Technion, Israel

HP-25 Ion-Assisted Deposition of Carbon-Doped Titanium Oxide Films as Visible-Light Photocatalyst, S.W. HSU, M.C. YANG, National Dong Hwa University, Taiwan, T.S. YANG, Tzu Chi Institute of Technology, Taiwan, T.K. CHEN, M.S. WONG, National Dong Hwa University, Taiwan

HP-26 Study of Fe, Nd, and Pt Dopant Effect in the Photocatalytic Activity of TiO_2 Films Prepared by DC Reactive Magnetron Sputtering, J.O. CARNEIRO, V. TEIXEIRA, A. PORTINHA, M. TOMAS, University of Minho, Portugal

HP-28 Qualitative Failure Analysis on Laminate Structures of Windsurfing Boards using Thin Film Modelling Techniques, N. SCHWARZER, Technische Universität Chemnitz, Germany, P. HEUER, ESAE, Germany

Topical Sessions
Room: Town & Country - Session TP

Symposium TS Poster Session
5:30 pm – 8:00 pm

TP-1 Theoretical Calculations on Atomistic Behaviors in Transition Metals (Fe, Co, Ni)-Al Multilayer System: Ab initio Approach, C. KIM, Y.-C. CHUNG, Hanyang University, South Korea

TP-2 Atomic Investigation of Al/Ni(001) by Molecular Dynamics Simulation, S.-G. LEE, Y.-C. CHUNG, Hanyang University, South Korea, K.-R. LEE, Korea Institute of Science and Technology, South Korea

TP-3 Bonding and Classification of Nanolayered Ternary Carbides, Z. SUN, RWTH Aachen University, Germany, D. MUSIC, RWTH-Aachen, Germany, R. AHUJA, S. LI, Uppsala University, Sweden, J.M. SCHNEIDER, RWTH Aachen University, Germany

TP-4 Molecular Dynamics Simulation of Nano-Scale Fe-Al Thin Film Growth, C.-Y. CHUNG, Hanyang University, South Korea, K.-R. LEE, Korea Institute of Science and Technology, South Korea, Y.-C. CHUNG, Hanyang University, South Korea

TP-5 Chemical Deposition and Reaction of Copper β-Diketonate and Its Ligand on Si(100), C.-C. CHANG, I.-J. HUANG, National Taiwan University, Taiwan

Friday Morning, May 6, 2005

	Hard Coatings and Vapor Deposition Technology Room: Golden West - Session B10 Surface Processing and Modeling Moderators: A.L. Yerokhin, The University of Sheffield, D.J. Christie, Advanced Energy Industries, Inc.	Hard Coatings and Vapor Deposition Technology Room: San Diego - Session B9 Pulsed Plasmas for Vapour Depositions Moderators: P.J. Kelly, Manchester Metropolitan University, K. Marchev, The Gillette Co.
8:30 am	B10-1 Process Efficiency of Plasma Electrolytic Oxidation of Aluminium in Pulsed Unipolar Current Mode, L.O. SNIZHKO, Ukrainian State University for Chemical Engineering, Ukraine, A.L. YEROKHIN, T. PILKINGTON, A. LEYLAND, A. MATTHEWS, The University of Sheffield, United Kingdom	B9-1 Enhanced HIPPMS Thin Film Growth Using Secondary Magnetic Field Discharge Confinement, S.L. ROHDE, S. CHENNADI, S. SEVVANA, J. LI, R.K. LAKKARAJU, D.M. MIHUT, University of Nebraska
8:50 am	B10-2 Effects of Passivating Additions to the Alkaline Electrolyte on the Process Efficiency of Plasma Electrolytic Oxidation of Al, A.L. YEROKHIN, The University of Sheffield, United Kingdom, L.O. SNIZHKO, Ukrainian State University for Chemical Engineering, Ukraine, T. PILKINGTON, The University of Sheffield, United Kingdom, D.O. MYSNYAKIN, N.L. GUREVINA, Ukrainian State University of Chemical Technology, Ukraine, A. LEYLAND, A. MATTHEWS, The University of Sheffield, United	B9-2 Innovative Solutions for Wear Protection of Tools and Components Using Bipolar Pulsed PVD (H.I.P™), TONI LEYENDECKER, O. LEMMER, R. CREMER, G. ERKENS, H.-G. FUSS, CemeCon AG, Germany
9:10 am	B10-3 Residual Stresses in Plasma Electrolytic Oxidation Coated BS Al 6082 Alloy, R.H.U KHAN, A.L. YEROKHIN, T. PILKINGTON, A. LEYLAND, The University of Sheffield, United Kingdom, L.O. SNIZHKO, Ukrainian State University for Chemical Engineering, Ukraine, A. MATTHEWS, The University of Sheffield, United Kingdom	B9-3 Invited Recent Progress in High Power Impulse Magnetron Sputtering, A.P. EHIASARIAN, Sheffield Hallam University, United Kingdom
9:30 am	B10-4 Invited Synthesis and Characterization of Hard Metal Coatings by Electro Plasma Technology, P. GUPTA, CAP Technologies, LLC, LBTC, Louisiana State University, G. TENHUNDFELD, Louisianna State University, E.O. DAIGLE, Louisiana State University, L. CATO, Concurrent Technologies Corporation, J. CANNON, Benet Laboratories	Invited talk continued.
9:50 am	Invited talk continued.	B9-5 Invited Low Temperature Functional Film Synthesis on Polymer by Pulsed Magnetron Sputtering, J.G. HAN, Sungkyunkwan University, South Korea
10:10 am	B10-6 Microstructural Study of a Ceramic Coating Formed on a 2214 Aluminium Alloy, E. TILLOUS, T. TOLL-DUCHANOY, Institut Nationale Polytechnique de Lorraine, France, E. BAUER-GROSSE, Ecole des Mines, France, L. DUJARDIN, A. VIOLA, Messier-Bugatti, France	Invited talk continued.
10:30 am	B10-7 Materials Informatics for the Design of Novel Coatings, L.R. ZHAO, K. CHEN, Q. YANG, National Research Council, Canada, J.R. RODGERS, Toth Information Systems, Inc., Canada	B9-7 The Effect of Pulse Sequence Modulation and Pulse Energy on Structural Coating Properties and Coating Composition, L. LUGSCHEIDER, K. BOBZIN, M. MAES, Aachen University, Germany
10:50 am	B10-8 Engineering of Coating Processes by Molecular Dynamic Simulation Applied to PVD DC Sputter Deposition, P. KLEIN, Fraunhofer Institut fuer Techno- und Wirtschaftsmathematik, Germany, B. GOTTWALD, Universitaet Stuttgart, Germany, A. GEMMLER, Fraunhofer Institut fuer Produktionstechnik und Automatisierung, Germany	B9-8 Effect of Pulsing Frequency on nc-TiN/a-Si_xN_y Nanocrystalline Composite Thin Film Properties in a Pulsed DC Magnetron Sputtering System, P. SUNAL, M.W. HORN, R. MESSIER, Pennsylvania State University
11:10 am	B10-9 Modeling Considerations for Two-Gas Reactive Sputtering Processes., D.J. CHRISTIE, W.D. SPROUL, D.C. CARTER, Advanced Energy Industries, Inc.	B9-9 Pulsed DC Plasma Induced PZT Thin Film Deposition for Industrial Purposes: Process Development and Film Characterization, A. FISCHER, Swiss Federal Laboratories for Materials Testing and Research (EMPA), Switzerland, R. THAPLIYAL, M. AMBERG, Swiss Federal Laboratories for Materials Testing and Research (EMPA), St. Gallen, Switzerland, H.-J. HUG, Swiss Federal Laboratories for Materials Testing and Research (EMPA), Duebendorf, Switzerland, D. HEGEMANN, Swiss Federal
11:30 am	B10-10 Infrared Thermography-Assisted Detection of Surface Alteration during Plasma Cleaning and Implications on Subsequently Deposited Magnetron Sputtered Films, M. DIESSELBERG, H.-R. STOCK, H.-W. ZOCH, Foundation Institute for Materials Science, Germany, R. CREMER, H.-G. FUSS, CemeCon AG, Germany	B9-10 Phase Separation and Formation of the Self-Organized Layered Nanostructure in C/Cr Coatings in Conditions of High Ion Irradiation, P.EH. HOVSEPIAN, Y.N. KOK, The Sheffield Hallam University, United Kingdom, A. EHIASARIAN, The Sheffield Hallam University, UnitedKingdom, R. HAASCH, J.G. WEN, I. PETROV, University of Illinois at Urbana Champaign
11:50 am	B10-11 A Parameter Study on Plasma Cleaning Process, C. LI, J.H. HSIEH, Nanyang Technological University, Singapore	B9-11 Reactive AC Pulsed Magnetron Sputtering of Magnesium Oxide Thin Films, C. PETERS, U. KRAUSE, T. KOPTE, Fraunhofer Institut fuer Elektronenstrahl- und Plasmatechnik, Germany, H. KUPFER, R. KLEINHEMPEL, F. RICHTER, TU Chemnitz, Germany, Y. CHENG, Carnegie Mellon University
12:10 pm		B9-12 Oxidation Behavior of Polycrystalline CrN/AlN Multilayer Coatings Fabricated by Pulsed DC Magnetron Sputtering, J.G. DUH, S.-K. TIEN, National Tsing Hua University, Taiwan, C.-W. LEE, Dong Nan Institute of Science and Technology, Taiwan

Friday Morning, May 6, 2005

	Carbon and Nitride Materials: Synthesis-structure-property Relationships; Room: Royal Palm 1-3 - Session D2-3 Diamond-Like Carbon and Diamond Materials Moderators: K.-R. Lee, Korea Institute of Science and Technology, Y.K. Koga, National Institute of Advanced Industrial Science andTechnology	Tribology of Coatings and Thin Films Room: Sunrise - Session E2 Friction and Wear of Coatings II: Design and Modeling Moderators: U. Wiklund, Uppsala University, M.M. Stack, Univerisity of Strathclyde
8:30 am	D2-3-1 The Reduced Residual Compressive Stress of Si Incorporated ta-C Films : Molecular Dynamics Study, S.-H. LEE, S.-C LEE, Korea Institute of Science and Technology, South Korea, Y.-C. CHUNG, Hanyang University, South Korea, K.-R. LEE, Korea Institute of Science and Technology, Korea	E2-1 Invited High Resolution Observations of Wear Mechanisms in Multilayer PVD Coatings, M. RAINFORTH, The University of Sheffield, United Kingdom
8:50 am	D2-3-2 Nanocomposite Metal-Carbon Based Films Deposited by Femtosecond Pulsed Laser Ablation, N. BENCHIKH, F. GARRELIE, C. DONNET, University Jean Monnet, France, C. WOLSKI, R.Y. FILLIT, Ecole Nationale Superieure des Mines, France, F. ROGEMOND, J.L. SUBTIL, University Jean Monnet, France	Invited talk continued.
9:10 am	D2-3-3 Silicon Induced Changes in the Microstructure and Nano-Mechanical Properties of Hydrogenated Amorphous Carbon Films Prepared by Pecvd, A.A. OGWU, University of Paisley, United Kingdom, B. BEAKE, Micro-Materials, Wrexham, United Kingdom, D. HADDOW, Thales Optronics Ltd, Glasgow, United Kingdom, T. OKPALUGO, P. MAGUIRE, J.A. MCLAUGHLIN, University of Ulster, Northern Ireland, United Kingdom	E2-3 Lifetime of a Polymer Bonded Solid Lubricant in Fretting: Definition of a Local Dissipated Energy Criterion, V. FRIDRICI, S. FOUVRY, P. KAPSA, Ecole Centrale de Lyon, France, P. PERRUCHAUT, Snecma Moteurs, France
9:30 am	D2-3-4 Effects of Sulfur Addition to CH_x Films, C.A. FREYMAN, Y.W. CHUNG, Northwestern University	E2-4 Velocity Effects on Erosion-Corrosion of CrN/NbN Superlattice PVD Coatings, Y.P. PURANDARE, M.M. STACK, Univerisity of Strathclyde, United Kingdom, P.EH. HOVSEPIAN, The Sheffield Hallam University, United Kingdom
9:50 am	D2-3-5 Three Dimensional Film Coating of Hydrogenated Amorphous Carbon, Y.K. KOGA, O.T. TSUDA, M. ISHIHARA, AIST, Japan, Y. SETSUHARA, Osaka University, Japan	E2-5 Friction Components in a Coated Deformed Contact, H. RONKAINEN, K. HOLMBERG, A. LAUKKANEN, S. VARJUS, Technical Research Centre of Finland, VTT Industrial Systems, Finland
10:10 am	D2-3-6 Surfaces Coated with Carbon Films Behaviour. Study of Case in Components of Internal Combustion Engines., G.C.M. VICENTE, M.L. MARQUES, C.J.M. SIQUEIRA, Federal University of Parana, Brazil, J.L. BARREIRO, HEF do Brasil, Brazil, C.M. LEPIENSKI, Catholic University of Parana, Brazil	
10:30 am	D2-3-7 Gas Permeation Through Polymer Membranes Modified by a-C:H(N) Films Deposited using Butene, Butadiene and Nitrogen Gas Mixture, R.A. SIMAO, C.A. ACHETE, E. CASTRO VIDAURRE, C. HABERT, Coppe - UFRJ, Brazil	
10:50 am	D2-3-8 Comparative Study Of Amorphous Hydrogenated Carbon Films Produced from Methane, Butane, Butadiene, C.A. ACHETE, Coppe - UFRJ, Brazil, P.J.G. ARAJO, Coppe- UFRJ, Brazil, R.A. SIMAO, Coppe - UFRJ, Brazil, C.M. LEPIENSKI, Catholic University of Parana, Brazil	E2-8 Invited Surface Reconstruction Mechanisms for Smart Nanocomposite Tribological Chameleon Coatings, A.A. VOEVODIN, J.S. ZABINSKI, Air Force Research Laboratory
11:10 am	D2-3-9 Modification of Atomic Bond Structure of Tetrahedral Amorphous Carbon by Ar Background Gas in Filtered Vacuum Arc Process, T.-Y. KIM, S.-H. LEE, Korea Institute of Science and Technology, South Korea, C.S. LEE, Korea Electronics Technology Institute, South Korea, K.-R. LEE, Korea Institute of Science and Technology, South Korea, J.-H. HAN, Korea Research Institute of Standard and Science, South Korea, K.H. OH, Seoul National University, South Korea	Invited talk continued.
11:30 am		E2-10 The Effect of CeO_2 Abrasive Size on Dishing and Step Height Reduction of Silicon Oxide Film in STI-CMP, D.S. LIM, J.W. AHN, Korea University, South Korea, H.S. PARK, J.H. SHIN, Hynix Semiconductor Inc., South Korea
11:50 am		E2-11 Mapping Erosion-Corrosion of Composite WC/Co-Cr Based Composite Coatings, M.M. STACK, T.M.A. ABD EL-BADIA, Univerisity of Strathclyde, United Kingdom
12:10 pm		E2-12 Impact of Mechanical Properties Measured at Room and Elevated Temperatues on Wear Resistance of Cutting Tools with $TiAl_xN$ and AlCrN Coatings, G.S. FOX-RABINOVICH, S.C. VELDHUIS, McMaster University, Canada, B. BEAKE, Micro-Materials, Wrexham, United Kingdom, J.L. ENDRINO, Balzers Inc., Liechtenstein, R. PARKINSON, Micro-Materials, United Kingdom, L.S. SHUSTER, M.S. MIGRANOV, Ufa Avia Institute, Russia

Friday Morning, May 6, 2005

	Advanced Characterization of Coatings and Thin Films Room: Royal Palm 4-6 - Session F3 Characterization of the Atomic Processes of Thin Film Growth Moderators: J. Birch, Linköping University, R. Cremer, CemeCon AG	Applications, Manufacturing, and Equipment Room: California - Session G2 Scale-up, Technology Transfer and Manufacturing Aspects Moderators: S. Dixit, H. Gekhonde, B. Torp, Platit Scandinavia
8:30 am	F3-1 Invited Beating the Minimum Thermal Conductivity with W/Alumina Nanolaminates, D.G. CAHILL, University of Illinois at Urbana-Champaign	G2-1 Invited Large Scale use of Diamond Films for Electrochemical Water Treatment, L. SCHAEFER, S. ARNDT, M. HOEFER, Fraunhofer IST, Germany, M. FRYDA, T. MATTHÉE, CONDIAS GmbH, Germany
8:50 am	Invited talk continued.	Invited talk continued.
9:10 am	F3-3 Nanostructural Evolution of Interface Engineered Cr/Ti Multilayers, N. GHAFOOR, J. BIRCH, P. PERSSON, Linköping University, Sweden, F. ERIKSSON, Columbia Astrophysics Laboratory, F. SCHÄFERS, BESSY GmbH, Germany	G2-3 Electrospark Deposition for Localized Repair of Aircraft and Ship Components, B.D. SARTWELL, US Naval Research Laboratory, N. PRICE, L. MCCARTY, Advanced Surfaces and Processes, Inc., D. AYLOR, Naval Surface Warfare Center Carderock
9:30 am	F3-4 Sputter Deposition of Cr Films on Tilted Substrates: the Role of Flux Angular Distribution, S.YU. GRACHEV, Netherlands Institute of Metals Research, Netherlands, G.C.A.M. JANSSEN, TU Delft, Netherlands	G2-4 Latest Developments in PVD Arc Coating Equipments, O. CODDET, M. MORSTEIN, T. CSELLE, Platit AG, Switzerland, B. TORP, Platit Scandinavia, Denmark, P. HOLUBAR, M. JILEK, Pivot a.s. and SHM Ltd., Czech Republic, M. RUZICKA, Pivot a.s., Czech Republic, O.T. ZINDULKA, SHM, s.r.o., Czech Republic
9:50 am	F3-5 Characterization of a γ''-FeN Coating by Electron Microscopies, V. DEMANGE, TRAN HUU LOI, P. WEISBECKER, E. BAUER-GROSSE, Ecole des Mines, France	G2-5 A Multiple-Zone, Multiple-Gas Reactive Sputtering Control System, W.D. SPROUL, D.J. CHRISTIE, D.C. CARTER, Advanced Energy Industries, Inc.
10:10 am	F3-6 Electronic States and Physical Properties of Hexagonal β-Nb_2N and δ'-NbN Nitrides, R. SANJINES, SB-EPFL, Switzerland, M. BENKAHOUL, IPMC-SB-EPFL, Switzerland, D. MUSIC, RWTH-Aachen, Germany, F. LEÝ Y, IPMC-SB-EPFL, Switzerland	G2-6 Invited Optimisation of CVD Coating Architectures and Microstructures for Optimum Cutting Performance, S. RUPPI, Seco Tools, Sweden
10:30 am	F3-7 Characterization by Optical Emission Spectroscopy a PVD Process to Produce AlN Layers, F. SANDOVAL, U. FIGUEROA, ITESM-CEM, Mexico, O. SALAS, J. OSEGUERA, ITESM, Mexico, A. RICARD, Universite Paul Sabatier, France	Invited talk continued.
10:50 am	F3-8 Texture Development during Growth of $Ti_{1-x}Al_xN$ Thin Films Studied by In-Situ X-Ray Diffraction, M. BECKERS, N. SCHELL, R.M.S. MARTINS, A. MÜCKLICH, W. MÖLLER, Forschungszentrum Rossendorf, Germany	G2-8 Invited Radiant Processing - Basics to Applied, C.A. BLUE, Oak Ridge National Laboratory
11:10 am	F3-9 Plasmonic Excitation and Detection using an Integrated Detector in Semiconductors., D.T. WEI, Wei and Associates, A. SCHERER, California Institute of Technology	Invited talk continued.
11:30 am	F3-10 MPCVD Diamond Genesis: Tem Observation of the (100) Silicon Change during a Bias-Enhanced Nucleation Treatment, I.H. CHOI, F. HERBST, J.CH ARNAULT, S. BARRAT, E. BAUER-GROSSE, Ecole des Mines, France	G2-10 Extremely Thick PVD TiCrNiN Coatings for Forming Applications., M. JÃLEK, P. HOLUBÃ, M. ÃMA, O.T. ZINDULKA, SHM, s.r.o., Czech Republic
11:50 am	F3-11 Synthesis and Characterization of Polymer/Carbon Nanotube Composites., E. TITUS, N. ALI, J. GRACIO, University of Aveiro, Portugal, B.P. RAMESH, Trinity College, Ireland, P.K. TYAGI, A. MISRA, D.S. MISRA, Indian Institute of Technology, India	
12:10 pm	F3-12 A Study of Defect Evolution in Microwave Plasma Treated Al-Films, H. WULFF, A. QUADE, M. QUAAS, University of Greifswald, Germany	

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