

# ICCE-15

**July 15-21, 2007**  
**Haikou, Hainan Island, China**

## **Table of Contents**

# KEYNOTE

## **Formulation, Processing and Numerical Modelling of Polypropylene/Clay Nanocomposites**

Debes BHATTACHARYYA, Yu Dong, Peter Hunter (U. Auckland, New Zealand)

Mon-Thurs 83

## **Meso-Macro Approach for Composite Forming in Aeronautics**

Philippe BOISSE, Nahiene Hamila, Fabrice Hél  non (INSA Lyon, France), Sylvain Chatel

(EADS, Suresnes, France) 97

## **Raman Micro-Spectroscopy Characterization of Nanophases in Fibers and Composites**

Gwenael

GOUADEC (Paris, France) 271

## **Nano-Structured Materials in Plasmonics and Photonics**

Hiroaki MISAWA, Saulius Juodkazis, Kosei Ueno, Vygantas Mizeikis

(Hokkaido U., Sapporo, Japan) Monday 650

## **Impact, Blast and Fire in Composites**

Peter MYLER, T. Jenkins, B. Henderson, B.K. Kandola (Bolton U., UK)

## **Frontiers of Thin Film Epitaxy and Nanocomposites**

Jay NARAYAN (N. Carolina St.U.)

## **Direct Synthesis of Nanoporous Titania Bearing Crystalline Wall**

**Type Surfactants** Hideki SAKAI, Hirobumi Shibata, Takahiro Ohkubo, Toshio Sakai,

Masahiko Abe (Tokyo U.Sci., Japan) Wednesday 823

## **Nanoscale Manipulation and Characterization using SPM-based Instruments**

Masahiko TOMITORI (JAIST, Ishikawa, Japan), Yoshihiko Ookubo (Ishikawa, Japan),

Masayasu Tani (Yokohama, Japan), Toyoko Arai (Kanazawa U., Ishikawa, Japan) Tuesday 950

## **Novel Nanocomposites and thier Processing:Particles, Hydrogels and Fibers**

Meifang ZHU (Donghua U. , Shanghai, China)

# DISTINGUISHED LECTURES

## **In Situ Synthesis and Biocompatibility of Nano-Potassium Titanate-Rutile /Ti Alloy Bio-Composite**

Chunxiang CUI, Huifen Wang, Yumin Qi, Shuangjin Liu (Hebei U.T., China)

## **Self-Assembly of Bio-Composites.**

Fu-Zhai CUI (Tsinghua U., Beijing, China)

## **Preparation, Characterization and Application of Poly(Ethylene Terephthalate)/Silica**

**Nanocomposites** Xingyou Tian, Ping CUI (Ningbo Inst.Mat.Tech. Engrg., China) 942

## **Flammability of Carbon Nanopaper Sheets Based Nanocomposites**

Zhongfu Zhao, Jihua GOU (U. South Alabama)

## **Physical Mechanics of Nanointelligent and –Bio-materials**

Wanlin GUO (Nanjing Aero and Astro U., China) 283

## **Advancing Nanoimprint by Process Monitoring and Uniform Contact**

Hocheng HONG, Hsuan-Hsu Wei, Chung-Nien Chin (Nat. Tsing Hua U., Hsinchu) Mon-Tues 330

## **Molecular Engineering and Nanoparticle Sciences: Toward Novel Biomaterials and Functional**

**Nanomaterials** Michael Z. HU (Oak Ridge N.L., TN)

## **Key to Reinforcing, Toughening and Increasing Thermal Stability of Fiber/Polymer Composites:**

**Nanointerphase Issue** Yudong HUANG, J.M. He, X.Z. Zhang (Harbin Inst.Tech., China) 361

## **Phase Transition Thermodynamics of Nanomaterials**

Q. JIANG (Jilin U., China)

## **Preparation of Centimeter-Sized Two-Dimensional Ordered Nanoparticle Array on Substrate**

Masahiro SHISHIDO, Daisuke Kitagawa, Masaki Tanno (Yamagata U., Japan) Mon-Tues 865

## **Optical Waveguide Chemical Sensors for Nano Interfaces and Nano Materials**

Kin-ichi TSUNODA, Hiroki Hotta, Masayuki Uehara, Soto Asanuma (Gunma U., Japan),

Tomonari Umemura (Nagoya U., Japan), Yasuhiko Sugii (Kogakuin U., Japan)

Wed-Thursday 978

## **Nano-Dispensing System Using Ink-Jet Chip for Chemical and Biochemical Analysis**

Katsumi UCHIYAMA (Tokyo Metropolitan University, JAPAN)

DISTINGUISHED Lect. 40 min Thursday 989

## **Super- and Ultrahard Nanocomposites: Origin of the Hardness Enhancement and their**

**Industrial Applications** Stan VEPREK (TU Munich, Germany) Wednesday AM-Fri 1009

## **Abnormal Properties of Cluster-based Nanostructures and Their Applications**

Guanghou WANG (Nanjing U., China)

## **Preparation, Microstructure and Properties of Plasma Sprayed Nanostructured Al<sub>2</sub>O<sub>3</sub>TiO<sub>2</sub>**

**Coating** You WANG (Harbin I.T., China) 1058

## **... Mechanics of Nano Composites**

Yueguang WEI (Chinese Acad of Sci., Beijing)

## **Structure and Thermal Stability of Nanoparticle-Carbon Nanotube Nanocomposites**

Jianxin ZHONG (Xiangtan U., Hunan, China) Wed-Friday 1168

# BIO COMPOSITES

## **Study of Electronic Parameters of Mesoporous Silicon Under Adsorption of Viruses of Plants**

Yuriy VASHPANOV, Jung-Young Son (Hanyang U., Seoul, Korea), David Hui (U. New Orleans) 1003

## **Mechanical Properties of a Silkworm Silk Fibers / Poly (Lactic Acid) Biocomposite**

Karen Hoi-Yan CHEUNG, Kin-Tak Lau (Hong Kong Poly U., China) Mon-Tues 167

## **Flavonoid Biomolecules from Jamaican Citrus: Characterization and Nanoparticulation for Potential Biomedical Application**

Curtis O. Green, Dennis H. Bailey, Lowell L. Dilworth, Andrew O. Wheatley (U. West Indies, Mona, Jamaica), David Hui (U. New Orleans), Helen N. ASEMOTA (Shaw U., NC) 36

## **Hepatic and Nephrotic Changes Induced by Bitter Yam Biomaterials in Transgenic Mice Model of Hypercholesterolemia**

Dewayne STENNETT, Helen Asemota (U. West Indies, Mona, Jamaica and Shaw U., Raleigh, NC), Frederick Oladeinde (Morgan St.U., MD), Andrew Wheatley, Lowell Dilworth, Oswald Simon (U. West Indies-Mona), Christine Hohmann (Morgan St.U., MD), Yvonne Bronner (U. Baltimore), Joseph Bryant (U. Maryland-Baltimore) 904

## **Investigations of the Implant-Tissue Interactions**

Romuald BEDZINSKI, Monika Stefańska (Wroclaw U.T., Poland) 69

## **Investigation of Cell Attachment on the Scaffolds Manufactured by Electrospun PCL-Hyaluronan Blends**

Ying Yang (Keele U., UK), L. Nikkola, H. Ylikauppila (Tampere U.T., Finland), Nureddin ASHAMMAKHI (Keele U., UK)

## **Photoluminescent Colloidal Semiconductor Nanocrystals for Bio-Imaging Applications: Synthesis Structure-Property Relationship**

Kui YU (Nat Res Council, Ottawa, Canada) INVITED 30 min

## **Nano-scale DNA Architecture and Pathogenic DNA Sensor**

Chojiro KOJIMA (Nara Inst.Sci.Tech., Japan) 472

## **Misfolded Insulin Molecules: Self-Assembling Building Blocks for Nanofibrils, Nanoscaffolds and Molecular Devices**

Wojciech DZWOLAK (Polish Acad Sci., Warsaw) Mon-Wed 221

## **Fibers Remodeling in the Human Carotid Bifurcation**

Iliia HARITON

## **Effects of Yttria Stabilized Zirconia Additives on Sintering Behaviors and Mechanical Properties of Hydroxyapatite Nano-Bioceramics Densified by HFIHS**

Sug Won Kim, Khalil Abdelrazek Khalil, Jaebok CHOI, Jung In Kyoon, In-Jin Shon (Chonbuk Nat. U., Jeonju, Korea)

## **Viruses for Biomedical Applications**

Axel HOFFMANN (Argonne Nat. Lab., IL) INVITED 30 min

## **The properties of TiO<sub>2</sub> as a Therapeutic Agent Via The New Photodynamic Therapy**

Chongmu LEE, Hojin Kim, Youngjoon Cho, Wan In Lee (Inha U., Incheon, Korea) Mon PM-Wed 504

## **Nano-Analytical Model of Bond Strength in Dental Adhesive Biomaterials**

Kunio WAKASA (Hiroshima U., Japan) INVITED 30 min 1020

## **Self-Aggregated Nanoparticles of Cholesterol-modified O-carboxymethyl Chitosan and their Complexation with Bovine Serum Albumin**

Yinsong WANG (Tianjin Medical U., China), Qiqing Zhang, Lingrong Liu (Peking Union Med Coll, Tianjin) 1056

## **Fracture Behavior of Reinforced Thermoplastic Natural Rubber With Short Carbon Fiber Composites using Essential Work of Fracture and Acoustic Emission Technique**

- Hazleen ANUAR, S.N. Surip, S.H. Ahmad, R. Rasid (I.I.U.M., Malaysia)
- Influence of Processing Technique on Nanoclay Dispersion and the Tensile Properties of Thermoplastic Natural Rubber Nanocomposites**  
S.N. SURIP (U.T. Mara, Selangor, Malaysia), H. Anuar (I.I.U.M., Malaysia), S.H. Ahmad, R. Rasid (U. Kebangsaan Malaysia) 918
- Cytotoxicity of Polyelectrolytes and their Composites to Different Cell Types**  
Silke KROL (CBM, Trieste, Italy) 481
- Drug Loaded Magnetic Nanoparticles for Nanomedicine Applications**  
Weilie ZHOU, Wei Wu, Xiujuan Pang, Jie Zhou, Daniela Caruntu, Minghui Yu (U. New Orleans), Jianfeng Chen (Beijing U. Chem Tech, China), Fude Cui (Shenyang Pharmaceutical U., China), Charles J. O'Connor (U. New Orleans) INVITED 30 min
- A Mathematical Pipeline Model of the Upper Respiratory Tract**  
Clara IONESCU (Ghent U., Belgium), Silviu Macuta, Viorel Dugan (U. Galati, Romania) 348
- Forced Harmonic Response Spectrum of Functionally Graded Dental Implants**  
Y. XIANG (U. Western Sydney, Australia), JieYang (City U. Hong Kong, China), H.J. Xiang (1099)  
(Beijing Jiaotong U., China)
- Session: Nanotechnology and its applications in biomedicine*  
Developed by Donglu Shi (U. Cincinnati, OH)
- Low Temperature Sintering of High Density SWCNTs/ Al<sub>2</sub>O<sub>3</sub> Ceramics by Nanotube/Nanoparticle Surface Plasma Modification** Yan Guo, Donglu SHI (U. Cincinnati, Shanghai Jiaotong U.), Jie Lian (U. Michigan), Hoonsung Cho, Yi Song, Jandro Abot (U. Cincinnati), Hengyao Hu, Hongchen Gu (Shanghai Jiaotong U., China), Lumin Wang, Rodney C. Ewing (U. Michigan) INVITED 30 min Mon
- Titanate Nanotube and Related Materials**  
Qing CHEN, Lian-Mao Peng (Peking U., China) INVITED 30 min 153
- Ceramic Based Nanocomposites for High Temperature, Sensor and Bio-Applications**  
Csaba BALAZSI (Hungarian Acad Sci, Budapest) POSTER
- Bactericidal Effect of TiO<sub>2</sub> Nanocrystals Doped with Fe<sup>3+</sup>**  
Carmen LAZAU, Liviu Mocanu, Paulina Vlazan, Iasmina Miron (Nat.Inst., Timisoara, Romania), Corina Misca (Babat U., Timisoara), David Hui (U. New Orleans) POSTER 492
- Use of TiO<sub>2</sub> Dopped Nanoparticles in Medicine**  
Carmen LAZAU, Liviu Mocanu, Gabriela Tanasie, Paulina Vlazan, Adrian Pugna, Ioan Muscutariu (Timisoara, Romania), David Hui (U. New Orleans), Ioan Grozescu (Timisoara) POSTER

# CHEMISTRY of COMPOSITES

## **PTC Effect and Thermal Properties of Cnt/HDPE Composites Prepared by Melt-Blending**

Jin-Hong DU,, Song-Feng Pei (Shenyang Nat. Lab., China), Xiujuan He (Shenyang Inst. ChemTech.), You Zeng (Shenyang Nat. Lab.), Jinbo Bai (Ecole Centrale Paris, Malabry, France), Hui-Ming Cheng (Shenyang Nat.Lab.) 216

## **Synthesis of Hexagonal Structured Crystalline Titania Particles Using Gemini Surfactant at Room Temperature**

Hisashi MIHARA, Toshio Sakai, Hirobumi Shibata, Kazuyuki Tsubone, Kenichi Sakai, Takahiro Ohkubo, Hideki Sakai, Masahiko Abe (Tokyo U. Sci., Japan) 643

## **Preparation and Application of Microtube Photocatalyst with Photoactive Inner Surface and Inert Outer Surface**

Shinichi IWANAGA, Sei Suzuki, Kohei Mitsunashi (Tokyo U. Sci., Japan), Ryo Kawarabuki (Nittetsu Mining, Tokyo), Kenichi Sakai, Takahiro Ohkubo, Hideki Sakai, Masahiko Abe (Tokyo U. Sci.) 393

## **Evolution of Crystal Growth in Mesoporous Titania Particles**

Shuxi DAI, Toshio Sakai, Hirobumi Shibata (Tokyo U. Science, Chiba, Japan), Naokiyo Koshikawa (Japan Aero Expl. Agency, Ibaraki), Hideki Sakai, Masahiko Abe (Tokyo U. Science) 192

## **Effect of MgF<sub>2</sub> and CaF<sub>2</sub> Additive on the Mechanical Properties in Hydroxyapatite/Alumina Composites**

Sang-Yeup PARK, Sung-Jin Kim, Hee-Gon Bang (Kangnung Nat. U., Korea) 748

## **Compositionally Modulated Cu /Co (Cu) Multilayers MFM and Hysteresis Study**

D.K. GUPTA, A.C. Nayak, M. Sharma, A.B. Sharma, R.K. Pandey (Bhopal, India) 289

## **Detailed Adsorption Properties of Water Molecule on the Surface of inVO<sub>4</sub> Photo-Catalyst Investigated by First Principles Theoretical Approach**

M. OSHIKIRI, M. Boero<sup>1</sup>, A. Matsushita, J. Ye (NIMS, Tsukuba, Japan), M. Boero (U. Tsukuba, Japan) 726

## **Acid Functionalized Hybrid Organic/Inorganic Mesoporous Materials: a New Family of Acid Catalysts**

D. Dubé (Laval U., Quebec, Canada), F. Béland (Silicycle Inc., Quebec), W. Shen, M. Rat, S. KALIAGUINE (Laval U.)

## **CeO<sub>2</sub>-Ni Interfacial Reaction in High Temperature CO-H<sub>2</sub>-H<sub>2</sub>O**

Weixing Chen, Haifeng Liu (U. Alberta, Edmonton) 157

## **Effect of Manganese on the Photothermal Spectrum of Bi<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub>-ZnO Ceramics**

Azmi Zakaria, Zahid RIZWAN, Mansor Hashim, Abdul Halim Shaari, W. Mohmood Mat Yunus (U. Putra Malaysia, Selangor)

## **Effect of Iron Content on the Formation of $\beta$ - Al<sub>5</sub>FeSi and Porosity in Al-Si Eutectic Alloys**

M.A. MOUSTAFA (CMRDI, Cairo, Egypt) 660

## **Thermoelectric Properties of Ba<sub>8</sub>Al<sub>16</sub>Si<sub>3</sub>O Clathrates**

Young-Ho KIM, Jung-Il Lee, Seung-Hwan Park, Il-Ho Kim (Chungju Nat. U., Korea), Kyung-Wook Jang (Hansen U., Chungnam, Korea), Soon-Chul Ur (Chungju N.U.), Han-Cheol Choe, Jong-Kook Lee, Gwon-Seung Yang (Chosun U., Korea)

## **Acid Functionalized Hybrid Organic/Inorganic Mesoporous Materials: a New Family of Acid Catalysts**

D. Dube, F. Béland, W. Shen, Serge KALIAGUINE (Laval U., Quebec, Canada)

## **Simulation of the Phase Crystallinity-Blend Composition Relationship for Isotropic Compatible HDPE/PP Blends**

M. Awwad (Borg El-Arab, Egypt), A.H. Konsowa (Alexandria U., Egypt), M.M. Abd El-Latif (Borg El-Arab), R.R. ZAHARAN (Alexandria U.) 1140

## **Modified Wagner Model for the Active-to-Passive Transition in the Oxidation of Si<sub>3</sub>N<sub>4</sub>**

Junjie WANG, Litong Zhang, Qingfeng Zeng, Laifei Cheng and Yongdong Xu

- (Northwestern Polytech U., Xian, China) 1031
- Organic-Inorganic Hybrids Based on PDMS and Teos and their Applications**  
Shuhei NAKAMURA, Tetsushi Okamoto (Mie U., Tsu, Japan) 666
- Effect of Organophillized Filler on Poly (Vinylalcohol) Materials Properties**  
A.H. Bhat, A.K. BANTHIA (Indian Inst.Tech., Kharagpur) 81
- Studies on Polymeric Membranes**  
Tarun MOHAN, M.Velan, K.Kirthika, D.Lawrence Arockiasamy, K.H.Shobana
- Synthesis and Assessment of Granite Particle Reinforced Polymer Matrix Composite**  
Raju V. KURAHATTI (Karnataka, India)
- Construction of Polystyrene Layer by Raft Polymerization on Hydrogen-Terminated Si (111) Surface** Osamu SHIMOMURA, Naohisa Maeda, Atsushi Ohtaka, Ryoki Nomura (Osaka I.T., Japan) 857
- Texture Measurements of Cu/Nb Composite by Neutron Diffraction**  
Wen-Hai YE (Chongqing U., China), H.G. Brokmeie (TU Clausthal, Germany) 1117
- Dependence of Phase Behavior on Tacticity In Binary Blends of Isotactic, Syndiotactic, and Atactic Polypropylenes** Eamor WOO, Kai-Yun Cheng, Yu-Fan Chen (Nat. Cheng Kung U., Tainan) Mon-Tues 1081
- Study of Surfmer of High Molecular Weight: Poly(Ethylene-Oxide Diacrylate) II. Copolymerization with Acrylic Acid**  
Mario A. PRADO, M.J. Flores, R.M. Jimenez, L.C. López, I. Reyes-González, F.J. Moscoso Sánchez, E.R. Macias E. R.(Cen U. Ciencias Exac Ing., Jalisco, Mexico)
- Effect of Particle Size of Fly Ash on Recycled Poly (Ethylene Terephthalate)**  
Amit SHARMA, Prakash A. Mahanwar (U.Inst. Chem Tech, Mumbia, India) 846
- Polyetheretherketone (PEEK) Composites Reinforced by Fly Ash and Mica**  
Mohd Rahil PARVEZ, Prakash A.Mahanwar (UICT, Mumbai, India) 752
- Waste Acrylonitrile-Butadiene-Styrene (ABS)- Mica Composites**  
Prakash A. MAHANWAR, Vinay Kr. Chaudhary (UICT, Mumbai, India) 603
- Effect of Dioscorea Yam Glycosidic Biomaterials on the Dissolution Profile of Paracetamol**  
Cliff K. RILEY (U. West Indies, Mona, Jamaica), Sarafadeen A. Adebayo (U.Tech., Jamaica), Andrew O. Wheatley (U. West Indies), Helen N. Asemota (Shaw U., NC) 802
- Thermal Parameters of A356/10 Vol. % Sicp Cast Composites With Grain Refinement and Modification Treatments**  
J. Alejandro GARCIA-HINOJOSA, E. Trejo E., M.A. Ramírez A. (UNAM, CP, Mexico), M.K. Zurrupa (Indian Inst. Sci, Bangalore) Mon-Thurs 259
- Mechanical and Rheological Behavior of Fly Ash Filled High Density Polyethylene**  
Iftexhar AHMAD, P.A. Mahanwar (UICT, Mumbai, India) 5
- Effect of Addition of Ceramic Material Like Quartz Particulate on the Open Circuit Potential Studies of Za-27 Alloy In 0.025n Hydrochloric Acid Ssolution**  
N.S. BHUJANGAIAH (JNN Coll., Shimoga, India), R.D. Pruthviraj, H.P. Nagaswarupa, P.V.Krupakara (Bangalore, India)
- Novel Chi-2 Organic Polymers for Electrooptical Applications**  
Y.M. LU (Mainz U., Germany), Manfred EICH (TU Harburg, Germany) POSTER

*Session organized by A. Djebaili*

- A Multichannel Raman Spectrometry Study of Polyacetylene Isomerization Induced by Laser Irradiation** N. BOURMADA, Z. Skanderi, A. Djebaili, R. Benakcha (U. Batna, Algeria)
- Cadmium as an Environmental Pollutant- Study of Evolution of Cadmium, its Effects on Beans (Phaseolus Vulgaris) and its Interaction With Zinc**  
Hocine BENABID, Mohamed Fouzi .Ghorab; Abdelbaki Djebaili (U. Batna, Algeria) 74

**Method and Tool for Integrated of the Sustainable Development: Case of Polluting Industry**

M. ABDELMOUMENE, N. Bourmada, A. Djebaili (U. Batna, Algeria)

**The Comparative Study of the Ozonisation of Different Polymers**

Y. BOUZAHER, A. Serdani; A. Djebaili; N. Bourmada (U. Batna, Algeria)

**Synthesis of New Macroamorcors and Grafted Copolymeres by Ozonization of Polyfluoride of Vinylidene (P.V.D.F)**

A. DJEBAILI, A. Serdani; N. Bourmada (U. Batna, Algeria)

**Polyacetylene: Study of the Temperature Distribution During Isomerization Reaction Induced by Laser Effect and by Differential Scanning Calorimetric (D.S.C)**

Z. SKANDERI, A. Djebaili; N. Bourmada (U. Batna, Algeria)

**Numerical Modeling of Combined Convection and Radiative Heat Transfer Through Water Spray Curtain**

Ghezal MOHAMMED, Soudani Azzeddine, Abdelbaki Djebaili (U. Batna, Algeria)



# GENERAL APPLICATIONS

## **Creation Of Ionic-Plasma Coverings For Protection And Restoration Of Details For Gas-Turbine'**

**Engines** Aleksandrs URBAHS, Konstantins Savkovs, Vladislavs Nesterovskis, Margarita Urbaha (Riga T.U., Latvia) 992

## **Development of Permeable Titanium Alloy Scaffold using Three Dimensional Layer**

**Manufacturing Technology** K.K. Lim, P. CHEANG, M.H. Liang, M. Chandrasekaran (Nanyang Tech U., Singapore) 554

## **Laser Cutting Mechanism for Thick Boron Carbide Ceramic**

Nangang MA (Huazhong U.Sci.Tech., Wuhan, China), H.D.Ding (Beijing), X.J.Wang (Huazhong UST), S.L.Fu (Beijing), M.L.Hu (Huazhong UST) 593

## **A Study on Control Surface Actuation Using Smart Actuator**

Ki Hoon Park, Joon Hyuk PARK, Bum Soo Yoon, Kwang Jun Yoon Hoon (Konkuk U., Seoul, Korea) 746

## **Fabrication of Arrayed Glass Micro-Lenses by Vacuum Forming Process**

Kali AYYALA, H. H. Chien, K.J. Ma, F. Wang (Chung Hua U., Hsinchu), L. Chao (Tam Kang U., Taipei) 41

## **Wear and Fracture of Tungsten Carbides Wet Drawing Die According to the Abrasive Particle Size**

Sang-Kon LEE, Byung-Min Kim, Min-Ahn Kim (Pusan Nat.U., Korea) 506

## **The Adhesion Evaluation of Thin Hard Coatings on Tool Steel With Nitride or Nonnitride**

**Layer Using The Scratch Test** Chan-joo Lee, Jung-min Lee, Byung-min Kim (Pusan Nat. U., Busan, Korea) 498

## **The Compression Response of Preform in Vacuum Infusion Process**

Yuexin Duan, Zhaoyuan TAN, Yan Zhao, Jing Sun (Beihang U., Beijing, China)

## **Fabrication of PLLA Microbubbles Applicable as Ultrasound Contrast Agent by Double**

**Emulsification** Rong LU, Hongjing Dou, Kang Sun (Shanghai Jiao Tong U., China) 587

## **Adsorptive Composite Barriers for Packaging Applications**

Stanislav E. SOLOVYOV, Thomas H. Powers (Multisorb Tech, Buffalo, NY), Paul E. Koch (Penn St., Behrend Coll., Erie) 885

## **Interfaces of Intelligent Hybrid Composites for Cable Of Cable-Stayed Bridge**

Jianzhi LI (Beijing Jiaotong U., China), Yan-liang Du, Lin Shao, Bao-Chen Sun (Shijiazhuang Railway Inst., Hebei, China) 533

## **Analysis of the Resin Infusion in the Sandwich Structure by the Vacuum Assisted Resin Transfer**

**Molding** Cheng-Hsien Chung (United Ship Design and Dev.Center, Taipei), Ya-Jung Lee, Yu-Ti Jhan (Nat. Taiwan U., Taipei) Tues-Thurs

## **Compression and Wear Behavior of (TiB<sub>2</sub>+TiC)/Ti in Situ Synthesized by Reactive Hot Pressing of**

**Ti-B<sub>4</sub>C** Dingrui NI, Lin Geng, Zhenzhu Zheng (Harbin I.T., China) 700

## **Processing and Characterisation of Pe/Pet Microfibrillar Composites**

Richard J.T. LIN, S.S. Mohd Sufian, M.Z. Abdullah, Debes Bhattacharyya (U. Auckland, New Zealand) Mon-Thurs 563

## **Novel Siliconized Epoxy and its Application to Epoxy Modification**

Xiaobin HONG, Kai Xie, Jiayu Xiao, Yimin Chen (Nat. U. Def. Tech., Changsha) 336

## **Fabrication and Characterization of Melt-Electrospun PLGA Fibers**

Sung Jin KIM (Chungnam Nat.U., Daejeon, Korea), Byung-Moo Min (Seoul U.), Seong Jin Lee (Ehwa Woman U., Seoul), Won Ho Park (Chungnam Nat.U.) 451

**A Neural Classifier for Structural Control**

Chuen-Jyh CHEN (Aletheia U., Tainan) 134

**Effect of Hyper-Branched PPS on PPS Rheologic Behavior**

Xiaoling CUI, Jing Tian, Yong Wang, Yimin Wang (DongHua U., Shanghai, China), David Hui (U. New Orleans) 188

**In Situ Synthesis of TiC-Ti<sub>3</sub>SiC<sub>2</sub> Composites by Reactive Sintering**

ZhengMing SUN, Hitoshi Hashimoto (AIST, Nagoya, Japan) 912

**Design a New Ceramic Composite on the Base of Ti<sub>3</sub>SiC<sub>2</sub>**

Gabriela GORNY, Marian Raczka, Ludosław Sobierski (AGH, U.Sci.Tech., Krakow, Poland) 268

**Composite Beams With Novel Plate Bonding Technology**

K.M.A. HOSSAIN (Ryerson U., Toronto, Canada) 343

**Trail Study on Small Supersonic Polymer Matrix Composite Airfoils**

Jun XIAO, Jian-min Chen (Lanzhou Inst., China), Li-Hong Su, Qiu-Yu Zhang (NWPU, Xi'an, China), Hui-di Zhou (Lanzhou Inst.)

**Composite Tool Steels**

Oleg FIGOVSKY, Sergey Usherenko (Polymate Ltd, Israel) 227

**Environmental Degradation of Epoxy Filled With Starch and Fly Ash**

Utai Meekum, P. THANANOWAN (Suranaree U.T., Thailand) 627

**High Performance Composite Membranes Based on Sulfonated Polyarylenethioethersulfone and Sulfonated Polybenzimidazole for Fuel Cell Applications**

Thuy D. DANG (AFRL, WPAFB, OH), Zongwu Bai (U. Dayton, OH), Shane B. Juhl (AFRL/MLBP, OH), Narayanan Venkat (U. Dayton) 196

**A Study of Micro Molding for Optical Benches with Three Different Levels of Micro Features**

Shi-Chang TSENG, Yi-Cheng Chen (Nat. Yunlin U.Sci.Tech., Douilu), Cheng-Ping Chiu (Nat. Cheng Kung U.), Wen-Chiang Hsiao (Nat. Yunlin U.Sci.Tech.) Mon-Tues 970

**Quantitative Acoustic Emission Method as a Tool for Revealing, Typifying, Assessing and Monitoring Individual And Interacting Flaws In Reinforced Composite Materials**

Gregory MURAVIN, Boris Muravin, L.Lezvinsky (Netanya, Israel) 662

**Experimental and Modelling Investigations on Nial-Composites Reinforced by Single Crystalline**

Al<sub>2</sub>O<sub>3</sub>-Fibers Weiping HU, H. Chen, Y. Zhong, G. Gottstein (RWTH Aachen U., Germany) 353

**First Order Hierarchical Structures of MoO<sub>3</sub> Belts on Sillimanite Fibers**

Peter BADICA (Nat Inst Mat Phy, Bucharest, Romania), K. Endo (Kanazawa Inst.Tech., Japan) 43

**Thermo-Chemical Conversion of Biomass – Haloclean® - Intermediate Pyrolysis**

Andreas Hornung, Andreas APFELBACHER, F. Richter, J. Schöner, H. Leibold, H. Seifert (F.Z. Karlsruhe, Germany) INVITED 30 min 29

**Solar Local Network – Solution of Electricity for Everywhere and Anytime**

Trinh Quang DUNG (VAST, Hanoi, Vietnam)

**Filament Winding: Impregnation and Fibre Spreading**

Surya D. PANDITA, N. Shotton-Gale, S. Smith, M. Paget, J. Allen, G.F. Fernando (U. Birmingham, UK) 736

**Clean Filament Winding: Proof of Concept**

Surya Pandita, N. Shotton-Gale, S. Smith, M. Paget, Gerard F. FERNANDO (U. Birmingham, UK) INVITED 30 min 732

**A Study on the Mechanism Responsible for Enhanced Resistance of Co Alloys Modified With Yttrium to Wear at Elevated Temperatures**

Dongyang LI, Iulian Radu (U. Alberta, Canada)

519

**Composites to Realize Acoustic Metamaterials: Can the Effective Mass Density be Negative?**

Ping SHENG, Jun Mei (Hong Kong U. Sci.Tech., China), Zhengyou Liu (Wuhan U., China), Weijia Wen (HKUST) INVITED 30 min, Mon-Wed 848

**Automotive Applications of Acetal Homopolymer Resins**

- Nedžad REPCIC (U. Sarajevo, Bosnia)
- Development of Metal Borohydrides as Advanced Hydrogen Storage Materials**  
Hai-Wen LI, Yuko Nakamori, K. Kikuchi, S. Orimo (Tohoku U., Japan), K. Miwa, S. Towata (Toyota Central, Aichi, Japan) INVITED 30 min 521
- Identification of Acoustic Emission Signals Using Multi-Resolution Correlation Filtering**  
Tonghua ZHANG, Huiping Zhang, Xingmin Zhuang, Biling Yang, Xiong Yan (Donghua U., Shanghai, China) 1158
- The AC and DC Percolative Conductivity of Poor Conductor-Poor Insulator Composites**  
David S. McLACHLAN, Cosmas Chiteme, Godfrey Sauti (U. Witwatersrand, S. Africa) 620
- Theory of Nanocomposite Low-Friction Coatings**  
M. Rasander, B. Sanyal, M. Klintenberg, U. Jansson, O. Wilhelmsson, Olle ERIKSSON (Uppsala U., Sweden) Mon-Tues
- Impact Damage Detection, Localization and Severity Prediction in Composite Laminates**  
G.P. TANDON, J.H. Kang, R.Y. Kim (U. Dayton Res.Inst., OH) Mon-Thurs 924
- Suspension and Solution Precursor Plasma Spraying of Finely Structured Coatings**  
Vincent RAT, Ramuntxo Etchart-Salas, Jean-Francois Coudert, Pierre Fauchais (U. Limoges, France) Mon-Tues 798
- Modeling of the Interactions of SnO<sub>2</sub> with NO and NO<sub>2</sub> in Gas Sensing Applications**  
J.D. Prades, A. Cirera, L. Fernandez, Albert CORNET, J.R. Morante (U. Barcelona, Spain) Monday, Tuesday 765
- Coatings for Solar Absorbers: an Overview**  
Zorica Crnjak OREL (Nat. Inst.Chem, Ljubljana, Slovenia) INVITED 30 min 718
- Rubber Inclusions Influence on the Thermal Behavior of an Aerated Clayey Concrete : Dry State and Different Saturation Degrees**  
Nadira MADJOU DJ, Dr Nawal Madjoudj (Montreal, Canada) 596
- Silica Aerogel Based Materials**  
Ying TANG (Aspen Aerogels, Inc.)
- Cutout Shape and Reinforcement of a Composite Aircraft Spar Web**  
Shijun GUO, X. Zhang (Cranfield U., UK), X. Hue (Airbus Deutschland, Bremen, Germany) 281
- Compacted Food Product and its Mechanical Properties**  
Aaron GOH (Unilever, Netherlands)
- Strength Characteristics and Mode of Collapse of Composite Structures in Crush Environment**  
Hikmat MAHMOOD (Structural Safety, RIC)
- Failure of Gas Pipes Experimental Study and Three-dimensional Numerical Analysis**  
M. Hadj MELIANI (U. Chlef, Algeria), H. Moustabchir (U. Metz, France), M. Benarous, A. Belalia (U. Chlef), A. Ghoul, Z. Azari (U. Metz) 632
- Development of the Vibration-Proof Fixing Part for Ground Coil**  
Masao SUZUKI, Hiroyuki Suzuki, Masayuki Aiba, Hitoshi Matsue (Railway Tech Res.Inst., Japan), Shigenori Okada (Takaoka Chem. Co., Japan) Tues-Wed 916
- Response Surface Analysis of Surface Roughness in Drilling of Glass-Fiber Reinforced Plastic (GFRP) Composite Materials**  
Nanjan S. MOHAN (MIT, Manipal, India)
- Energy Absorption Abilities of Basic Elements Made from Polymer Composite and Foams**  
Tadeusz NIEZGODA, Wieslaw Barnat, Maciej Woropay, Zbigniew Smalko (Military U.T., Warsaw, Poland) 704
- Sodium Polybutadiene Battery as the Source of Ecologic Energy**  
Tomasz BOROWSKI (Szczecin, Poland) 100
- Carbon Fiber Composites in Design of High Speed Tool Machines**  
Josef STEIDL (Czech T.U., Prague)
- PRMMC: from Characterization to Design**  
Gaofeng QUAN (Dalian Jiaotong U., China)

**Structural Analysis and Design of High Speed MEMS Magnetic Rotor**

Hurang HU (Tennessee St.U., Nashville), Ayo ABATAN (Miami U., Hamilton, OH) 350

**Recent Advances in the Application of ETDR Sensors for Infrastructure Monitoring**

Ayo ABATAN (Miami U., Hamilton, OH)

**Effect of Density on the Machinability of Graphitised Carbon-Carbon Composite**

P.M. GEORGE, B.K. Raghunath, L.M. Manocha, Ashish M. Warriar (Gujarat St., India)

**Electrodeposition of Amorphous Carbon Films Under Supercritical Conditions**

Nyrki RANTONEN (Toyo U., Saitama, Japan) POSTER Wed-Fri

**Molding Process for Low Pressure Sheet Molding Compounds**

Jian LI, Zhi-xiong Huang, Hao Yu (Wuhan U.T., China) special POSTER 530

**On-Line Monitoring of Glass Cloth /Phenolic Resin Prepreg by Near-Infrared Spectroscopy**

Bo JIANG, Yu Dong Huang (Harbin I.T., China) POSTER

**Effect of Electrode Materials on the Machinability of Carbonised Carbon-Carbon Composite**

P.M.George, B.K.Raghunath, L.M.Manocha, Ashish M. Warriar (Gujarat St., India) POSTER

**Non Oxide Ceramics With Special Emphasis on High Temperature Silicon Nitride**

Vimal K. PUJARI (Saint Gobain, MA), H.T. Lin (ORNL)

**High Thermal Stable Clay/Pbt Nanocomposites Prepared Via Dual-Modification**

Xujin BAO, Chaoying Wan, Feng Zhao (Loughborough U., UK) 59

# INFRASTRUCTURE COMPOSITES

- Mechanical Behaviour of Single Wool Fibres Subjected to Tensile Loads at Low and Medium Strain Rates** Doug Ruan, Guoxing LU, J. Cao, A.S. Blicblau (Swinburne U.T., Australia) 805
- A Study on the Shore Protection Block With Natural Affinity Structure**  
Hyoungsan KYE (Mokwon U., Daejeon, Korea), Jae-myung Han, Jong-seok Lee (Hanbat Nat. U., Daejeon, Korea), Donghwan Cho (Kumoh Nat. Ins.Tech., Gumi,Korea) 483
- Experimental Study for Concrete Retrofit Using Spiral-Type CFRP Strips With Spacing**  
Tae Won PARK, Ung Jin Na (UC Irvine, Calif.), Lan Chung (DankookU., Seoul,Korea), Maria Q. Feng (UC Irvine) 750
- Experimental Study of RC Beams Shear Strengthened With Bonded or Unbonded FRP Wraps**  
J.G. Teng, G.M. Chen, Owen A. ROSENBOOM (Hong Kong Poly U., China), J.F. Chen (Edinburgh U., UK), L. Lam (Hong Kong Poly U.) 926
- Investigation of the Behavior of RC Beams Externally Strengthened in Shear With Cross-Ply CFRP Sheets** S.H. CHEONG, H.K. Lee (KAIST, Daejeon, Korea) 163
- Measurement of Concrete Fracture Properties Using Induction Heat and Image Correlation Technique.**  
Didier FOKWA, Y. Berthaud (U. Douala, Cameroon) 234
- Effect of Hydrophilic Treatments and Shape of Recycled Pet Fiber in Cement Based Composite Materials** Sang-Woo LEE, Won, Jong-Pil, Park, Chan-Gi, Choi, Min-Jeong (Konkuk U., Seoul, Korea), Wan-Young Kim (Korea Inst Water & Environ) Thursday 508
- Steel fiber reinforcement effect on bond between FRP Rebar and High Strength Concrete**  
Chan-Gi PARK, Jong-Pil Won, Si-Won Lee, Yoon-Jeong Kim (Konkuk U., Seoul, Korea), Wan-Young Kim (Korea Inst. Water & Environ) Thursday 740
- Long-Term Aging Performance of GFRP Dowel Bar After Alkaline Exposure**  
Jong-Pil WON, Chang-Il Jang , Sang-Woo Lee , Yoon-Jung Kim (Konkuk U., Seoul, Korea), Wan-Young Kim (Korea Inst.Water Environ, Daejeon) Thursday 1077
- Cable of Cable-Stayed Bridge**  
Yanliang DU, Shao Lin, Jianzhi Li, Baochen Sun (Shijiazhuang Railway Inst., Hebei, China) 218
- Reconstruction of 3D Microstructure of Cement Based Composites**  
Kateřina FORSTOVA, Jiří Němeček (Czech T.U., Prague) 238
- Stress Analysis of FRP Composites Bolted Joints for Civil Engineering Constructions**  
Francesco Ascione (U. Rome Tor Vergata, Italy), Luciano FEO (U. Salerno, Italy) 34
- Buckling Performance of FRP and Hybrid FRP-Steel Frames**  
Mojtaba B. SIRJANI (Norfolk St.U., VA), Zia Razzaq (Old Dominion U., Norfolk, VA) 874
- Consolidation of Silica Sand-Cement Frogbrick Composites**  
Benjamin C. TOBIAS (Silliman U., Philippines) 942
- SiO<sub>2</sub> + Polyester-Resin Composites: Effects of Gamma Radiation on Mechanical Properties**  
Gonzalo MARTINEZ-BARRERA (Autonomous U. State of Mexico, UAEM) 610
- Structural Behavior of Normal and High Strength Concrete Cylinders Confined With GFRP Sheets** Tarek H. ALMUSALLAM, Fahad S. Al-Mobaddel (King Saud U., Saudi Arabia) 21
- Fracture Properties of High Strength Lightweight Aggregate Concrete**  
Tommy LO, H.Z. Cui (City U., Hong Kong, China) 581
- A Numerical Prediction of the Influence of Concrete Mix Structure on its Elastic Stiffness : Part 1**  
Mofid MAHDI, Iqbal Marie (Hashemite U., Jordan) 605
- Modeling of Stresses and strains in Bonded Concrete overlays Subject to Differential Volume Changes** Jian ZHOU , Guang Ye, Erik Schlangen, and Klaas van Breugel

- (Delft U.T., the Netherlands) 1167
- Influence of Prestressing Losses in Steel-Concrete Composite Precast and Prestressed Trusses, Subjected to Long Term Surface Loads**  
Gnida SOSSOU (Kwame Nkrumah U. Sci.Tech., Ghana) 896
- Structural Behavior of Pultruded Composite Bolted Joints**  
Dee-Dee HUI, Nathan Nguye, Ayman Mosallam n (UC Irvine, Calif.)
- Initiating and Critical Stresses in Cement Based Composite System Influenced by Physico-Chemical Agent** Tomasz BLASZCZYNSKI (Poznan U.T., Poland) 89
- Effect of Sodium Sulphate on the Different Types of Cement**  
A.M. AMIN (Dokki, Egypt), N.H. Helal, M.M. El-Rabiehi (Fayoum U., Egypt), W. H. Sufe (Dokki, Egypt)
- Mechanical Behaviour of Bonded Steel Concrete Composite Structures**  
Alex LI, Loubna Bouazaoui, Gilles Perrenot, Yves Delmas (UFR, Reims, France) 517
- Impact Behavior of Unreinforced Masonry Walls Strengthened with CFRP Composites**  
Lijuan Dawn CHENG (UC Davis, Calif.)
- Forced Vibration of Many-Layered Finite Pre-Strained Slab Resting on a Rigid Foundation**  
Asaf D. ZAMANOV, T.R.Suleymanov (Ministry of Education, Azerbaijan Rep.)
- Application of Fiber Composite to Protect Pier Caps from Corrosion**  
Wayne LEE (U. Rhode Islands)
- Experimental Studies on Load-Carrying Capacity of Notched Concrete Beams**  
Zihai Shi, Kazuhiro YAMAKAWA, Masaaki Nakano (Nippon Koei, Tsukuba, Japan) 850
- Architectural and Structural Applications of Fiber-Reinforced Plastic Composites**  
Zouheir A. HASHEM, Jason Decaestecker (U. Nevada-Las Vegas) 305
- Effect of the Schemes of Fiber Reinforced Polymeric Laminates on the Out-of-Plane Behavior of Unreinforced Masonry Walls**  
Saleh Hamed ALSAYED (King Saud U., Riyadh, S. Arabia) 23
- Damage Identificaion of Shear Connectors that Link the Concrete Slab and Girders by Using Wavelet-Based Technique**  
Wei-Xin REN (Central South U., China) INVITED 30 min
- Rubber Inclusions Influence on the Thermal Behavior of an Aerated Clayey Concrete : Dry State and Different Saturation Degrees** Nadira Madjoudj (Montreal, Canada) 596
- Computational and Experimental Analysis for FRP Composite Curved Beam**  
Robert YUAN (Lamar U., TX)
- A Study on Structural Material Behavior Using 3D Virtual RC Slab Modeling**  
Young Sang CHO, Tae Song Shin, Jin Ho Cheon, Jun Seo Bae (Hanyang U., Korea) 172
- The Comparative Study of Concrete Compressive Strength Using Impact Echo Method and Schmidt Hammer** Seong-Uk HONG, Young-Sang Cho (Hanyan U., Korea) Mon 334
- Structural Property Assessment Using Stress Wave Based NDT and FEM**  
Young Sang CHO, S. U. Hong, S.B. Kim, J.S. BAE (Hanyang U., Korea) Mon 175
- Cassava Starch Composites based on Natural Rubber and Maleated Natural Rubber**  
Miren Ichazo (U. Simon Bolivar, Venezuela) POSTER
- Feasibility of Use of Recycled Thermoplastic Fibers and Scrap Rubber in Concrete Blends**  
Marianella HERNANDEZ (U. Simon Bolivia, Caracas, Venezuela) POSTER
- Tensile and Rheological Properties of Polypropylene Nanocomposite Blends**  
Carmen ROSALES (U. Simon Boliva, Venezuela) POSTER
- Rehabilitation of RC Inverted-T Girders using CFRP Sheets**  
Mukesh Sekar, Khaled GALAL (Concordia U., Montreal, Canada) POSTER 842
- A Study on Structural Material Behavior Using 3D Virtual RC Slab Modeling**  
Young Sang Cho, Tae Song Shin, Jin Ho Cheon and Jun Seo Bae (Hanyang U., Korea)

# MATHEMATICAL MODELING and MECHANICS

- Study on the Measurement of Fracture Toughness of Adhesively Bonded Composite/Steel Interface of Bi-Materials** Gwang-hee JEONG, Won-seok Kim, Jung-Ju Lee (KAIST, Yususeong-gu, Korea) 402
- On the Anisotropic Thermal Expansion of Short-Fiber and Particulate Reinforced Composites** Wei TONG, Hang Yao (Southern Methodist U., Dallas, TX) 952
- Optimization Design of Laminate Composite Materials** Jiazheng DU, Yunkang Sui, Yue Yang (Beijing U.T., China) 214
- Using Quasi-Static Method to Simulate the Impact Behavior of Constrained Layered Damped Composite Plates** Guang-Min LUO, Y.J. Lee (Nat. Taiwan U., Taipei) Tues-Thurs 591
- Extrusion and FEM Analysis of Zr-based Bulk Metallic Glass Composite** Hyun-Joon JUN, Kwang Seok Lee, Young Won Chang (Pohang U. Sci.Tech., Korea) 413
- Prediction of Composite Properties From Micromechanical Finite Element Model Using Domain Superposition Technique** Wenguang JIANG (U. Bristol, UK)
- Application of Single Lap-Shear Test for Extracting Adhesion Strength of Galvannealed Coating** Jungmin LEE, Chanjoo Lee, Sangon Lee, Byungmin Kim (Pusan Nat. U., Korea) 504
- Strength of Stiffened Composite Plates With Opening** S. RAHIMA SHABEEN, P. Alagusundaramoorthy (IIT Madras, Chennai, India) 786
- Free Vibration Analysis of Curved Composite Beam by Mixed Finite Element Formulation** Bahar AYHAN, Fethi Kadioglu (Istanbul T.U., Maslak, Turkey) 39
- Theory and FEM for the Chemo-Mechanical Coupling Behavior of Polymer Gel** Luan LIN, Qingsheng Yang (Beijing U.T., China) 560
- Prediction of Compressive Behavior of Angle-Ply Laminated Plates Containing a Centrally Located Cutout** B.R. KIM, H.K. Lee (Korea Adv Inst. Sci. Tech., Daejeon) 444
- A Study On Deformation Behaviour of Slab According to Processes of Width Reduction and Materials in Hot Roughing Mill** Su-Jin HEO (Pusan Nat Univ., Korea)
- Nonlinear Dynamic Responses of Laminated Shallow Spherical Shells Subjected to Low Velocity Impact** Yiming FU, Yiqi Mao (Hunan U., Changsha, China) 244
- Computer Simulation of Pressure-Induced GeO<sub>2</sub> Liquid** P.K.Hung, Vu Van Hung (Hanoi U.T., Vietnam)
- Model of Energy Dissipation Limit Coated Fiber Pull-Out with Non-Ideal Interface** A.G. SHPENEV, K.A. Khvostunkov (Lomonosov Moscow St.U., Russia) 868
- Heuristic Strategy for the Identification of Highly Non-Linear Behaviours. Application to Composite Materials** Lamine BOUBAKAR, S. Carbillet (U. FCOMTE, France)
- Experimental Study and Modeling of Stiffness and Strength of Natural Fibers Thermoplastic Composites** I. Taha, Ahmed El-SABBAGH, L. Steuernagel, G. Ziegmann (TU Clausthal, Germany) 27
- Asymptotic Analysis of Coagulation-Fragmentation** Francisco TORRENS, Gloria Castellano (U. Catolica Valencia, Spain) 954
- Dynamic Behaviour of Interacting Embedded Actuators in Piezoelectric Material Systems** Xiaodong WANG (U. Alberta, Edmonton, Canada), G.L. Huang (U. Arkansas, Little Rock), L. Han (U. Alberta) 1041
- Antiplane Analysis of a FGM Surface Layer Bounded to a FGM Substrate Contain Internal Cracks Respectively** Yen-Ji CHEN, Ching-Hwei Chue (Nat. Cheng Kung U., Tainan)

Mon-Thurs 161

- Antiplane Crack Problem for Two Bonded Functionally Graded Piezoelectric/Piezomagnetic Materials** Wei-Hung HSU, Ching-Hwei Chue (Nat. Cheng Kung U., Tainan) Mon-Thurs 348
- Mode III Crack Problem for Two Bonded Functionally Graded Piezoelectric Strip and Half Plane** Yu-Hsien LU, Ching-Hwei Chue (Nat. Cheng Kung U., Tainan) Mon-Thurs 589
- Mechanical Properties of Expanded Graphite Composites** Tsung-Lin WU, Hsin-Fang Lu, Wen-Shyong Kuo (Feng Chia U., Taichung) 1091
- A Two-Order and Two-Scale Computation Model for the Damage of Composite Materials** Fang SU, Junzhi Cui, Jianjun Wan (Chinese Acad Sci, Beijing)
- The Study of the Effective Thermal Conductivity of Carbon Foam Based on Fractal Theory** Yong Wang, Qingqing An, Lingling Cao, Hong Chen, Yimin WANG (Shanghai, China) 1047
- Study on the Postbuckling Behavior And Carrying Load Ability of Stiffener Composite Panels** Jinjian NING, Yining Zhang (Shenyang Aircraft, China), Baozong Huang, Jun Liu (Northeast U., Shenyang, China)
- The Seamless Bridging of Scales in Material Modelling Based on Adaptive Control of Model and Discretization Errors** Ken RUNESSON, Fredrik Larsson (Chalmers U.T., Sweden) 807
- Mixed Beam Approach for Structural Behavior of Initially Twisted, Thin-Walled Composite Blades** Il-ju PARK, Sung Nam Jung, Jin-Hwan KO (Konkuk U., Seoul, Korea) Mon-Wed 464
- Study of Alumina Ceramics on the Dynamic Damage and the Penetration Response** Zhiyong SHI, Wenhui Tang (Nat U. Defense Tech., Changsha, China) 852
- Postbuckling Behavior and Delamination Growth for Advanced Grid Stiffened Plate Considering Progressive Failure** Man WANG Ruixiang Bai, Zecheng Li (Dalian U.T., China), Cheng Yan (Queensland U.T., Australia), Haoran Chen (Dalian U.T.) 1036
- Effect of Microstructure on Deformation Behavior In Equal Channel Angular Pressing** Ch Rami Naidu, S.S. Bhargava, R. Bharat, N.R.M.R. BHARGAVA (Visakhapatnam, India) 79
- Effective Behavior of Soils With Creep and Other Heritage Phenomena** Michal TOMAN, Petr P. Procházka (Czech T.U., Prague) 944
- Influence of Eigenparameters to Stiffening of Axisymmetric Cylinders** Petr P. PROCHAZKA, Alexia Yiakoumi (Czech T.U., Prague) 773
- Numerical Investigation of Progressive Damages and Failure Modes in Advanced Grid Stiffened Structures Under Thermal and Compressive Loads** Ruixiang Bai (Dalian U.T., China), Cheng Yan (U. Sydney, Australia), Bo CHEN, Zecheng Li (Dalian U.T.), Lin Ye (U. Sydney), Haoran Chen (Dalian U.T.) special POSTER 130
- Theory and Numerical Method for Chemo-Mechanical Coupling Problem** Baosheng LIU, Qingsheng Yang (Beijing U.T., China) 567
- Studies on Buckling of Imperfect Plates** Ionel Chirica, E.F. Beznea, A. Chirica (U. Galati, Romania), N.G. Tsouvalis (Nat T.U. Athens, Greece)
- Buckling Studies on Delaminated Panels** E.F. BEZNEA, Ionel Chirica, R. Chirica (U. Galati, Romania), R.A. Sheno (U. Southampton, UK)
- Fatigue Response of Centrally Notched Hybrid Cross-Ply Composite Laminates at Elevated Temperature** Ming-Hwa R. Jen, Yi-Chun SUNG, Yen-Yen Chiu (Nat. Sun Yat-Sen U., Kaohsiung) 399
- Chaotic Vibration of a FGM Plate** Lihua CHEN, Wei Zhang, Yuxin Hao (Beijing U. Tech., China) 148
- Extended Weakest Link Distribution Family and Analysis of Fiber Strength Dependence on Length** Yuri PARAMONOV (Riga T.U., Latvia) 738
- About the Modelling of Mechanical Contact Problems for Composite Layered Materials Using Analytical Linear Elastic Approaches** Norbert SCHWARZER, Marcus Fuchs, L. Geidel (Saxonian Inst., Ruegen, Germany) 840



- Modelling and Shape Control of Composite Beams With Embedded Piezoelectric Actuators**  
Simon WANG, Joao F. Gaspar (U. Loughborough, UK) 1039
- Nonlinear Stability Analyses of Pattern Formation on Solid Surfaces During Normal-Incidence Ion-Sputtered Erosion** David J. WOLKIND (Washington St.U., Pullman)
- Effect of the Interface on Fracture Toughness of Particle Reinforced Composites**  
Zdenek KNESL, Pavel Hutar, Lubos Nahlík (Inst. Phys Mat., Brno, Czech Rep.) 462
- Static Analysis of Antisymmetric Angle-Ply Composite Shells Using a Higher Order Theory**  
Ahmet Sinan Oktem, Aykut SAFA (Yildiz T.U., Turkey) 716
- The Theoretical Consideration about the Friction Effects in the Sonic Flow**  
Carmen BAL, Nicolae BAL (U. Cluj Napoca, Romania), David Hui (U. New Orleans) 49
- A Radial Point Interpolation Method for Analysis of Composite Laminates**  
Gui-Rong LIU, Xin Zhao, K.Y. Dai (Nat. U. Singapore), Z.H. Zhong, G.Y. Li, X. Han (Hunan U., Changsha, China) Monday 574
- Degradation Mechanism of Mechanical and Electrical Durability of Crosslinked Low Density Polyethylene** Umit ALKAN, Yeşim Lenger Ozcanli, Vilayet A. Alekberov (Yildiz T.U., Turkey) 19
- Vibration of Initially Stressed Micro and Nano-Beams**  
Chien-Ming WANG, Y.Y. Zhang, S. Kitipornchai (Nat U. Singapore) Mon-Tues 1024
- Analytical Linear Study of Large Deflection of Layered Piezo-electric Sensing Plate under Initial Tension** Chun-Fu CHEN, Bo-Cheng Huang (Chung Hua U., Hsin Chu) 136
- Heuristic Strategy for the Identification of Highly Non-Linear Behaviours. Application to Composite Materials** M. Lamine BOUBAKAR (U. FCOMTE, France)
- Effect of Dielectric Microcracks on the Effective Electroelastic Properties of Ferroelectric Ceramics**  
Li Yu, Shou-Wen YU (Tsinghua U., China)
- Micromechanics of Heterogeneous Intelligent Materials**  
Qingsheng YANG, Yun Cui, Haiming Wang (Beijing U.T., China) 1106
- Application of Continuum Structural Topological Optimization Method In Biomaterials** Hongling YE, Yunkang Sui, Shanpo Li, Zhaomiao Liu (Beijing U.T., China) 1112
- Large Deformation of Multi-Layer Dielectric Elastomer Prosthetic Blood Pump**  
Qinmeng WANG, Baojian Zhao, Lianhua Ma (Beijing U.T., China)
- Analytical Study of the Equivalent Elastic Modulus for Finite Wide Honeycomb Core**  
Lian-hua MA, Qin-meng Wang (Beijing U.T., China)
- Optimization Design of Laminate Composite Materials**  
Jiazheng DU, Yunkang Sui, Zhiguang Yang, Lianchun Long (Beijing U.T., China) 214
- Influence of Droplet Impact Spreading on the Coating Quality of Thin Film**  
Zhaomiao LIU, Huamin Liu (Beijing U.T., China)
- Mechanical-Thermal Analysis of Composite Shell Structures Under Intensive Laser Irradiation**  
Lian-chun LONG, Min-jing Shen, Jian-dong Tian, Zhi-guang Yang (Beijing U.T., China)
- Simulation of Nanoparticle Distributions and Nanoflow in Mesoscopic Scale Based on Lattice Boltzmann Method**  
Xiaojun ZHANG, Xiaoyang Li, Qingsheng Yang (Beijing U.T., China)
- Dislocation Pile-Up in Plane Constrained Shear**  
Khanh Chau LE, Pramio Sembiring (Ruhr Univ. Bochum, Germany) 494
- An Experimental and Numerical Study for the Effect of Different Constraints on the Dynamic Characteristics of a Cantilever Plate** Matthew D. LOPEZ, Eltahry Elghandour, Faysal Kolkailah (Calif. Poly St.U., San Luis Obispo) Wed-Fri 583
- Multiple Scattering of Elastic Waves in Piezoelectric/Piezomagnetic Composite System With Graded Interfacial Layers** Xue-Qian FANG (Harbin I.T., China)
- Impact Damage Detection, Localization and Severity Prediction in Composite Laminate**  
Ran Y. KIM (AFRL, WPAFB, OH)
- Effect of the Finite Element Meshing**

- Ahmed BOUTAOUS, M. Elchikh, L. Gornet (France)  
**The Effect of Core to Skin Thickness Ratio and Cutout Reinforcement on Composite Sandwich Panels**  
 Craig DeBOOS, S. Guo, Liangchen Zhou (Cranfield U., UK) 200
- Modeling of Normal Separation Between Two Layers by the Finite Element Method**  
 J. Yu, Meilan. LIU (Lakehead U., Thunder Bay, Canada) Mon-Wed 1132
- Newtonian Dynamics of Multibody Systems, a Mathematical and Physical Semidefinite Model in Observable Complex Variables**  
 Jose L. URRUTIA-GALICIA (UNAM, Coyoacan, DF Mexico) 994
- Extrusion and FEM analysis of Zr-based Bulk Metallic Glass Composite**  
 Young-Wong CHANG (Pohand U. Sci Tech., Korea)
- Shape Memory Alloy Embedded in Composite Structure for Actuation Purposes**  
 Simphiwe NQABISA, Oscar Philander (Peninsula Technikon, Bellville, S. Africa) 706
- Study on the Dynamical Characteristics of AlGaAs/GaAs Double-Barrier Structure**  
 ZhenHong DAI, YuMing Sun, Weitian Wang (Yantai U., China) 194
- Micromechanics of Carbon/Carbon Composites Fracture**  
 V. SHAVSHUKOV, A.Tashkinov (Perm State T.U., Russia), David Hui (U. New Orleans), Yuri.Strzhemechny (Texas Christian U., Ft. Worth)
- Effect of Particle Size of Mica on Properties of Polyetheretherketone (PEEK) Composites**  
 Vashali A. BAMBOLE, M Rahil Parvez (U.Inst.Chem Tech., Mumbai, India) Mon-Wed 54
- Design and Synthesis of Magneto-Dielectric Composites for Radio Frequency Applications**  
 Martin C. Hawley, S.A. Farhar, S. Balasubramaniam, L.C. Krempel (Michigan St.U.) POSTER 52
- Novel Hybrid-Interface Formulation for Statics of Angle-Ply Laminates**  
 Abhay N. BAMBOLE, Y.M. Desai (Indian Inst.Tech., Mumbai) Mon-Wed
- Finite Element Modeling of Adhesively Bonded Hub-Shaft Joints**  
 Saied M. DARWISH, A Al-Samhan (King Saud U., Saudi Arabia)
- Application of Monte-Carlo Simulation on Recrystallization of Fine-Grained Ti**  
 Sun-Keun HWANG, Y.S. Seo, Y.B. Chun (Inha U., Incheon, Korea) 375
- Hygro-Mechanical Simulations of Natural Fiber-Reinforced Composites**  
 Yibin Anna XUE, Kungpeng Wang, Hongwu Zhang, Mark Horstemeyer (Mississippi St.U., Starkville)
- Thermal Buckling Response of Cylindrical Panels with Higher Order Shear Deformation Theory**  
 H.R.H. Kabir; S. Philipose; A. M. Al-KHALEEFI, A. H. Khudada (Kuwait U., Safat) 418
- Data Base Development of Hydrogen Induced Cracking Defects**  
 Ahmed YAMANI, Mohamed Deriche (KFUPM, Saudi Arabia)
- Contact Surface Element for the Discrete Element Method Application to Masonry Modelling**  
 Claude BOHATIER (U. Montpellier II, France), Marc Vinches, Robert Perales, Max Nemoz-Gaillard (Ecole Mines d'Ales, France) 95
- Numerical Simulations of Penetration into Cement-Based Composite Materials Subjected to Impact of Cylindrical Non-Deformable Projectiles**  
 Angel ARIAS, P. Forquin, Ramon Zaera, J. A. Rodríguez-Martínez, Carlos Navarro (Carlos III Madrid, Spain) INVITED 30 min
- The Propagation of Shear Horizontal (SH) Waves in a Layered Piezoelectric/Piezomagnetic Cylinder** Jinxi LIU (Shijiazhuang Railway Institute)
- Moisture Concentration Effect on the Reliability of a Graphite/Epoxy Plates Under Variable Climatic Conditions** Belhadj. BOUCHAM (U. Djillali Liabes, Algeria); A. Chateauneuf (Aubiere, France), E.A. Adda Bedia (Algeria) 102
- Development of a Semi-Analytical Model for the Analysis of Axisymmetric Shells Made of Functionally Graded Materials**  
 H. Santos, Cristovão M. MOTA SOARES, C. A. Mota Soares (IDMEC, Lisboa, Portugal), J.N. Reddy (Texas A&M U.) Tuesday 825
- Computational Modeling of Composites Reinforced by Finite Fibers**

- Vlado KOMPIS (AOSLM, Slovakia)
- A General Micromechanical Method for the Analysis of Complex Microstructure Composites**  
Carlos E. OROZCO (U. North Carolina Charlotte) 722
- Analytical Stress for Axisymmetric Functionally Graded Materials**  
H.M. Xu, Xue-Feng YAO, X.Q. FENG (Tsinghua U. China), H.Y. Yeh  
(Calif. St.U. Long Beach)
- An Innovative Method to Determine Biaxial Normal-Shear Interface Bonding Strength Between E-Glass and Epoxy Polymer**  
Zihui XIA, Ke Xu (U. Alberta, Canada) 1093
- Inverse Eigenvalue Problems In Structural Vibration And Control of Composite Structures**  
Kumar Vikram SINGH (Miami U., Oxford, OH) 872
- Dislocation Nucleation and Work Hardening in Constrained Shear**  
Khanh Chau LE (U. Bochum, Germany) 494
- Effects of Interphasial Properties in Unidirectional Fibre Reinforced Composites**  
Angelo MALIGNO (U. Nottingham,UK)
- Effects of Inter-Fibre Spacing on Damage Evolution In Unidirectional (UD) Fibre-Reinforced Composites.** Angelo MALIGNO (U. Nottingham,UK)
- A Constitutive Model of Microcellular Foams with Low Porosity Considering the Effect of Internal Pressure in Microvoids** Jian-Kang CHEN, Jue Zhu, Min Yuan  
(Ningbo U., Zhejiang, China) 144
- Materially Nonlinear Stress Analysis of Corrugated -Core Sandwich Plate**  
Ed VENTSEL, L. Ventsel (Pennsylvania St.U.), Shenmin Yi (Goodrich Aerostructures,  
Chula Vista, Calif.) INVITED 30 min 1003
- Investigation of the Elastic Behaviour of an Adaptive Composite Shallow Cylindrical Shell on Pasternak Foundation** K.M. GUPTA, Sandeep Kumar (Motilal Nehru Nat I.T., India) 291
- Material Characterization of Nano-Composite Sandwich Plates**  
Tai Yan KAM (Nat. C.T. U., Hsinchu)
- Prediction of Delamination During the Drilling of Thick Composite Structures**  
Pierre RAHME, Yann Landon, Pierre LaGarrigue (LGMT, Paul Sabatier U., France),  
Frédéric Lachaud, Robert Piquet (DGM, ENSICA, Toulouse, France), Benoit Marguet,  
Cédric LeRoy (Airbus, Toulouse, France) 788
- A New Spectral Framework for Higher-Order Homogenization Theories**  
Surya R. KALIDINDI (Drexel U., PA) INVITED 30 min, Mon-Wed 422
- Electromechanical Bending of a Functionally Graded Piezoelectric Actuator With Shear Deformation** Jie YANG (City U., Hong Kong), Hongjun Xiang (Jiaotong U., China), Y. Xiang  
(U. Western Sydney, Australia) INVITED 30 min 1102
- Transverse Thermal Diffusivity of 3D C/SiC Composites With Difference Interphase Thickness**  
Qing ZHANG, Laifei Cheng, Jun Zhang, Litong Zhang, Yongdong Xu  
(Northwestern Polytec U., Xi'an, China) POSTER 1156
- Nano Ferroelectrics for Photonic Applications**  
A. K. Bandyopadhyay, P. C. Ray (GCE & LT, WBUT, Kolkata, India),  
V. Gopalan (Penn State U.) POSTER 57
- Spinel-Alumina Composites -- Structural Evolution by SEM**  
Soumen PaL, A.K. Bandyopadhyay, P.G. Pal (GCE & CT, WBUT, Kolkata, India) POSTER 728
- Treatment Graphite for Mag-Carb Composites**  
P. G. PaL, Soumen Pal, A. K. Bandyopadhyay (GCE & CT, WBUT, Kolkata, India) POSTER
- Griffith Theory Revisited On Theoretical Strength For Brittle Materials**  
S. RAY, A. K. Bandyopadhyay, Arnab Sengupta, Tamoghna Chakraborty, Indranil Majumdar  
(Govt Coll Eng., Kolkata, India) POSTER
- Maximum Switching Time in Linbo<sub>3</sub> Nano Ferroelectrics**

- Arnab SENGUPTA, Swagata Tarafdar, Sanjay Singh, A. K. Bandyopadhyay  
(Govt Coll Eng., Kolkata, India) POSTER
- Thermal Stress Intensity Factors for a Crossing-Interface Crack in a Functionally Graded Layered Structure** Li-Cheng GUO (Harbin I.T., China), Naotake Noda, Masayuki Ishihara (Shizuoka U., Japan) POSTER 277
- Controlling Stochastic Resonance in an Electronic Circuit With Levy Perturbations**  
Romeo Negrea, Horia CARSTEA (U. Timisoara, Romania), David Hui (U. New Orleans)  
POSTER 670
- Linear Temperature Sensor for Geothermal Applications**  
R. NEGREA (U. Timisoara, Romania), David Hui (U. New Orleans),  
Horia Carstea (U. Timisoara, Romania), POSTER 111
- Electronic Equipment for Temperature Measuring And Controlling With Geothermal Applications**  
Horia CARSTEA (UPT, Romania) POSTER
- Elastodynamic Response of a Cracked Orthotropic Medium Under Impact Shear Loading**  
Subir DAS (Poddar Inst., Kolkata, India) POSTER
- Thermal Conductivity of Manganin-Lantan-Strons Submikron Powder in the Dependence Temperature** M.M. SAFAROV, J.A. Zaripov (Tajik TU, Tajikistan), M.D. Bulatov, A.N. Bulatov (Astrakhan Development Univ., Russia), David Hui (U. New Orleans), Helen N. Asemota (Shaw U, Raleigh, NC) POSTER 814

# METAL MATRIX COMPOSITES

- Effect of Fiber Properties on Tensile Failure Behavior of Continuous Fibers Reinforced Aluminum Composites** Kyeong Ho BAIK (Chungnam Nat.U., Daejeon, Korea) 45
- Composite Aluminum Alloy in Conditions of Heating and Cooling, and Thermal Shocks** Antoni JANKOWSKI (Inst.Aero., Warsaw, Poland), Marcin Slezak (Motor Transport Inst., Warsaw, Poland) 393
- Advanced Low-Alloy Creep Resistance Steels** Jaroslav PURMENSKÝ, Václav Foldyna (Ostrava, Czech Rep.) 777
- Synthesis of Three-Dimensional Ordered Porous Metallic Nickel by Electrodeposition** Sheng-yi TU, Jing Xu, Guo-jie Liang, Yu-jie Li (Nat. U. Def.Tech., Hunan, China) 978
- Formation and Properties of Co<sub>75</sub>Si<sub>15</sub>B<sub>10</sub> Metal Composites** Yuk-Ting HO, C.C. Leung, S.W. Mok, Y.L. Yip, Hin-Wing Kui (Chinese U. Hong Kong, Shatin, China) Wed-Friday 325
- Formation and Properties of Fe<sub>81</sub>C<sub>14</sub>Si<sub>5</sub> Metal Matrix Composites** Y.L. YIP, C.C. Leung, C.M. Fuk, S.W. Mok, Hin-Wing Kui (Chinese U. Hong Kong, China) Wed-Friday 1121
- Structural Evolution of Cooper During by Several Plastic Deformation** Miroslav GREGER, Radim Kocich (VSB, T.U. Ostrava, Czech Rep.) 275
- New Research Directions of Aluminum-Induced Crystallization of Amorphous Silicon** Min ZOU (U. Arkansas, Fayetteville) Mon-Thurs 1181
- Electro Chemical Machining of Al-20%SiCp MMC** Narender P. SINGH (Annamala U., India) 872
- Material Properties of Metal Matrix Composite Composed of AC8A Matrix and Fe<sub>75</sub>Cr<sub>20</sub>Si<sub>5</sub> Metal Fibers** Shingo OKAMOTO, Masanobu Taki, Tatsumi Hagihara, Nobuyuki Fuyama (Hiroshima U., Japan) 712
- Mechanical and Tribological Properties of A 356 Alloy** Dayanand MALLAPUR (Bagalkot, India)
- On the Modification of Surface Properties of Stainless Steels** Tadeusz HRYNIEWICZ, Ryszard Rokicki (T.U. Koszalin, Poland), R. Rokicki (ElectroBright, Macungie, PA) 345
- Some Experimental Data on Workability of Aluminium - Particulate Reinforced Metal Matrix Composites, Processed by Different Techniques** Mohamed A. TAHA (Ain Shams U., Cairo, Egypt), Nahed A. El-Mahallawy (German U. Cairo), Ahmed M. El-Sabbagh (TU Clausthal, Germany) 918
- Lubricating Properties of Plant-Viscous Fluid in Abelmoschus Manihot** Hidenori ITO, Junji Sugishita (Meijo U., Nagoya, Japan) 388
- Influence of V Substitution for Nb on Polarization Properties of Mixed Bismuth Layer-Structured Bi<sub>7</sub>Ti<sub>4.375</sub>Nb<sub>0.25-x</sub>V<sub>x</sub>W<sub>0.375</sub>O<sub>21</sub> Ceramics** Atsushi YOKOI, Junji Sugishita (Meijo U., Nagoya, Japan) 1123
- Polarization Properties and Phase Transition of Sr<sub>0.5</sub>Bi<sub>2.25</sub>Na<sub>1.25</sub>Nb<sub>3</sub>O<sub>12</sub> Ceramic by High-Temperature X-ray Powder Diffraction** Koichi HANAMURA, Atsushi Yokoi, Junji Sugishita (Meijo U., Nagoya, Japan) 296
- Liquid Phase Joining of Porous Metals to Produce Metal Matrix Composites**

- Shaun P.W. HO (Nat U. Singapore), Q.F. Li (Singapore Inst.Manuf Tech.) , J.Y.H. Fuh (Nat U. Singapore), P.C.Yu (SIMT) Mon-Fri morning 320
- Application of Peek in Stainless Steel/Carbon Fiber Reinforced Composites**  
Hua FU, Bo Liao, Bao-Chen Sun, Aiping Liu, Deliang Ren (Yanshan U., Qinhuangdao, China)
- Impact Failure Micromechanisms of 6061 Aluminum Reinforced With Submicron Al<sub>2</sub>O<sub>3</sub> Metal Matrix Composites** Khalid A. AL-DHEYLAN (King Fahd U. Pet and Min., Saudi Arabia) 16
- On the Extrusion of Al/Sic Produced by Powder Metallurgy”**  
Nahed El MAHALLAWY, S. Lawaty (Germany U. Cairo, Egypt)
- The Fracture Mechanism of Al-Al<sub>4</sub>C<sub>3</sub> System by in-Situ Tensile Test in SEM**  
Michal Bestercei, Oksana VELGOSOVA Jozef Ivan (TU Kosice, Slovakia) 77
- The Effects of Reinforcing Particles on the Sintered PM Al-Cu Base Composites**  
Hyungsik CHUNG, Si-Hyung Park, Moontae Kim, Jae-Hwan Ahn (Ajou U., Suwon, Korea) 183
- Suppression of Hydrogen Embrittlement in Nb-Tini Hydrogen Permeation Alloys due to Duplex Phase Microstructures**  
Kiyoshi AOKI, Weimin Luo and Kazuhiro Ishikawa (Kitami I.T., Japan)
- Fe Wear and Thermal Simulation of a Metal-Polymer Hybrid Bearing**  
Laszlo Konya, Karoly VARADI, Klaus Friedrich, Frank Oster (Budapest U.T. & Economics, Hungary)
- Microstructure of Enamel – Steel Interfaces**  
Chukwu PHILOMENA, Miculescu F, Dan G, Muntean Marcela (Politec U. Bucharest, Romania)
- On the Development of Precipitation-Hardened Pt-Base Alloys**  
Stefan VORBERG (Hanau, Germany) T. Murakumo, D. Ping, Y. Yamabe-Mitarai, H. Harada (NIMS, Tsukuba, Japan), M. Wenderoth, R. Völkl, U. Glatzel (U. Bayreuth, Germany), B. Fischer (U. App.Sci. Jena, Germany) chair 1012
- Pt-5%Rh Dph – An OdS Platinum Material With Excellent Properties for High Temperature Applications** Bernd FISCHER (U.App Sci Jena, Germany), Stefan Vorberg, David F. Lupton (W.C. Heraeus GmbH, Hanau, Germany) INVITED 30 min, Tuesday-Friday 232
- Mathematical Model of Semi-Solid Steel Deformation**  
Miroslaw GLOWACKI (AGH U. Sci Tech., Krakow, Poland) 266
- Studies on Retrogression and Re-aging of Al-Mg-Zn (7075) Alloy**  
C.N. CHANDRAPPA, K.V. Sharma, M.K. Muralidhara (Bangalore, India) 113
- Thermal Stability, Crystallization Kinetics and Mechanical Properties of Zr<sub>66.4</sub>Nb<sub>6.4</sub>Ni<sub>8.7</sub>Cu<sub>10.5</sub>Al<sub>8</sub> Amorphous Alloy**  
Mehdat Awad El-Hadek (Suez Canal U., Egypt)
- Potentiodynamic Polarization Techniques of Za-27/Sic in Neutral Chloride Mediums Leading to Corrosion Control** R.D. PRUTHVIRAJ (Bangalore, India) 772
- Erosion and Abrasion Wear Resistance of Two Layer GMA Surfaced Metallic and Cermetalic Deposits** Andrzej KLIMPEL(Silesian U.T., Poland), Gary Heath (Castolin Eutectic Intern.), Damain Janicki, Andrzej St. Klimpel (Silesian U.T.) 457
- Machining of Metal Matrix Composites**  
B. Anand RONALD (India)
- Subsive Al<sub>2</sub>O<sub>3</sub> Particle Reinforced Al-Si matrix Composite by Displacement Reaction using Planetary milled Al-SiO<sub>2</sub> Composite Powder**  
Kee Do WOO, H.B. Lee, I.Y. Kim, W. Ki (Chonbuk Nat U., Korea), G.S. Choi (Dongmyong U., Busan, Korea) Mon-Tues 1080
- Development of Chilled Aluminum Alloy-Silica Glass Particulate Composites and its Property Evaluation** UMASHANKAR,. Joel Hemanth (Siddaganga Inst. Tech., Tumkur, India) POSTER 986
- Studies About Mechanical and Thermal Behaviour for the Compozite-Fibers Covered With**

**Metallizing by Electrolysis** Mihaela SUCIU (TU Cluj-Napoca, Romania), David Hui (New Orleans), Mihai Tripa, Liviu Suciu, Lucia Chioltean, Mircea Bejan (TU Cluj-Napoca)  
POSTER 901

**Oxidation Resistance, Electrical Property and Dilatometry of STS321 Stainless Steel for SOFC Interconnect Candidate** In-Yong KIM (Chonbuk N.U., Korea), Minghua Wang (Northern U., Shenyang, China), Kee-Do Woob, Woong Ki, Jae-Hwang Kim (Chonuk N.U., Jeonbuk, Korea) Mon-Tues 443

**Effect of  $\text{Sr}_2\text{MnO}_4$  Preparation Processes on its Electrical Resistivity** Woong KI (Chonbuk Nat U., Korea), Minghua WANG (Northeastern U., Liaoning, China), Kee-Do Woo, In-Yong Kim (Chonbuk Nat U., Korea) Mon-Tues 438

# MAGNETIC NANO-COMPOSITES or THIN FILMS

## **Immobilizing Trypsin Onto Magnetic Particles for Using In Magnetic Separation Applications**

DOAN Thi Kim Dung, Tran Hoang Hai, Le Hong Phuc, Nguyen Thi Le Huyen,  
Bui Duc Long, Le Khanh Vinh, Nguyen Thi Thank Kieu,  
Nguyen Tien Thang (VAST, HCM City, Vietnam) 203

## **Influence of Annealing Time on the Low Field Magnetoresistance of La $0.7\text{Ca}0.3\text{MnO}_3 + 3\%\text{Al}_2\text{O}_3$**

N.V. KHIEM (Hongduc Univ., Vietnam), P.T. Phong (VAST, Hanoi, Vietnam), L. V. Bau  
(Hongduc U.), L.V. Hongm N.X. Phuc (VAST, Hanoi) 436

## **Magnetoresistance and Magnetocaloric Effect in La $0.7\text{Sr}0.3\text{Mn}0.8\text{Ti}0.2\text{O}_3$**

L.V. BAU, N.V. Khiem (Hongduc U., Vietnam), N. X. Phuc (VAST, Hanoi, Vietnam) 63

## **Synthesis of N-Doped Carbon Nanotubes and Y-Junctions by Catalytic Chemical Vapor Deposition**

Dali QIAN, R. Andrews, D. Jacques, T. Rantell (U. Kentucky, Lexington, KY) 777

## **Synthesis, Properties and Applications of Metal-7,7,8,8-Tetracyanoquinodimethane Nanowires**

Guorong CHEN, Kaibo Zheng, Huahua Xu (Fudan U., Shanghai, China), Zhiyong Fan,  
Jia Grace Lu (U. Southern Calif., Los Angeles) INVITED 30 min 135

## **Growth and Properties of ZnO, CdO and $\text{Cd}_x\text{Zn}1-x\text{O}$ Nanoparticles**

Yinshu WANG (Beijing Normal U., China) 1047

## **Synthesis and Properties of B-Fe<sub>3</sub>O<sub>4</sub> and A-Fe<sub>2</sub>O<sub>3</sub> Nanorods**

Jin CHEN, Yinshu Wang, Hongchao Yang, Jiao Shi , Sanjin Lin and Dong Zheng  
(Beijing Normal U., China) 143

## **Formation of Si Nanostructures by Strong Nano- and Femtosecond Laser Pulses**

G.A. Kachurin, S.G. Cherkova, V.A. Volodin, D.V. Marin (Novosibirsk, Russia),  
M. Deutschmann, N. Baersch (Laser Zentrum, Hannover, Germany) 417

## **Electromagnetic Properties of Composites With Nanocrystalline Ferromagnetic Wires**

Lie LIU, S. Matitsine (Nat.U. Singapore), K.N. Rozanov (Moscow, Russia), C.R. Deng,  
L.B. Kong, G.Q. Lin (Nat. U. Singapore)

## **A Comparative Study by Conductivity Measurement of Polarisation of Hydration Mechanism of**

**Bentonites** A. SASSI (U.SciTech Oran, Algeria), Z. Derriche, A. Djebaili (U. Batna, Algeria),  
J.C. Giuntini (Montpellier, France) 824

## **A Novel Synthesis of High Quality Cdte Quantum Dots With Good Thermal Stability in Liquid**

**Paraffin** Wan-wan LI, Bing Xing, Kang Sun (Shanghai Jiao Tong U., China) 533

## **Synthesis of Quantum Dots Tagged Porous Polystyrene Microspheres Capped With Carboxyl**

**Groups** Pengfei ZHANG, Hongjing Dou, Kang Sun, Wanwan Li, Bin Xing  
(Shanghai Jiao Tong U., China) 1151

## **Synthesis of Cysteamine-Stabilized CDTE Quantum Dots by the Hydrothermal Method**

Wei-hai YANG, Wan-wan Li , Hongjing Dou, Kang Sun (Shanghai Jiao Tong U., China) 1105

## **Green Machining and Bonding Technique for the Fabrication of Lattice Ceramic Structures**

Lei YIN, Hua-Xin Peng, L.Yang, B. Su (Bristol U., UK) 1116

## **Fabrication of 3D Ceramic Structures for Bi-Continuous Composites Via Ceramic Green**

**Machining And Bonding** Lei YIN, Hua-Xin Peng (U. Bristol, UK)

## **Nanostructured Magentic Microwire Enabled Multifunctional Composites**

Hua-Xin PENG, Manh-Huong Phan (U. Bristol, UK) 754

## **Influence of Deposition Condition on the Structure and Ionic Conductivity of Lipon Thin Films**

Zongqian HU, Dezhan Li, Kai Xie (Nat. U. Def. Tech., Changsha, China) 354



**Investigation of the Interfacial Effects in Sputtered Multi-Layered Cu Film**

Yun-Che WANG, Chang-Hsin Yeh (Nat. Cheng Kung U., Tainan), C.U. You, Yia-Ling Chou, Jinn P. Chu (Nat. Taiwan Ocean U., Keelung)

**The Radiation-Induced Exciton Cooling and Intraband Dynamics in Strain-Induced Quantum**

**Dots** Jukka TULKKI, Fredrik Boxberg (Helsinki U.T., Finland) 978

**Simple Converging Thermal Wave Method in Measuring Thermal Diffusivity of Thin Metal Foils**

M.M. MOKSIN, M.S. Husin, I.V. Grozescu, B.Z. Azmi (U. Putra Malaysia) 652

**Substrate Effects on the Magnetic Configuration of Nanostructured Nickel Electrodeposits**

Jean EBOTHE, L. Nzoghé-Mendome, M. Molinari 220

**Fabrication of Ge Inverse Opal Three-Dimensional Photonic Crystal by PECVD/Template**

**Techniques** Yu-jie LI, Kai Xie, Jing Xu, Guo-jie Liang, Liang-jing Zhang, Sheng-yi Tu (Nat U. Def. Tech., Hunan, China) 540

**Studies on the Stabilities of Halo Hexanes by Quantum Mechanical Calculation of their Heats of Formation**

V. Sathyanarayananmoorthi (PSG, Coimbatore, India), S. Mahalakshmi, N. Paneer Selvam (Vinayaka Mission U., India), M. Loganayagi (PSG, India)

**Magnetic Nanocomposites Based on RE<sub>2</sub>TM<sub>14</sub>B/ϕ-Fe**

Wilhem KAPPEL, M.M. Codescu, N. Stancu, E. Patroi, E. Manta, D. Patroi, S. Hodoroega (ICPE, Bucharest, Romania)

**Magnetic Field Responsive Polymer Gels and Elastomers**

Miklos ZRINYI (Budapest U.T. Economics, Hungary) 1180

**Effective Model for the Ingaas/Gaas Quantum Structures**

Filikhin, M. Wu (N. Carolina Central U., Durham), E. Deyneka (Cree Inc., Durham, NC), B. VLAHOVIC (N. Carolina Central U.)

**Synthesis, Characterization and Application of PbSe Spherical and Wire-like Nanocrystals**

Efrat LIFSHIT (Israel Inst.Tech.) Mon-Tues 546

**Contrast Agents for Magnetic Resonance Imaging Based on Iron Oxide Nanoparticles Synthesized by Wet-Chemical Methods**

TRAN Hoang Hai, Le Hong Phuc, Doan Thi Kim Dung, Nguyen Thi Le Huyen, Bui Duc Long, Le Khanh Vinh, Nguyen Thi Thanh Kieu, Ho Chi Minh (City Inst Physics, Ho Chi Minh City, Vietnam) 955

**Dynamic and Dielectric Properties of Maleated Polypropylene Nanocomposites**

Yeh WANG, Syh-W. Huang, Jiang-Y. Kuo (Tunghai U., Taichung)  
INVITED 30 min, Wed-Thurs 1040

**Micro Structure Fiber and its Functional Devices**

Bo LIU, Long JIN, GuiYun Kai, Qiang Fang, Zhi Wang (Nankai U., Tianjin, China)  
INVITED 30 min 566

**High-Energy Microtomography at Harwi-II / Desy Specialized for Materials Science**

Felix BECKMANN, Julia Herzen, Tilman Donath, Thomas Dose, Thomas Lippmann, Lars Lottermoser, Rene Martins, Andreas Schreyer (GKSS, Geesthacht, Germany) 67

**Study of ZnO Nanowires Coating for Alcohol Sensor Application**

Wen YAN, Lingmin Yu, Xuehong Ma, He Lin, Xin-hui Fan (Xi'an Tech. U., China) 1096

**Molecular Self Assembly on Surfaces**

Andrew T.S. WEE, Wei Chen, Lan Chen, Hong Liang Zhang, Han Huang, (Nat U. Singapore)  
INVITED 30 min, Mon-Tues 1064

**Syntheses of Zinc-Doped Maghemite Nanoparticles**

Miha DROFENIK (Jozef Stefan Inst., Ljubljana, Slovenia), M. Kristl (U. Maribor, Slovenia), Darko Makovec, Darko Hanzel (Jozef Stefan Inst, Ljubljana, Slovenia), Zvonko. Jaglicic (U. Ljubljana) 205

**Atomic Structure, Assembly and Novel Properties of Nanowires**

Dorothy MA (City U., Hong Kong, China)

**Nanoscale Effects on Oxygen Ionic Conductivity in Single- and Multi- Layer Thin Film Electrolytes**

Suntharampillai THEVUTHASAN, L.V. Saraf (Pacific N.W. Nat. Lab., WA), Z.Q. Yu

- (Nanjing N.U., China) O.A. Marina, C.M. Wang, M.H. Engelhard, V. Shutthanandan, P. Nachimuthu, S. Kuchibhatla (PNW Nat. Lab., WA) INVITED 30 min 931
- Electrochemical Characterization of Nanocrystalline LiFePO<sub>4</sub> and LiMn<sub>x</sub>Fe<sub>1-x</sub>O<sub>4</sub> Thin Films**  
Qi-Zong QIN, Jun Ma (Fudan U., Shanghai, China) 779
- Magnetically Modified Microbial Cells: a New Type of Composite Materials**  
Ivo SAFARIK, Mirka Safarikova (Inst.Syst.Biology & Ecology, Czech Rep.) 809
- Thin Film Blends for Excimer and Exciplex Organic Light Emitting Devices**  
Jan KALINOWSKI (Gdansk U.T., Poland) 423
- MBE Synthesis of Nano-Structured Films of Cuprate Superconductors and Related Oxides**  
Ivan BOZOVIC, G. Logvenov, A. Gozar, A. Bollinger, V. Butko (Brookhaven N.L., NY), N. Božović (San Jose St.U., Calif.), Z. Radović (U. Belgrade, Serbia) 104
- Third Harmonic Generation and Luminescent Properties from Some Rare Earth Doped ZnO Thin Layers**  
Mohammed ADDOU, Alaoui Lamrani, A. Bouabdli, N. Fellahi, Z. Sofiani (U. Tofail, Kenitra, Morocco), B. Sahraoui (U. d'Angers, France), R. Dounia, M. Regragui (U. Tofail) 1
- Rigorous Solution of Extended Hubbard Models on Small Clusters - Thermodynamics and Magnetics of Cluster Arrays** Rolf SCHUMANN (TU Dresden, Germany) 833
- On Annealing-Induced Anisotropy in a Ferromagnetic Fe-Based Film: a Magnetic Property Study**  
Jinn P. CHU (Nat. Taiwan Ocean U., Keelung) 178
- Silicon Oxide-Embedded Silicon Nanocrystallites Prepared by Thermal Annealing of Silicon-Rich Silicon Oxide** Hei WONG, C. K. Wong (City U. Hong Kong) Mon-Thurs 1076
- Nanostructured Silicon Composite Layers**  
Alexandra Irina KLEPS (IMT, Bucharest, Romania)
- Functional BN Films Fabricated by Synchronous CVD Using Laser and Plasma their Morphology-Dependent Functions and the Growth Mechanism**  
Shojiro KOMATSU (NIMS, Japan) INVITED 30 min, Mon-Tues
- Photonic Technology and Telecom.Application**  
Hop Tuyen LE (Saigon Technology U., Vietnam)
- Optical Holographic Data Storage using Nanoporous Azobenzene Films**  
D.V.G.L.N. RAO, Chandra S. Yelleswarapu (U. Massachusetts-Boston), Y. Andrew Wang (Ocean NanoTech, Fayetteville, AR) INVITED 30 min 793
- Barium Hexaferrite Films Made by Sputtering and Liquid Phase Epitaxy Method for Microwave Application** Wei-Jiang YEH, A. Abuzir, Y. Kranov (U. Idaho) Tues-Wed
- Formation of Titanium Oxide Nanofibers by Thermal Decomposition of Organic-Inorganic Hybrids** Koji NAKANE, Takashi Ogihara, Nobuo Ogata, Shinji Yamaguchi (University of Fukui, Japan) Tues-Wednesday
- X-Ray Diffraction Study of a -Quartz-Type AxB<sub>1-x</sub>PO<sub>4</sub> (A=Al, Fe; B=Ga) Obtained by Hydrothermal Conditions** M. Miclău, Ioan GROZESCU, R. Baies, P. Vlăzan, R. Bucur (Nat.Inst., Timisoara, Romania), David Hui (U. New Orleans) 633
- Effect of Mn Doping on Optical Properties of ZnS Nanophosphor**  
R. TAMRAKAR, M. Ramrakhiani, B.P. Chandra (Rani Durgaati U., India) 917
- Photo- and Electro-Luminescence Studies of Polyimide Films**  
Meera RAMRAKHIANI, Shruti Patel (Rani Durgaati U., India) 790
- Crystalline, Nanocrystalline and Nanostructured Ferrites**  
Jean-Marc GRENECHE (U. Lemans, France)
- Self-Consistent Density-Functional Calculations of Electronic and Magnetic Structures of Fe<sub>6</sub>, Fe<sub>6</sub> at Si<sub>24</sub> clusters and Fe<sub>6</sub> at Si<sub>24</sub> Infinite Nnotube.**  
Madani SAMAH, B. Moula, M. Berd, M. Bouguerra (U. A Mira, Algeria)
- Preparation and Magnetization for Self-Formed MnFe<sub>2</sub>O<sub>4</sub> Ferrofluids**  
Jian LI, Lang Bai, Qiang Li, Xianming Chen, Guofeng Yang (Southwest China U., Chongqing) 525
- Vapor-Liquid-Solid Growth of Si and Ge Nanowires for Microelectronics**

Francesca IACOPI, P.M. Vereecken, M. Schaekers, M. Caymax, C. Detavernier, H. Griffiths  
(IMEC, Leuven, Belgium) 374

**Residual Resistivity Ratio (RRR) In  $MgB_2$  Superconductors**

Subhash C. Kashyap, Suchitra RAJPUT, Sujeet Chaudhary (Indian Inst.Tech. Delhi) 434

**Sol-Gel Synthesis and Magnetic Properties of  $Nd^{3+}$ -Doped  $CO_2SiO_4:X_y$  [ $X = Nd^{3+}$ ;  $0.05 \leq y \leq 0.65$  g]**

B.B. DAS, N.V.K. Rao (Pondicherry U., India) Special POSTER 195

**Acoustic Wave Amplification in Nanometer Scale Superconducting Josephson Junctions**

Givi URUSHADZE (Tbilisi St.U. Georgia) POSTER

# NANO COMPOSITES

## **Preparation of Nano-TiO<sub>2</sub> Powders At Low Temperature and Heat Treatment**

Jiacheng GAO, Xiaowei Tan, Jian Zou, Yong Wang (Chongqing U., China)

## **A Study on the Application of Nanometric ZnO<sub>2</sub> in NBR**

Aibo ZHANG, Yaping Zheng, Yuwei Yang, Ming Li (Northwestern Poly U., Xi'an, China) 1139

## **One-Dimensional Nanomaterials: Synthesis, Characterization and Properties**

Lin GUO, Fang Liang (Beijing U. Aero Astro, China), Lin He, Chiping Chen (Peking U., China) 276

## **Elastic Modulus of ZnO Nanowires: A Theoretical Study**

Won-Ha MOON, H.J. Kim, C.H. Choi (Samsung, Suwon, Korea) 655

## **Studies on TiO<sub>2</sub>-Epoxy Nano-Composites**

Yaping ZHENG (Northwest Poly U., Shaanxi, China), Ying Zheng (U. New Brunswick, Canada) 1159

## **Effect of Nanodiamond Addition on the Tribological Properties of PTFE-Based Composite Coating**

Dong-Phill LIM, Jun-Sung Park, Dae-Soon Lim (Korea U., Seoul), Seung-Gyun Ahn, In-Woong Lyo (Gyunggi-do, Korea) 548

## **Field Emission Properties of Single-Wall Carbon Nanotubes Deposited on its Substrates**

Youngjin KANG, Okkyun Seo, Myeongchan An, Hyejin Song, Nguyen Duc Hoa, Nguyen Van Quy, Yousuk Cho, Dojin Kim (Chungnam Nat. U., Daejeon, Korea) 427

## **A Composite of SiO<sub>2</sub>-Single-Wall Carbon Nanotubes for Field Emission Devices**

NGUYEN Van Quy, Nguyen Duc Hoa, Myungchan An, Yousuk Cho, Dojin Kim (Chungnam Nat. U., Daejeon, Korea) 691

## **Electrical Properties of Single-Wall Carbon Nanotubes Films Purified for Transparent Electrodes**

Hyejin SONG, Youngjin Kang, Nguyen Duc Hoa, Nguyen Van Quy, Myungchan An, Yousuk Cho, Dojin Kim (Chungnam Nat. U., Daejeon, Korea) 889

## **Synthesis of Various Functional Nanostructures and Nanomaterials Using Electron Irradiation Technique**

Sung Oh CHO (Korea Adv Inst Sci Tech.) Mon-Thurs 167

## **New Fabrication of Carbon Nanotubes/Styrene-Butadiene Rubber Composites**

Xiang-wen ZHOU, Yue-feng Zhu, Ji Liang (Tsinghua U., Beijing, China) 1166

## **Dispersion of Carbon Nanotube in Aqueous Solution by Ultrasonication**

Shunya KOBAYASHI, Takahiro Ohkubo, Shigenori Utsumi (Tokyo U. Sci., Japan), Katsumi Kaneko (Chiba U., Japan), Kenichi Sakai Hideki Sakai, Masahiko Abe (Tokyo U. Sci.) 463

## **Study on the Interlaminar Shear Property of Modified GFRP With Different MWCNTs**

Lili SUN, Yan Zhao, Yuexin Duan, Zuoguang Zhang (Beihang U., Beijing, China) 907

## **Melting and Premelting of Carbon Nanotubes**

Kaiwang ZHANG, Jianxin Zhong (Xiangtan U., Hunan, China) Wed-Friday 1147

## **Controlled Electric Behavior of Vertical Aligned Carbon Nanotubes Reinforced Composite Fabricated Through Immersion Process**

Shih-Hao TSENG, Nyan-Hwa Tai

(Nat. Tsing Hua U., Hsinchu) Mon-Wed 969

## **Electrical Resistivity and Thermal Properties of Thermoplastic Polymer Matrix Composites With**

**Electrospun and Carbonized Pan Nanofiber Webs**

Donghwan CHO (Kumoh Nat. Inst. Tech., Gumi, Korea)

## **Zinc-Ion Coated Nanosilica Filled Polypropylene Nanocomposites: Effects of Epoxy Resin**

**Encapsulation and PP-G-Ma** Ram N. MAHALING, C.S. Reddy, C.K. Das (Indian Inst. Tech.,

Kharagpur) 595

## **Mechanical Properties of Carbon Nanotube Polymer Composites**

- Zhenkun LEI (Dalian U.T., China), Yilan Kang, Qiu Li, Wei Qiu (Tianjin U., China), Xuemin Pan (Dalian U.T.) 509
- Study of Fe, Co, Ni As Transition Metal Catalyst Supported on Hydroxyapatite for CVD Synthesis of Carbon Nanotubes** Yuan LIU, Naiqin Zhao, Haipeng Li, Chunsheng Shi, Xiwen Du, Jiajun Li (Tianjin U., China) 576
- Brillouin Studies of Acoustic Phonon Confinement in Nanostructures**  
Zhikui WANG, Y. Li, H.S. Lim, S.C. Ng, Meng Hau Kuok (Nat U. Singapore) INVITED 30 min 1062
- Experiments on Polymeric Nanofibers - a Quantitative Assessment of their Mechanical Properties**  
Bo Yuan, Jun Wang (Fudan U. Shanghai, China), Ray P.S. HAN (Peking U.), C.T. Lim (Nat. U. Singapore) 1133
- A Dynamics Approach For Atomic Force Microscopy Characterization of Polymeric Nanofibers**  
Liang Sun, Jun WANG (Fudan U., Shanghai, China), Ray P.S. Han (Peking U., Beijing, China) 905
- X-Ray Characterization of Nanostructured Materials**  
Roman PIELASZEK, Witold Lojkowski (Polish Acad Sci., Warsaw) 758
- Biodegradable Polymer Nanocomposite: I. Synthesis of Poly(l(+))Lactic Acid**  
Jian Zhang, Jizhong Yan, Parakalan Krishnamachari, Jianzhong LOU (North Carolina A&T ST.U., Greensboro) 1145
- Biodegradable Polymer Nanocomposite: II. Polylactide-Clay nanocomposite**  
Parakalan Krishnamachari, Jian Zhang, Jizhong Yan, Leonard Uitenham, Jianzhong LOU (North Carolina A&T ST.U., Greensboro) 472
- Free Volume Studies of Polymeric Layered Silicate Nanocomposites Subjected to Thermal Cycling** Sofia MARTINEZ-VILARINO (Prairie View A&M U., TX), Y.M. Strzhemechny, C.A. Quarles (Texas Christian U., Ft. Worth), Jianren Zhou (Prairie View A&M U.), David Hui (U. New Orleans) 609
- Two-dimensional XRD and SAXS for Nano-Materials**  
Bob B. HE, Kurt Erlacher (Bruker Inc., Madison, WI) 313
- Dielectric Behaviour of Styrene-Butadiene- Styrene/Polyaniline Composites**  
N.M. Renukappa, SIDDARAMAIAH, Joong-Hee Lee, T.Jeevananda, Seok-Bong Heo, Nam Hoon Kim (Chonbuk U., Korea) 867
- Positive Temperature Coefficient Characteristics of Polyaniline Doped Carbonnanotubes/Carbon Black/Hdpe Hybrids** Joong-Hee LEE, T .Jeevananda, Sung Kuk Choi, Taek Su Lee, Hae Jun Lim (Chonbuk N.U., Korea)
- Fracture Toughness and Fatigue Behavior of MWCNT-Reinforced Epoxy-Matrix Composites**  
Zheng-Han Zhang, Shih-Ying He, N. Allen YU (Yuan Ze U., Chungli) Mon-Wed 1131
- Preparation and Electrochemical Luminescence of Nano-sized ZnGa<sub>2</sub>O<sub>4</sub>**  
Andrew S. LIN, Howard Lin (Chang Gung U., Taoyuan) 553
- Properties and Consolidation of Nanostructured Ce<sub>0.8</sub>Gd<sub>0.2</sub>O<sub>2-δ</sub> by Pulsed Current Activated Sintering** In-Jin SHON, Dong-Ki Kim, In Kyoon Jeong, In-Yong Ko (Chonbuk N.U., Korea) Mon-Tue 862
- Properties and Rapid Consolidation of Ultra-Fine Wc-Based Hard Materials With Various Binders by Pulsed Current Activated Sintering** In-Kyoon JEONG, In-Yong Ko (Chonbuk U., Korea), Jung-Mann Doh (KIST, Seoul), In-Jin Shon (Chonbuk N.U., Korea) 404
- Properties and Consolidation of Nanocrystalline NbSi<sub>2</sub>-Si<sub>3</sub>N<sub>4</sub> by Pulsed Current Activated Combustion** Hyun-Kuk PARK, Jung-Hwan Park (Chonbuk N.U., Kores), Jin-Kook Yoon, Jung-Mann Doh (KIST, Seoul), In-Yong Ko, In-Jin Shon (Chonbuk U.) 740
- Simultaneous High-Frequency Induction Heated Combustion Synthesis and Consolidation of Nanostructured HfSi<sub>2</sub>-SiC Composite** Byung-Soo LEE, Jung-Hwan Park, Hyun-Kuk Park (Chonbuk N.U., Korea), Jin-Kook Yoon, Jung-mann Doh (KIST, Seoul, Korea), In-Jin Shon (Chonbuk N.U.) 493

**Nanocomposites of Inorganic Nanotubes and Gold**

Mohtashim H. SHAMSI, Kurt E. Geckeler (Gwangju Inst.Sci.Tech., Korea) Mon-Wed 841

**Mechanical and Electrical Properties of Carbon nanotubes /Epoxy Resin Nano-Prepreg Laminates for Nanocomposites**

Yi-Luen LI, Wei-Jen Chen, Kuo-Shu Wang, , Chung-Lin Wu,

Ming-Chuen Yip (Nat. Tsing Hua U., Hsinchu) Mon-Tues 538

**Improvement of the Mechanical Properties of Polydimethylsiloxane (PDMS) by Carbon Nanotubes (CNTs)**

Chung-Lin Wu, Hsueh-Chu LIN, Hsuan-Te Tu, Wei-Jen Chen, Ming-Chuen Yip

(Nat. Tsing Hua U., Hsinchu) Mon-Tues 1084

**Solar Energy Absorbing and Retaining Zirconium Carbide (ZrC) Nanofibers via Electrospinning**

Xue Mei CUI, Ki Hyuk Jang (Chungnam Nat. U., Daejeon, Korea), Jae Yeol Lee

(Seoul N.U., Korea), Hyun Sik Moon, Won Ho Park (Chungnam Nat U., Korea) 187

**Processing and Microstructures of Carbon Nano-Fibers Growing on Expanded Graphite**

Hsin-Fang LU, Wen-Shyong Kuo, Tse-Hao Ko (Feng Chia U., Taichung) 582

**Spectroscopy Investigations of Nanowires for Solar Energy Utilization**

Bin CHEN (NASA Amers, Calif.), Donjuan Xi, Qibing Pei (UC Los Angeles),

Abe Wolcott, Jin Z. Zhang (UC Santa Cruz) Thurs-Friday 123

**Preparation And Characterization of Polystyrene/Graphite Nanocomposite**

R.M. MEHRA, N.K. Srivastava (U. Delhi, India) 626

**Development of High-Speed Simultaneous Measurement of Topography and Energy Dissipation with Phase Modulation AFM**

Yan-Jun LI, Naritaka Kobayashi, Hikaro Nomura,

Yoshitaka Naitoh, Masami Kageshima, Yasuhiro Sugawara (Osaka U., Japan) Tuesday

INVITED 30 min 535

**Design and Preparation of Laminated Carbon Nanotube/Fused Silica Absorbing Material With Continuous Carbon Fiber As Back Reflection Substance**

Yong ZHU, Changshu Xiang, Yubai Pan, Jingkun Guo (Shanghai Inst. Ceramics, China) 1170

**Wafer-Scale Fabrication of Three-Dimensional Ordered Nanocomposites by Spin-Coating**

Peng JIANG (U. Florida)

**Nanoimprinted Polymer Photonic Crystals With Enhanced Emission Via Surface Plasmons**

C.M. SOTOMAYOR TORRES , V. Reboud, N. Kehagias (Univ.College Cork, Ireland),

M. Zelsmann (Grenoble, France), C. Schuster (Berlin, Germany), M. Fink, F. Reuther,

G. Gruetzner (Berlin, Germany) 895

**Preparation of Carbon Nanocapsules Containing Nickel from Deoiled Asphalt**

Jun YU, Bingshe Xu, Yongzhen Yang, Xuguang Liu (Taiyuan U.T., China)

**Au-Pd Nanoparticles Deposited on C and Al<sub>2</sub>O<sub>3</sub> By Plasma Method**

Arturo Garcia-Borquez; Ma. del Rosario, Mendieta-Anzurez; Jesus I. Guzman-Castaneda

(UPALM, Mexico DF) 254

**Properties of Epoxy/Nanodiamond Composites at Low Diamond Content**

Zhicai WANG, Hulin Li (Lanzhou U., China) 1060

**The Preparation and Study on Ultrahigh Molecular Weight Polypropylene Gel-Spun Fibers**

Jianjun CHEN, Shujia Liu, Sixiao Hu, Xiaojuan Si (Donghua U., Shanghai, China),

Yimin Wang (Shanghai, China), David Hui (U. New Orleans) 139

**The Application of Nano-particles in Unidirectional Plate Reinforced by UHMWPE-Fiber**

Shujia LIU , Jia Wang, Jianjun Chen, Yimin Wang (Donghua U., Shanghai, China, David Hui

(U. New Orleans) 573

**Emerging Nanopatterning Methods**

Jouni AHOPELTO (VTT Micro and Nanoelect., Finland) 7

**Development of a Transparent PMMA Composite Reinforced with Nanofibers**

Lu-Song CHEN, Zheng-Ming Huang, Guo-Hua Dong, Chuang-Long He

(Tongji U., Shanghai, China) 147

**Inorganic Fullerene Reinforced Ceramic Matrix Nanocomposites**

Kwang-Leong CHOY (U. Nottingham, UK) INVITED 30 min, Mon-Wed

**Reliable Method for Doping Single-Impurity Atoms into Nanodevices**

Takahiro SHINADA, Hideki Nakayama, Tomonori Kurosawa, Yanwei Zhu, Iwao Ohdomari  
(Waseda U., Tokyo, Japan) Thursday 856

**Band-Gap Modification Induced in HgTe by Dimensional Constraint in Carbon Nanotubes and Effect of Nanotube Diameter on Microstructure**

Jeremy SLOAN (U. Surrey, UK), Robin Carter, Alexis Vlandas, Rüdiger R. Meyer (U. Oxford, UK), Zheng Liu, Kazu Suenaga (AIST, Tsukuba, Japan), Philip J. D. Lindan, Grace Lin (U. Kent, UK), John Harding, John L. Hutchison, Angus I. Kirkland (U. Oxford) 877

**Biodegradable Polymer Composites, Polymer Nanocomposites**

Long JIANG (Washington St.U., Pullman)

**Shape Memory of Poly(ethyl Methacrylate)/Na-MMT Nanocomposites Prepared by**

**Macroazoinitiator Intercalated in Na-MMT** Han-Mo JEONG, Min-Seok Kim, Jae-Hoon Kim (U. Ulsan, Korea) Wed-Fri 402

**Fabrication of Multiwall Carbon Nanotubes Nanocomposites Doped With Polyaniline**

T. JEEVANANDA, Siddaramaiah, Nam Hoon Kim, Tae-Kyu Choi, Seok-Bong Heo, Joong-Hee Lee (Chonbuk U., Korea) 394

**X-Ray Techniques in Nanometrology**

Laura E. DEPERO, Elza Bontempi, Paolo Bergese, Ivano Alessandri, Paolo Colombi (U. Brescia, Italy)

**A Novel Approach to Prepare Extra Fine Cobalt Nanoparticles**

Hao Li, Shijun LIAO (South China U.T., Guangdong)

**Free Volume Studies of Polymer Layered Silicate Nanocomposites Subjected to Thermal Cycling**

Sofia Martinez-Vilarino, Yuri Strzhemechny, Carroll Quarles, Jianren ZHOU (Prairie View A&M U., TX), David Hui (U. New Orleans) 609

**Comparative Study of High Energy Neutron Shielding of Lunar in Situ Composite**

Ebony HAWKINS, Brad Gersey, Richard Wilkins, Jianren Zhou (Prairie View A&M U., TX) 309

**Radiation Shielding Strategies With Martian Regolith Composite Materials**

Ebony TOWNS, Premkumar Saganti, and Jianren Zhou (Prairie View A&M U., TX) 953

**Thermal Degradation and Shielding Measurements of Nanocomposites Upon Exposures to High Energy Iron Particles**

Tumeia FORD, Sofia Martinez-Vilarino, Brad Gersey, Jianren Zhou, and Richard Wilkins (Prairie View A&M U., TX) 233

**Material-Dependent Speed and Accuracy of Atomic Force Microscopic Imaging: Implications for the Nanometrology of Heterogenous Surface Confined Systems**

Adam MECHLER (Monash U., Australia), Janos Kokavecz, Peter Heszler (U. Szeged, Hungary) INVITED 30 min 620

**Microwave Synthesis of SiC Nanotubes**

K. NAGARAJAN, S.Kumara Raman (Nehru Mem Coll., Puthanampatti, India)

**Novel Thermoelectrics - The Role of Nanostructures**

S.D. MAHANTI (Michigan St.U.) 597

**The Effect of Nanodiamond Addition on the Tribological Properties of PTFE Based Nanocomposite Coating**

Dae-Soon LIM (Korea U., Seoul) INVITED 30 min

**In-Situ TEM Dynamic Observations of Plastic Relaxation Mechanisms in Thin and Nano-**

**Crystallized Al and Al(Si)/SiO<sub>2</sub> Metallic Films** Marc LEGROS (CEMES, Toulouse, France), Dan Gianola, Kevin Hemker (John Hopkins U., MD), Frédéric Momprou, Martiane Cabie, Daniel Caillard (Toulouse, France) INVITED 30 min, Mon-Thurs 507

**NanoMechanics Models for Composite Structure: Theoretical Background**

A. ALJINAIDI (King Abdulaziz U., Saudi Arabia)

**High Pressure Behavior of Nanosize Metals and Ceramics**

S.K. SAXENA (Florida Int. U., Miami)

**Mechanical and Electrical Properties of EPDM Nanocomposites using Silica Nanoparticles**

L. REJÓN-GARCÍA, R. Saldivar-Guerrero (Morelos, Mexico) 797

**New Coating for Stents With Nanostructured Calcium Phosphate**

Ulrich BECK, R. Lange (U. Rostock, Germany), U. Lembke, H.-G. Neumann (DOT Ltd., Rostock, Germany) 65

**Development of Superb Thermoplastic Natural Rubber (TPNR) Nanocomposites for Gas Barrier**

Sahrim H. Ahmad, N.A. Hassan, R. Rasid, N. Hassan (U. Kebangsaan Malaysia) 3

**Nanostructured Amphiphilic Thermosensitive Star-Shaped Metallopolymers**

Issifu I. HARRUNA, Guangchang Zhou (Clark Atlanta U., GA) 296

**Oxygen Sensor on Nano-crystalline Perovskite Oxide  $\text{SrTi}_{0.65}\text{Fe}_{0.35}\text{O}_3$**

NGUYEN Sy Hieu, Do Thi Anh Thu, Ho Truong Giang, Giang Hong Thai, Pham Duy Long, Nguyen Ngoc Toan (VAST, Hanoi, Vietnam) 684

**Luminescence of Refractory Nanoscale Ceramics**

Jennifer SAMPLE (John Hopkins Univ., MD)

**Highly Dispersed Palladium Nanoparticles on Functional MWNT Surfaces for Methanol Oxidation in Alkaline Solutions**

Zan-Zan Zhu, Zhe Wang (Lanzhou U., China), Kin-Tak Lau (Hong Kong Poly U., SAR, China), Hu-lin li (Nanjing U., China) 1174

**Mechanical and Electrical Properties of EPDM Nanocomposites using Silica Nanoparticles**

Leonardo REJON-GARCIA, R. Saldivar-Guerrero (I.I.E., Morelos, Mexico) 797

**Development of Novel Nanoscale Materials for Hydrogen Storage**

Jose J. GRACIO (U. Aveiro, Portugal)

**Structure and Properties of Layered Double Hydroxide (LDH) /Polypropylene**

**Nanocomposites** Dongyang WU, Sheng Li, Weidong Yang, Anne Ammala, Tri Nguyen (CSIRO, Clayton, Australia) INVITED 30 min 1086

**Solution Derived Metal Nano-Inclusion Materials; Characterisation and Applications**

Gunnar WESTIN, Annika Pohl (MKEM, Sweden), K. Jansson, T. Boström, E. Wackelgard, M. Ottosson, A. Ekstrand (UU, Sweden) 1072

**Experimental Observation of Liquid Nanojet**

Fengqi SONG, Longbing He, Min Han, Jianguo Wan, Guanghou Wang (Nanjing U., China) 887

**Electromagnetic Design and Fabrication of Advanced Carbon Fiber Composites Filled with CNTs**

Igor Maria DeROSA, Claudio Caneva, Maria S. Sarto, Fabrizio Sarasini, Alessio Tamburrano, (U. Rome, Italy) 199

**Nano-Structural Characteristics of Ingan/Gan Multiple Quantum Well Light-Emitting Diodes**

**Grown by Metalorganic Chemical Vapor Deposition** Zhe-Chuan FENG, Hong-Lin Tsai, Jheng-Hong Chen, Jer-Ren Yang (Nat. Taiwan U., Taipei), Alan Gang Li (ShenZhen, China), Ian T. Ferguson (Georgia Tech.) 222

**Effect of Annealing Under Hydrostatic Pressure on Creation of Nano-Clusters in Gammas**

Jadwiga BAK-MISIUK, P. Romanowski, E. Lusakowska, J. Domagala (Inst.Physics, Warsaw, Poland), A. Misiuk (Inst.Electron Tech., Warsaw, Poland), E. Dynowska, J. Sadowski (Warsaw, Poland), W. Caliebe (HasyLab Desy, Hamburg, Germany) 47

**Mesomechanical Analysis of Nanocells Auxetic Poromaterials**

Serge SHILKO, Dmitry Chernous (Belarussian Acad Sci., Gomel), David Hui (U. New Orleans) 852

**Synthesis Mechanism of Nano Glass Powders for  $\text{Al}_2\text{O}_3\text{-SiO}_2\text{-CaF}_2$  System by Homo-Precipitation**

Gecheng YUAN (Guangdong U.T., Guangzhou, China)

**Self-Aggregated Nanoparticles of Cholesterol-Modified O-carboxymethyl Chitosan and their Complexation with Bovine Serum Albumin**

Qiqing ZHANG, Yinsong Wang, Qian Jiang, Lingrong Liu (Xiamen U., China)

**Enhancement of Mechanical Properties of Functionalized Carbon Nanotubes Reinforced Phenolic Resin Composites**

Bhanu Pratap SINGH (Nat Phys Lab, New Delhi, India)

**Binding Site Heterogeneity of Nanopatterned Molecularly Imprinted Polymer**

R. Joshua KRUPADAM, Muntazir S. Khan, Satish R. Wate (NEERI, Nagpur, India) 476

**Effect of Organosilane Grafted Nanoparticles on the Nano Scratch Resistance of Polyurethane**



- Clear Coatings** Elisabeth BARNA, Gregor Hünnebeck (EMPA, Dubendorf, Switzerland), Wolfgang Meier (U. Basel, Switzerland), Thomas Graule (EMPA) 61
- Electric Transport Through Systems of Nanomagnetic Particles**  
Aviad FRYDMAN (Bar Ilan U., Israel) Mon-Wed 239
- Development of Nanostructure in Nitrogen - Implanted Silicon Processed at Enhanced Temperature - Pressure** Andrzej MISIUK (Inst. Electron Tech., Warsaw, Poland), P. Formanek (TU Dresden, Germany), I.V. Antonova (Novosibirsk, Russia), J. Bak-Misiuk (Polish Acad Sci, Warsaw), W. Jung, M. Prujarczyk (Warsaw, Poland) 647
- Nano-Carbon Tubes Effect on the Mechanical Properties of Plastic Material**  
Gwo-Chung TSAI, Li-Yuan Lin, Ying-Long Lu (Nat. Ilan U., I-Lan) 965
- Effect of Synthesis Conditions on the Preparation Of Barium Titanate Nanopowders Via Oxalate Precursor Method** I. Ahmed IBRAHIM, M.M. Rashad, R.S. Mohammed, A.A. El-Midany (Central Metall, Helwan, Egypt), A.T. Kandil (Helwan U., Egypt) 378
- Nano-Fiber Optical and MOEMS Gyroscope**  
Bohua SUN, Bo Zhang (Jinan U., Guangzhou, China) 903
- The Hydrothermal Growth and Morphology Control of ZnO Nano/micro-Structures**  
Changyou LIU, Wanqi Jie, Huanyong Li (Northwestern Poly U., Xi'an, China) 568
- Analysis of High Temperature Deformation Behavior and Microstructure Change in Nano-Grain Composites for Fabrication of MEMS Parts** Naoki MIYANO (Kyoto U., Japan), Kazuo Isonishi (Shiga U., Japan), Kei Ameyama (Ritsumeikan U., Japan) INVITED 30 min, Mon, Tues 650
- Foundations of the Informatic, Molecular Nanotechnologies**  
Stefan Wegrzyn, Lech ZNAMIROWSKI (Silesian U.T., Gliwice, Poland) 1066
- Sonochemical Preparation of Functional Nanoparticles and their Applications**  
Jun-Jie ZHU, Jun Geng, Jian-Jun Miao (Nanjing U., China) 1168
- Nano Science and Technology Curriculum Design**  
Saroja PRABHAKARAN (Avinashilingam U. for Women, Coimbatore, India) 760
- Electrical Conduction Of Laser Synthesized Carbon Nanoparticles For Polymer/Nanocarbon Composites** Ion SANDU (Nat. Inst. Lasers, Bucharest, Romania), Adriana Dragomirescu, Lavinia Gavrilă Florescu, Claudiu Fleaca, Radita Gardu, Alexandra Pica (Bucharest) 820
- Monte Carlo Simulation And Heisenberg Anisotropic Models Applied to the Study of the Magnetic Properties of Nanoparticles (Maghemite and Magnetite) and Thin Films**  
Johans R. CARDENAS (U. Antioquia, Colombia)
- Investigations of a New Class of Nanocomposites Based on Chemically Modified Graphene Sheets (CMG)** Dmitriy DIKIN (Northwestern U., IL) INVITED 30 min
- Nanocrystalline, Nonagglomerated Lu<sub>2</sub>O<sub>3</sub>:Eu Phosphor for X-ray Intensifying Screens**  
Eugeniusz ZYCH (U. Wroclaw, Poland), Leszek Pepinski (PAS, Wroclaw) 1183
- Synthesis and Characterization of Gadolinium Oxide Nanoparticles**  
Dac Tuyen LE (Hanoi U. Mining & Geology, Vietnam), Tran Kim Anh, Lam Thi Kieu Giang, Le Minh Anh Tu (VAST, Hanoi), David Hui (U. New Orleans), Le Quoc Minh (VAST, Hanoi) 488
- Composite Electrospun Nanofibers Containing Imprinted Nanoparticles for Molecular Recognition**  
Lei YE, Keiichi Yoshimatsu (Lund U., Sweden), Johanna Lindberg, Ioannis Chronakis (Molndal, Sweden) 1112
- Three-Dimensional Atomic-Scale Structure Determination Of Size-Selected Nanoclusters**  
Ziyong LI (U. Birmingham, UK) chair, INVITED 30 min 542
- Preparation, Structural Characterization and Properties of PVA- Bentonite Nanocomposites**  
Fotios KATSARS (Athens, Greece)
- Concurrent Atomic/Nanoscale Analysis with Applications**  
Jinghong FAN (Alfred U., NY)
- Reduction of the Mismatch of Carbon Nanotubes with Polymer Matrix and Development of High Strength Polymer Nanocomposites**

- Mo SONG , Jie Jin, Dongyu Cai(Loughborough U., UK) Mon-Tues 891
- Structural and Photocatalytic Properties of BST–TiO<sub>2</sub> Nanocomposites**  
Haitao HUANG, Guoge Zhang , Helen L.W. Chan, Limin Zhou (Hong Kong Poly U., China)  
INVITED 30 min 356
- Thermal Conduction Simulations in Nanomaterials**  
Pekka HEINO (Tampere U.T., Finland) 315
- Low Dimension Nanomaterials from Metal Oxides**  
Quoc-Minh LE, Kim-Anh Tran (Vietnam Acad Sci Tech., Hanoi)
- Synthesis and Electrochemical Properties of Carbon Nanotube Composites**  
Bingqing WEI, Subramanian Venkatachalam, Hongwei Zhu (U. Delaware) 1068
- First-Principles Study on Inclusion of Polyyne Molecules Inside Open-Ended Single-Walled Carbon Nanotubes** Kaoru OHNO, Yohei Kudo (Yokohama Nat. U., Japan), Tsuguo Morisato (Tokyo, Japan), Soh Ishii (Yokohama Nat. U.) Friday 707
- Antireflective Nanocomposite Coatings**  
Eddie GENG (PolyOne Corp, Avon Lake, OH)
- Polymer Based Nanophotonics**  
Manfred EICH (TU Harburg, Germany)
- Artificial Atom in Carbon Nanotube Quantum Dots and its Terahertz Response**  
Koji ISHIBASHI, Yukio Kawano, Tomoko Fuse, Seiko Toyokawa (RIKEN, Saitama, Japan)  
INVITED 30 min, Mon-Fri 383
- Silicon-Carbon Nanocomposites: Theoretical and Experimental Investigations**  
Boon K. TEO (U. Illinois-Chicago), Y.J. Wang, C. Zhang, R.Q. Zhang (City U. Hong Kong, SAR, China), Xuhui Sun (NASA Ames, Calif.), INVITED 30 min Thursday 925
- Nanocomposites Involving Small Nanoparticles in Block Copolymer Melts...**  
Mark W. Mataen, Jaeup KIM (Reading, UK)
- Two-Phase Flow Patterns in Coaxially Electrospinning Nanofibers**  
Yingying HU, Zhengming Huang (Tongji U., Shanghai, China) 352
- Synthesis and Construction of One Dimensional Nanostructures of Yttrium Hydroxide [Y(OH)<sub>3</sub>] by Polyol-Mediated Method** LAM Thi Kieu Giang, Tran Kim Anh (Vietnam Acad Sci Tech., Hanoi), David Hui (U. New Orleans), Le Quoc Minh (VAST, Hanoi) 483
- Fatigue Behavior of Nanostructured and Conventional Titania (TiO<sub>2</sub>) Thermal Spray Coatings**  
Ahmed Ibrahim, Yue HUNG and Christopher Berndt (Farmingdale St. Coll., NY) 376
- Vinyl chloride- Vinyl acetate Copolymer Nanocomposite**  
H. RAGHU, P. A. Mahanwar (UIC, Mumbai, India) 781
- Oxidization of 6H-SiC(000-1) and Carbon Nanotube Growth by Surface Decomposition**  
Takahiro MARUYAMA, Shigeya Naritsuka (Meijo U., Nagoya, Japan), Michiko Kusunoki (Japan Fine Ceramics Cen., Nagoya) Mon-Tues 611
- Preparation and Characterization of N-Hydroxyapatite/Polymer Nanocomposite**  
Nabakumar Pramanik, Panchanan PRAMANIK (Indian Inst.Tech., Kharagpur) 764
- Preparation and Characterization of Carbon Nanorings**  
Mark Chien-Chong CHEN, Chia-Cia Lee (Nat. Chung Cheng U., Chia-Yi) Mon-Tuesday
- Chitosan/ Poly (Vinyl Alcohol)/Hydroxyapatite Nanofiber by Electrospinning**  
Jiajun WANG, Yangbo Bao (Zhejiang Sci Tech U., Hangzhou, China), Qiaoling Hu (Zhejiang U., China) 1025
- The Effects of Molding Conditions on Nanoscale Replications of Thermoplastic Elastomers**  
Michael W. Alabran (U. Mass Lowell), Paul E. KOCH, Joel M. Carr (Penn State Erie, PA) chair 11
- Polymer Nanocomposites involving Si- or Sn-Oxo Nanoclusters**  
Libor MATEJKA, Irena Kroutilova, Adam Strachota, Francois Ribot (I. Macromol Chem.,

- Prague, Czech Rep.) Tues AM-Fri PM 615
- Nano-Sized Surfaces Generated by Top-Down Technique**  
Yoshiki NAKATA, Kunio Tsuchida, Noriaki Miyanaga (Osaka U., Japan) INVITED 30 min  
Mon 665
- Commercial Applications Utilizing Halloysite, a Naturally Occurring Nanomaterial**  
Ronald PRICE, (Nanoclay Tech. Inc., Eureka, UT), Yuri Lvov (Louisiana Tech., Ruston) chair 768
- Single Polymer Composite-a Unique Approach To Materials Through Nano-Morphologies**  
B. DEOPURA
- Effect of Surfactants on the Synthesis of Uranium Oxide Nanoparticles**  
Shameem Hasan, Tushar K. Ghosh, Sudarshan K. Loyalka, and Baolin Deng  
(Nuclear Sci Engr Inst.), Dahir S. VISWANATH (U. Missouri-Columbia) Monday 299
- The RDA Model of Scaling and Size Effect of Nanocomposites**  
Dragan D. MILASINOVIC (U. Novi Sad, Serbia) 639
- Nanoscale Fabrication and Manufacturing.**  
Biswajit DAS (U. Nevada –Las Vegas) INVITED 30 min
- Solid Mechanics Methods in Nanotechnologies**  
E. Ivanova, D. Indeitsev, Nikita MOROZOV, B.Semenov.(St. Petersburg, Russia)
- Study of the Mechanical, Thermal and Electronic Properties of Nanoscale Materials**  
K. MASUDA-JINDO (Tokyo I.T., Japan), Vu Van Hung (Hanoi Nat Pedagogic U., Vietnam),  
M. Menon (U. Kentucky) 613
- ...Copper Reinforced by Carbon Fiber and Nano Fiber, Powermetallurgy, Liquid Route**  
Jean-Francois SILVAIN (CNRS, Pessac, France)
- Nanocatalysis on Tailored Shape Supports and Polymerization on Nanoparticle Surfaces**  
Mohamed Samy El-Shall (Virginia Commonwealth U., Richmond)
- Photocatalytic Degradation of Pulp and Paper Industrial Effluent Using Semiconductor TiO<sub>2</sub> Nano Particles** T.R. SHASHI SHEKHAR, E.T. Puttaiah, K.M. Mahadevan,  
H.P. Nagaswarupa.(East West Inst. Tech., Bangalore, India)
- Quasi-Homogeneous Nanocatalysts for Hydrocarbon Fuel Synthesis**  
Nick TRAN (US Naval Res. Lab., DC)
- Application of Solution Dispersible Nanocrystalline Silicon Particles to Various Optical Devices**  
Keisuke SATO, Masaki Hiruoka, Kenji Hirakuri (Tokyo Denki U., Japan) INVITED 30 min  
Friday 827
- The Novel Application of the Nematic Liquid Crystal-Clay Nanocomposites**  
Tsung-Yen TSAI (Chung Yuan Christian U.) INVITED 30 min, Mon-Wed
- Fast Hydrogen Sensors Based on Nanoscale Palladium**  
Tao XU (Northern Illinois U., DeKalb), Zhili Xiao (Argonne Nat. Lab, IL) INVITED 30 min  
Wed-Fri 1094
- Carbon-Based Nanoparticles**  
Ferencz S. DENES (U. Wisconsin)
- Photocatalytic Degradation of Pulp and Paper Industrial Effluent Using Semiconductor TiO<sub>2</sub> Nano Particles** Shashi T.R. SHEKHAR (Kuvempu U., Karnataka, India)
- Analysis of Carbon Nano Transmission Lines at RF and Microwave Frequency Using Collocation Method**  
S. KANTHAMANI, S. Raju, V. Abhaikumar (Thiagarajar Coll Engrg, TamilNadu, India)
- Electric Conductivity Properties of CNF Nanocomposites Having Pr 24 Hht Ld Fiber Surface Treatment**  
Joana Finegan, Jason HILLER (Central Michigan U., Mt. Pleasant) INVITED 30 min 226
- Interaction of Stone-Wales Defect and its Effect on Creep Rupture of Single-Walled Carbon Nanotubes** A.F. Huq, Z. R. Zhou, K. L. Goh, Kin LIAO (Nanyang Tech. U., Singapore),  
T. Xiao (Shantou U., China) 368
- A Study of Co<sub>3</sub>O<sub>4</sub> Nanoparticle Solubility in High-Purity Water**

- Lihong SU, Jiaoqiang Zhang, Shengru Qiao, Yujie Sun, Qin Chang  
(Northwestern Polytech U., Xi'an, China) chair
- Mechanical Properties and Fracture Mechanisms of Epoxy - Clay – Versamide 125 Nanocomposites** Ariadne L. JUWONO, S. Kencana (U. Indonesia, Depok), Sutarno, H. Subawi (Indonesian Aerospace Ltd, Bandung) 412
- Pt Based Nano-Particles/Composites as Electro-oxidation Catalysts for Polymer Electrolyte Membrane Fuel Cell”** ---- Jayati DATTA, S. Sen Gupta (Bengal Eng Sci U., India)
- Electro-Synthesis of Nanostructured Composite Films of CdSe, CdTe and CdTeSe for Photoelectrochemical Applications** Chinmoy BHATTACHARYA, A. Jana, S. Sinha, Jayati Datta (Bengal Eng Sci U., India) 83
- Activity of Pt and PtRu Nanoparticle Towards Ethanol Electro-Oxidation: Size Control and Metal Dispersion in Conducting Polymer Matrix** S. Sen GUPTA, S. Singh, Jayati Datta (Bengal Eng Sci U., India)
- CrO<sub>4</sub><sup>2-</sup> and NO<sub>3</sub><sup>-</sup> as Inhibitor Anions for Corrosion of 6061-Al Metal Matrix Composites in HCl Medium** S. BANDYOPADHYAY (U. New South Wales, Australia), C. Bhattacharya, Jayati Datta (India)
- Influence of the Alkyl Ammonium Salt on the Thermal Degradation of Alkyl Ammonium Salt Modified Montmorillonite / Pvc Blends** DANG Tan Tai, HA Thuc Huy (U. Sci. Natural HCM city, Vietnam), Anne-Cécile GRILLET, Gérard MERLE (U. Savoie, France)
- Synthesis of One-Dimensional SiC Nanorods using High-Energy Ball Milling** HUYNH Thi Ha, Phan Viet Phong, Le Quang Huy, Dao Tran Cao (VAST, Hanoi, Vietnam) 370
- Nanostructured MnO<sub>2</sub>/C Composites as Electrodes for Rechargeable Electrochemical Cells** NGUYEN Thi Phuong Thoa, Pham Quoc Trung, Le My Loan Phung, Tran Van Man (U. Natural Sci., HCM City, Vietnam) 687
- Properties of Low Density Polyethylene/Multi-Walled Carbon Nanotube Composite Fabricated by Melt-Blending** NGUYEN Vu Giang, Hoang Thi Van An (VAST, Hanoi, Vietnam) 693
- Microfabrication of a Silicon Microarray and its Application In Research for Immobilization and Hybridization of Oligonucleotides** NGUYEN Hoang Phuong Uyen, Mai Thi Anh Dao, Tong Duy Hien, Dang Mau Chien (Vietnam Nat. U., HCM city) 677
- Biodegradable Poly(ε-Caprolactone)-Layered Silicate Nanocomposites: the Effect of Nanofiller Modified by Poly(Ethylene Oxide)** Bui Thi Tuyet Van1, Ha Thuc Huy (U. Natural Sciences, HCMC, Vietnam) 109
- Carbon Nanotubes Reinforced Niken Coatings Prepared By Electroplating Technique** Bui Hung Thang, Phan Hong Khoi, Phan Ngoc Minh, Nguyen Huy Dung, Dong Van Thu (VAST, Hanoi, Vietnam) 106
- Electrodeposition And Characterization of Carbon Nanotubes-Cr Coatings** Than Xuan-Tinh, Phan Ngoc Minh, Phan Hong Khoi (VAST, Hanoi, Vietnam)
- Synthesis and Purification of Carbon Nanotubes On Iron Mesh** Nguyen Van-Chuc, Nguyen Duc Dung, Phan Ngoc Hong, Le Dinh Quang, Ngo Thi Thanh Tam, Phan Ngoc Minh, Phan Hong Khoi (VAST, Hanoi, Vietnam) 689
- Properties of Cr Coatings by Electroplating With Carbon Nanotubes Additive Material** THAN Xuan Tinh, Nguyen Ngoc Khoai, Phan Hong Khoi1, Phan Ngoc Minh (Vietnam Nat.U., Hanoi) 929
- Fabrication and Application of Carbon Nanotubes on Tungsten tips** Phan Ngoc Hong (VAST, Hanoi, Vietnam), Nguyen Minh Nam, Phan Hong Khoi, Phan Ngoc Minh (Vietnam Nat. U., Hanoi) 756
- Study Gas Selectivity And Stability of CO and HC Sensors on Basic Of Perovskite Oxides ABO<sub>3</sub>** Ho Truong GIANG, G. H. Thai, D. T.A. Thu, N. S. Hieu, P. H. Khoi and N. N. Toan (Vietnam) 319

- Fabrication of Wafer-Scale Platinum Nanowires and its Application in Glucose Detection**  
Tong Duy Hien, Tran Nhan Ai, Le Dang Khoa, Le Thanh Tuyen, Dang Mau Chien  
(Vietnam Nat.U., HCM City) 947
- Preparation, Optical Properties and Application Of Nanomaterials Doped Rare Earth Ions**  
TRAN Kim Anh, Nguyen Vu, Wieslaw Streck, David Hui, Le Quoc Minh  
(VAST, Hanoi, Vietnam) INVITED 30 min 960
- Er<sup>3+</sup>/Yb<sup>3+</sup> activated Silica/Zirconia Wave Guide Derived by Sol Gel Process for Optical Telecommunication Application.**  
Tran Thu Huong, Tran Kim Anh, Le Quoc Minh (VAST, Hanoi, Vietnam)
- Ferrite Nanoparticles Immobilized Oligonucleotide and DNA of Crinum Latifolium L.**  
NGUYEN Cuu Thi Huong Giang, Nguyen Cong Hao, Nguyen Cong Phuong Nam,  
Nguyen Toan Thang (Inst Nat prod Chemistry, HCMC, Vietnam) 671
- Contrast Agents for Magnetic Resonance Imaging Based on Iron Oxide Nanoparticles Synthesized by Wet-Chemical Methods**  
TRAN Hoang Hai, Le Hong Phuc, Doan Thi Kim Dung, Nguyen Thi Le Huyen, Bui Duc Long,  
Le Khanh Vinh, Nguyen Thi Thanh Kieu (HCMC, Vietnam) Le Quoc Minh (VAST, Hanoi) 955
- Structural and Magnetic Properties of NiMnSb Thin Films Prepared by Flash Evaporation**  
N. P. DUONG, N.A. Tuan, L.T. Hung, T.D. Hien (Hanoi U.T., Vietnam)
- Magnetic Properties of Ultrafine Particles Sr<sub>1-x</sub>La<sub>x</sub>Fe<sub>12</sub>O<sub>19</sub> (x = 0, 0.05, 0.1, 0.15, 0.2) Prepared by Sol-Gel Method** N. P. DUONG, T.T.V. Nga, T. D. Hien, T. D. Hoang (Hanoi U. Tech., Vietnam) 679
- Magnetic Properties of MnFe<sub>2</sub>O<sub>4</sub> Nanoparticles Synthesized by co-Precipitation**  
NGUYEN Phuc Duong, Nguyen Thi Lan, Than Duc Hien (Hanoi U.Tech., Vietnam) 682
- Ferrite Nanoparticles Immobilized Oligonucleotide And Digested DNA of Crinum Latifolium L.**  
NGUYEN Cong Phuong Nam, Nguyen Cong Hao, Nguyen Cuu Thi Huong Giang,  
Nguyen Toan Thang (Inst. Nat Product Chem., HCM city, Vietnam), Cassandra L. Smith  
(Boston U., MA) 671
- Valence Flux Under Thermal Motion in 3-D Modelling For Perovskite Manganites**  
H.N. NHAT (Vietnam Nat U., Hanoi), H. D.Chinh (Hanoi U.T., Vietnam), N.Q. Hoa  
(Chungbuk Nat U., Korea), N. Chau (Vietnam N.U.), F. Valach (Slovak T.U., Bratislava) 695
- Polymer Composites Modified With Electric Field Induced Aligned Carbon Nanotubes**  
Yue-Feng ZHU, Chan Zhang, Xi-Zhi Yang, Li-Jun Ji, Chen Ma, Ji Liang  
(Tsinghua U., Beijing, China) POSTER 1172
- Synthesis and Characterization of Environmentally Responsive Polymer Hydrogels for Environmental Separations** Veera M. BODDU, Nathaniel Naismith, Hiren Patel,  
Riley C. Flowers (US Army CERL, Champaign, IL) POSTER 93
- Structural Manipulation and Energy Dissipation on Si (001) Surface with Noncontact Atomic Force Microscopy at 5K** Y. SUGAWARA, Y. Naitoh, M. Kageshima (Osaka U., Japan)  
POSTER
- Morphology and Electrochemical Behavior of Ag-Cu Nanopowder-Doped Amalgam**  
Yu-Sheng LIN (Nat. Tsing Hua Univ., Hsinchu) POSTER
- Mechanical Characterization of Polydimethylsiloxane-Silica Nanocomposite**  
Keith WALDRON, Devas Pai, Vyas Harinath, Jag Sankar, Jianzhong Lou  
(North Carolina A&T ST.U., Greensboro) POSTER 1017
- Detection of Volatile Organic Compound Using Polydimethylsiloxane-Gold Nanocomposite**  
Ramya VEDAIYAN, Jag Sankar, Jianzhong Lou (North Carolina A&T ST.U., Greensboro)  
POSTER 998
- Modelling for Shock Resistant and Damping Nanocomposites**

- Maksim KIREITSEU (U. Sheffield, UK), David Hui (U. New Orleans), S. Lurie (Moscow, Russia) POSTER 450
- Synthesized Ceramic Membrane Material by Nanometer Powder at the Low Temperature on the Quartz Glass** Lihong SU (Northwestern Polytech U., Xi'an, China) POSTER
- Fabrication and Characterization of Carbon Nanotube Reinforced Chitosan Matrix Nanocomposites** Raymond GAN, Hein San, Kean Wang, and Kin Liao (Nanyang T.U., Singapore) POSTER 249
- Effect of Radio Frequency Interference (RFI) of VGCF Nanofibers on Shielding Effectiveness of VGCF/Polypropylene Nanocomposites**  
Timothy Finegan, Mark Kujawski, Jason Hiller, Joana Finegan (U. Central Michigan) POSTER
- Dynamic Properties of Nanocomposites**  
Joana FINEGAN (U. Cen Michigan) POSTSER
- Analysis of Carbon Nano Transmission Lines at RF and Microwave Frequencies Using Collocation Method** S. Kanthamani, S. Raju, V. Abhaikumar (TamilNadu, India) POSTER 429
- Quasi-Static Analysis of Nano-Transmission Lines using Point Collocation Method**  
S. Kanthamani (TamilNadu, India) POSTER

# OXIDE COMPOSITES

*Oxide Symposium on Oxide Composites, developed by Tamio Endo*

**Surface Analysis of Shocked Bi-Pb-Sr-Ca-Cu-O (BPSCCO) Particles by CCD**

Hiroshi KEZUKA (Tokyo U.T., Japan) Mon-Thurs

**Preparation, Structure and Luminescent Spectra of ZnO Nanomaterials**

LE Quoc Minh, Dinh Xuan Loc, Nguyen Vu (VAST, Hanoi, Vietnam), David Hui (U. New Orleans), Do Hung Manh, Nguyen Thi Thanh Ngan (VAST, Hanoi), Tamio Endo (Mie U., Japan), TRAN Kim Anh (VAST, Hanoi) 957

**Composite of Single-Wall Carbon Nanotube and Tin Oxide for Field Emission Devices**

Myungchan AN, Hyejin Song, Youngjin Kang, Nguyen Duc Hoa, Nguyen Van Quy, Yousuk Cho, Dojin Kim (Chungnam N.U., Daejeon, Korea) 25

**Tin Oxide Coated Single-Walled Carbon Nanotubes For Gas Sensor Application**

NGUYEN Duc Hoa, Nguyen Van Quy, Myungchan An, Hyejin Song, Youngjin Kang, Yousuk Cho, Dojin Kim (Chungnam Nat. U., Daejeon, Korea) 675

**Visible-Light Induced Photocatalytic Activity of N,S Co-Doped TiO<sub>2</sub>**

Yuji OGINO, Toshio Sakai, Hirobumi Shibata, Kenichi Sakai, Takahiro Ohkubo, Hideki Sakai, Masahiko Abe (Tokyo U. Sci., Japan) 705

**Lattice Engineering of Perovskite-Type Oxide Thin Films and Nanostructures**

Yu WANG, X. Y. Zhou, H.L.W.Chan (Hong Kong Poly U., China) 1056

**Preparation of Oxidation Protective SiC Coatings for C/SiC Composites by**

**Pulse Chemical Vapor Deposition** Haiming WEN, Shaoming Dong, Qing Zhou, Yusheng Ding, Xiangyu Zhang, Ping He (Shanghai Inst.Ceramics, China) 1070

**Oxidation Behavior of Polymer Derived SiC Ceramics**

Yiguang WANG, Houbu Li, Litong Zhang, Laifei Cheng (Northwestern Poly U., Xi'an, China) 1042

**Low Temperature Growth Mechanism and Photoluminescence SnO<sub>2</sub> Nanowires**

Bing WANG (Zhongshan U., Guangzhou, China), Tamio Endo (Mie U., Japan), Y.H. Yang, G.W. Yang (Zhongshan U.) Thurs-Friday 1019

**Protection of Fe Plate by Organic-Inorganic Materials Via Sol-Gel Process**

Huey-Chuen KAO (Tamkang U., Tamsui) 432

**Superfine Zinc Oxide for Improved Processability and Mechanical Properties of Thermoplastics**

K.V. Aswathy, Rani JOSEPH (Cochin U. Sci Tech., India)

**Radiation Stability of Nano Oxide Particles in a 9cr ODS Alloy**

Jian GAN (Idaho N.L., ID), T. Allen (U. Wisconsin), M. K. Miller (Oak Ridge NL, TN), S. Ukai (Hokkaido U., Japan), S. Shutthanandan, S. Thevuthasan (Pacific Northwest N.L.) 247

**Preparation of Silver-Doped Tin Oxide and its Application to CO Sensing**

Kan-Sen CHOU, Meng-Syuan Li (Nat.Tsing Hua U., Hsinchu) 175

**Synthesis and Characterization of ZnO Nanorod by Solid State Reaction Method**

Rita JOHN, R. Rajakumari (Mother Teresa Women's U., India) 408

**Ion Beam Assisted Deposited Ito Thin Films on Acrylics (PMMA) Substrates**

Li-Jian MENG (U. Minho, Porto, Portugal), Erjun Liang (Zhengzhou U., China), Jinsong Gao (Changchun, China), V. Teixeira (U. Minho) 631

**Optical Properties of Silica Opal Templates in the Infrared and Visible Suppression of Crystal Imperfection Induced Phase Coexistence in Nanometer Sized Single Crystals of**

**La<sub>0.9</sub>Ca<sub>0.1</sub>MnO<sub>3</sub>** Mark AUSLENDER (Ben Gurion U., Isreal)

**Preparation of Ceramic Composite Powder Via Layer-by-Layer Method**

Hiroyuki MUTO, Kazuyuki Shimada, Yusuke Daiko (Toyohashi U.T., Japan),

- Kiyofumi Katagiri (Nagoya U., Japan), Atsunori Matsuda, Mototsugu Sakai  
(Toyohashi U.T.) 661
- Nonlinear Optical Properties of Nanocomposite Materials**  
Reji PHILIP (Raman Res Inst. Bangalore, India), B. Karthikeyan (Bangalore, India),  
R. Satheeshkumar, V. Kumar (Thrissur, India)
- Multilayered Structures of Large-Area YBCO/DybcO Films on Sapphire With Enhanced Current-Carrying Ability** Katherine DEVELOS-Bagarinao, H. Yamasaki, K. Ohki, Y. Nakagawa  
(AIST, Japan) INVITED 30 min 201
- Wide-Gap Oxide Semiconductor Alloys Calculated by Density Functional Theory**  
Akira YOSHIDA, Akihiro Wakahara, Hee-Joon Kim,(Toyohashi U. T., Japan) 1125
- Influence of BaTiO<sub>3</sub> Dielectric Layer in Distributed-Type Inorganic EL Panel**  
Toshifumi SATOH (Tokyo Polytech. U., Japan) 829
- Microstructural Analysis of Anodized Titania Nanotubes Array**  
Takeshi HASHISHIN, K. Wada, J.Tamaki (Ritsumeikan U., Shiga, Japan) 305
- Microstructure and Optical Properties of Nanostructured CeO<sub>2</sub> Thin Films on Sapphire**  
Jiacai NIE, Z.Y. Hua, Q.Y. Tu (Beijing Normal U., China) 699
- Investigation of the Anisotropic Transport Properties of CMR materials around T<sub>c</sub> by Laser Induced Thermoelectric Voltage Effect** P.X. ZHANG,, X.H. Li, S. Soltan (Max Planck Inst., Stuttgart, Germany), G.Y. Zhang, H.-U. Habermeier (KUST, Kunming, China) 1149
- Enhancement of Laser Induced Thermoelectric Voltages in (YBCO/LPMO)<sub>n</sub> Multilayer Thin Films** H. ZHANG, L.L. Xie, X.K. Zhu, S.L. Tan (KUST, Kunming, China),  
H.U. Habermeier (Max Plank Inst., Stuttgart, Germany) Pengxiang Zhang (KUST, China) 1143
- Physics of Oxide Heterostructures with Diffenerent Functionalities**  
H.-Ulrich HABERMEIER, J. Chakhalian, Ch. Bernhard, B. Keimer  
(Max Planck Inst., Stuttgart, Germany) 291
- Preparation of Adsorbent Loading Complex Metal Oxides of MnO<sub>2</sub>-MgO for Desulfurization**  
Lan-Lan YU (Daqing Petroleum Inst.,China), Kai-Zheng (Daqing, China), Li-Hong SU  
(Northwestern Polytec U., China), Hong-Wei (Daqing, China)



# TEXTILE COMPOSITES

## **Gradient Morphology of Blend Fiber**

Zhijian PAN, Meifang Zhu, Chong Jiang, Zhi Xu, Hao Yu, Yanmo Chen  
(Donghua U., Shanghai, China) 727

## **Statistical Model of the Strength of Bundles of Fibres**

Ales LINKA, Marcos Tunak, Petr Volf (TU Liberec, Czech Rep.) 562

## **Simulation of Industrial Pet Filaments Breaking**

Jiri Militky, D. Křemenáková, J. Kocourkova, Mirka MARSALKOVA  
(TU Liberec, Czech Rep.) 641

## **Stitch Bonded Fabrics for Composites Made by Using an Extended Warp Knitting Process**

Roland KLEICKE, Jan Hausding, Gerd Franzke, Chokri Cherif (TU Dresden, Germany) 454

## **Acoustic Emission on Thermal Shock Behavior of Two-Dimensional Woven Carbon Fiber**

**Reinforced Silicon Carbide Composites** Peng FANG, Laifei Cheng, Litong Zhang, Hui Mei,  
Jun Zhang, Qing Zhang (Northwestern Poly U., Xi'an, China)

## **Texture Effects of Cold-Rolled and Heat-Treated Cu Sheets**

Jung-II LEE, Seung-Hwan Park (Chungju N.U., Korea), Han-Shin Choi, Hoon Cho,  
Hyung-Ho Jo, Skae K Kim, Hyuk-Chon Kwon (KITECH, Gyenggi), Jong-Yeop Lee,  
Kun-Nam Kim, Seong-Hoon Jeong, Tae-Soon Jang (Chungbuk, Korea), No-Jin park4  
(Kumoh Nat I.T., Gyeongbuk, Korea)

## **Methods for Recognition of Woven Structure Defects**

Maros TUNAK, Alex Linka (TU Liberec, Czech Rep.) 980

## **The Impact Loading on Woven Hybrid Composite Laminates and Optimization**

Martin Ming JIN, Mel Richardson (U. Portsmouth, UK) 406

## **3D Textile Architecture for Advanced Composites**

Xiaogang CHEN (U. Manchester, UK) 156

## **Challenges and Opportunities in Development Of Cotton-Based Nonwoven Fabrics/Composites for Apparel: Some New Concepts**

Paul SAWHNEY, D.V. Parikh, B. Condon

(Southern Re. Res Center, New Orleans), K.V. Singh (Miami U., OH) chair 831

## **Lifetime Prediction of Textile Reinforced Concrete (TRC) by Using Fracture Mechanics**

Sebastian ORTLEPP, Frank Jesse (Dresden U.T., Germany) 721

## **Stitch Bonded Fabrics for Composites Made by Using an Extended Warp Knitting Process**

Gerd FRANZKE, Jan Hausding, Chokri Cherif (TU Dresden, Germany) 237

## **Elastic Properties of Woven Composites**

Pavla VOZKOVA (TU Liberec, Czech Rep.) 1011

## **Low-Velocity Impact Analysis of Mixed Woven Composites Using Self-Adapting Delamination Element Method**

Lipeng WANG, Ying Yan, Dafang Wu (Beihang U., Baijing, China)

Special poster 1030

## **Undulating Structure of a 3D Woven Fabric For Reinforcement of Flexible Composite Materials**

Elena V. CHEPELYUK, Valeriy V. Choogin (Kherson Nat. T.U., Ukraine), David Hui

(U. New Orleans), Yuri M. Strzhemechny (Texas Christian U., Ft. Worth) POSTER 162

# MISCELLANEOUS

**Computational Analysis Of Mechanical Behavior of Nanostructural Zirconia Ceramics and Composites** Igor Y. SMOLIN (Tomsk St.U., Russia) 880

**The tow-substituted -4,6-di (alkyl amino )-1,3,5-triazines Interaction with the Guanine** Saad BITAM, A. Ferhati, A. Djebaili (U. Batna, Algeria) 85

**Exciting Increase In Heat Resistance Of Epoxide Binder Modified By Nanoclay** A.P. KOROBKO, I.S. Epifanovskiy, S.V. Krashennnikov, S.V. Kashirin, I.V. Levakova, S.N. Chvalun (Moscow, Russia) 469

**Characterization of inSeTe films** Thota Subba rao, Rama Prasad (S.K. Univ., India) POSTER

**Influence of Nanoceramics on Polytetrafluoroethylene Roperties** Atalina A.OKHLOPKOVA, S.A.Sleptsova (Yakut State U., Russia) 711

**Model of Energy Dissipation Limit Coated Fiber Pull-Out.** Kirill.A. KHVOSTUNKOV, A.G.Shpenev (Lomonosov Moscow St.U.)

**Mesomechanical Analysis Of Nanocell Auxetic Porous Materials** Serge SHILKO, Dmitry Chernous (Bellarussian Acad Sci., Gomel), David Hui (U. New Orleans) 852

**Studies on Polymeric Membranes** Mohan Doraiswamy Raju, K.Kirthika, M.Velan, D.Lawrence Arockiasamy, K.H.Shobana (Anna U., Chennai., India) POSTER 788

**Damping Prediction of Assembled Engines** Lothar GAUL (U. Stuttgart, Germany) POSTER

**Evaluation of Properties in Friction Welded Near-Nanostructured AL 5083 Alloys** Mumin SAHIN, Kaan Ozel, H. Erol Akata (Trakaya U., Turkey) Special POSTER 841

**Exciting Increase in Heat Resistance of Epoxide Binder Modified by Nanoclay** A.P. KOROBKO, I.S. Epifanovskiy, S.V. Krashennnikov, S.V. Kashirin, I.V. Levakova, S.N. Chvalun (Moscow, Russia) 469

**Alteration Of Physico-Mechanical Properties Of Sealing Composite Materials Of New Generation At Influence Of Excited Environments, Characteristic For Oil-And-Gas Branch.** Yu.S. RYABETS , N.V. Sorokina,V.G. Antonov (Russia)

**Method of synthesis of Metal-Carbon Composites for Hydrogen Storage”** Dmitry SCHUR, Anatoliy Dubovoy, Svetlana Zaginaichenko, Andrey Kotko, Vyacheslav Bogolepov, Alexander Savenko, Alexey Zolotarenko (NAS, Kiev, Ukraine) 835

**Catalyst-containing Carbon Nanocomposites for Fuel Cells** Alexander ZOLOTARENKO, Anatoliy Zolotarenko, Alexey Zolotarenko, Svetlana Zaginaichenko, Dmitry Schur, Vadim Adeev, Andrey Kotko (NAS, Kiev, Ukraine) 1176

**The theory of Phase Transformations in Carbon Materials** Svetlana ZAGINAICHENKO, Zinaida Matysina, Vadim Molodkin, Dmitry Schur (NAS, Kiev, Ukraine) 1135

**Morphology Development of Nanoclay Clusters During Molding** Levent Aktas, Sudha Dharmavaram, Youssef K. Hamidi, M. Cengiz Altan (U. Oklahoma) POSTER 1185

**Development of In-Situ Composites for Lunar/Martian Missions** Ebony Hawkins, Michael Benard, Tumeia Ford, Randy Wilkins, Sofia Martinez Vilarino, Jianren Zhou (PVAMU, TX) POSTER 307

**Formation of Nanocrystalline ZrO<sub>2</sub> (Y<sub>2</sub>O<sub>3</sub>) – Al<sub>2</sub>O<sub>3</sub> Fibers, Their Structure and Properties,**

T. M. Ulyanova, N.P. Krut'ko, L.V. Titova, S.V. Medichenko (NAS, Belarus)  
**Specific Heat Capacity of a Working Liquid Of Mountain Machines In Dependence From  
Temperature, Pressure And Concentration Hydrazine**  
Sh.Z.Najmudinov<sup>1</sup> (NPIC,Tajikistan), P.Y.Poderny<sup>2</sup>(MMI,Russau), N.U. Tagoeva<sup>1</sup>  
(NPIC,Tajikistan), S.S.Bobiev<sup>1</sup>(NPIC,Tajikistan), M.M.Safarov<sup>3</sup>(TTU,Tajikistan)

# Addendum

**Nanomechanical Study of Composite Materials Based on Interaction of Concrete and Fibres** Vladimir Dolezel, Petr Prochazka (Czech T.U.) A16

**Oxygen Sensor on Nano-Crystalline Perovskite Oxide**  
**SrTi<sub>0.65</sub>Fe<sub>0.35</sub>O<sub>3</sub>** Nguyen Si Hieu, Do Thi Anh Thu, Ho Truong Giang,  
Giang Hong Thai, Nguyen Ngoc Toan (VAST, Hanoi, Vietnam) A18

**One-Dimensional Nanomaterials Synthesis, Characterization and Properties**  
Lin Guo, Fang Liang, Wei Zhou, Lin He, Chiping Chen (Beijing U. Aero Astro, China) A1

**Analytical Study of Equivalent Elastic Modulus for Finite Wide Honeycomb Core**  
Lianhua Ma, Qimeng Wang (Beijing U.T., China) A4

**Application of Peek in Stainless Steel/Carbon Fiber Reinforced Composites**  
Hua Fu Bo Liao, Bao-Chen Sun Aiping Liu Deliang Ren (Yanshan U., China) A7

**Recent Advances in the Application of Etdr Sensors for Infrastructure Monitoring**  
Ayodele O. Abatan (Miami U., OH) A9

**Study Gas Selectivity and Stability of Co/Hc Sensors on Basic Of Perovskite Oxides Abo**  
Ho Truong Giang, Giang Hong Thai, Do Thi Anh Thu, Nguyen Sy Hieu,  
Nguyen Thi Anh Minh, Phan Hong Khoi And Nguyen Ngoc Toan  
(VAST, Hanoi, Vietnam) A12

**Formation of Titanium Oxide Nanofibers by Thermal Decomposition of Organic-Inorganic Hybrids** Koji Nakane, Takashi Ogihara, Nobuo Ogata,  
Shinji Yamaguchi (U. Fukui, Japan) A14

**A Two-Order and Two-Scale Computation Model for the Damage of Composite Materials** Fang SU, Junzhi Cui (Chinese Acad Sci, Beijing) A20