

IIMM 2010

International Conference on Interfaces and Interphases in Multicomponent Materials Provisional Programme

31st August 2010
19.00 – Welcome Reception

1st September 2010

08.45 **Opening**

INTERPHASES AND INTERFACES FIBRE COMPOSITES

09.00	L T Drzal , Michigan State University, USA (Plenary)	<i>Engineering the Fibre-matrix Interphase for Mechanical Properties and Manufacturing Ability</i>
09.45	G R Lomax , Baxenden Chemicals Ltd, UK (Key note)	<i>Isocyanate Chemistry for Adhesion to Fibre Surfaces</i>
10.15	Coffee	
10.45	Surface Treatments for Adhesion	
	Pieter de Lange, P G Akker , Tejin Aramid BV, The Netherlands	<i>Adhesion activation of Twaron aramid fibers: Chemical versus Plasma Treatment</i>
	Eric T A van den Dungen, J Galineau, P C Hartmann , University of Stellenbosch, South Africa	<i>Surface modification of clay and use as stabilizer in (mini)emulsion polymerization</i>
	Jacqueline Yim, D D Pappas, D A Kissounko, J M Deitzel, J W Gillespie, G R Palmese , Drexel University, USA	<i>Influence of Functional Groups on Interfacial Adhesion in PE-Epoxy Composites</i>
	Edith Mäder Leibniz Institute of Polymer Research Dresden	<i>Novel perspectives on the functionalization of interphases by CNTs</i>
	Tim Swait, F R Jones, C Soutis, Z Liu , University of Sheffield, UK	<i>Plasma polymerization: A gas phase sizing technique for the molecular engineering of interphases and the locus of failure of fibre composites</i>
12.25	Lunch	
13.25	T Peijs QMW (Key note)	<i>Interfaces in All-cellulose and all-Aramid composites</i>
13.55	Quantification and Analysis of Interfaces in Composites	
	L Cate Brinson, S Watcharatone, Y Li, X Cheng , Northwestern University, USA	<i>Effects of Interface, Interphase and Substrate on Mechanical Properties of Polymers via Experiments and Simulations of Nanoindentation.</i>
	Tim J Young, M Monclus, W R Broughton, S L Ogin, P A Smith , National Physical Laboratory, UK	<i>Identification of Measurement Artefacts in the Characterisation of Interfaces in Micro- and Nano-composites</i>
	Ian Armstrong , Veeco Ltd, UK	<i>Peak Force Quantitative Nanomechanical Mapping – A Groundbreaking Atomic Force Microscopy Technique</i>
	R T Durai Prabhakaran, J B Ilsted, H Lilholt , Risø National laboratory, Denmark	<i>Interface characterization of coated steel fibre/polymer using pull-out test</i>
	Zheng Liu, F M Zhao, F R Jones , University of Sheffield, UK	<i>Six Image Phase Stepped Photoelasticity for the Quantification of the Stress Field around Thin Fibres.</i>
	Christian Marotzke , B A M, Berlin, USA	<i>The Interface Strength – key to physically based failure criterion for composites</i>
15.55	Tea	
16.15	Modelling of Interfacial Micromechanics	
	Stergios Goutianos, B F Sørensen , Risø National Laboratory, Denmark	<i>Measurement of Interface Cohesive Laws using Digital Image Correlation</i>
	Charles E Lord, J A Rongong, A Hodzic , University of Sheffield, UK	<i>Linearized Material Properties of Nonlinear Interfacial Contact of Layered Composites</i>
	Dimitrios P Myriounis, S T Hasan, T E Matikas , Sheffield Hallam University, UK	<i>Role of Interfacial Properties on the Mechanical Behaviour of Al/SiC_p Composites</i>
	Sergey A. Lurie, N. P. Tuckova , Royal Academy of Sciences Moscow, Russia	<i>On a continual model of adhesive interactions of solids and some applications for nanostructured materials</i>
	M Aldridge, L Sui, K Becher, C Heinrich, A Wineman, A Waas, J Kieffer , University of Michigan, Ann Arbor, USA	<i>Combined Experimental and Computational Investigation of the Interphase Region in Polymer Matrix Composites</i>
	M Devaiah, S Santhosh Kumar, T Srihari, T Rajasekharan , Defence Metallurgical Research Laboratory,	<i>SiC_p/Al₂O₃ Ceramic Matrix Composites for Wear Resistance Applications</i>
	Josserand Bassery, Jaques Renard , Mines Paris Tech	<i>Mechanical characterization of carbon fiber fabrics reinforced PPS laminates interfaces (IIMM 2010, Sheffield, UK)</i>
18.45	Poster Session and Reception	

2nd September 2010

INTERFACES IN NANO AND BIOCOMPOSITES

08.30	H D Wagner , Weizmann Institute, Israel (Plenary)	<i>The Mechanics of Small Objects: Selected Experiments from Various Landscapes</i>
09.15	Nano Sheet Composites	
	Hatsuo Ishida , Case Western Reserve University, USA	<i>Graphene-oxide reinforced polybenzoxazine nanocomposites</i>
	Tokuji Miyashita T Ikenuma, M Mitsuishi , Tohoku University, Japan	<i>SiO₂ Ultrathin Film Formation using Silsesquioxane Copolymer Nanosheet Assembly</i>
	W. S. Lyoo, H. S. Kim, T. H. Oh, Y. J. Lee, J. W. Cha, Y. S. Gal, S. S. Han Yeungnam University, Gyeonsan, Korea	<i>Role of Processing Parameters in the Preparation of High Molecular Weight Poly(vinyl carbazole) Web by Electrospinning</i>
	Robert Young, L G Gong, I A Kinlock, I Riaz, R Jalil, K S Novoselov , University of Manchester	<i>Interfacial Stress Transfer in Graphene Monolayer Nanocomposites</i>
	Chang-Sik Ha, J Ahn , Pusan National University, Korea	<i>Preparation and Characterization of Polyimide/Layered double hydroxide nanohybrids</i>
10.55	Coffee	
	Interfaces in Bio and Natural Fibre Composites	
11.15	Steve Eichhorn , University of Manchester, UK (Key note)	<i>Natural Fibre Composites Promising Materials from Renewable Sources</i>
	Asa Barber, F Hang, H S Gupta , Queen Mary University of London, UK	<i>Evaluating Nanoscale Interfacial Mechanics in Bone Material using Single Collagen Fibril Pullout Testing</i>
11.45	Franco Quero, K-Y Lee, J J Blaker, A Bismarck, S J Eichhorn , University of Manchester, UK	<i>Effect of Chemical Modification on the Stress-Transfer Properties of Bacterial Cellulose/Poly(L-lactic) Acid Nanocomposites</i>
	Julianne Holloway, A M Lowman, G R Palmese , Drexel University, USA	<i>Characterization of the Fiber-Matrix Interface in UHMWPE-PVA Hydrogel Composites for Synthetic Meniscal Replacement</i>
	Rafeedah Rusli, S J Eichhorn, S Rowan, C Weder , University of Manchester, UK	<i>Molecular Deformation of Tunicate and Cotton Whisker Polymer Nanocomposites using Raman Spectroscopy</i>
13.05	Lunch	
14.00	David Porter , University of Oxford, UK (Key note)	<i>Silkworm Cocoons as Models for Mechanical Properties of Multicomponent Materials</i>
14.30	Interfaces in Particulate Composites	
	Bela Pukánszky, K Renner, J Móczó, Gy Vörös , Budapest University of Technology and Economics, Hungary	<i>Quantitative Determination of Interfacial Adhesion in Composites with Strong Bonding</i>
	J M Garcia-Martínez, J Taranco, S Areso, E P Collar , Instituto de Ciencia y Tecnología de Polímeros, CSIC, Spain	<i>A dynamic mechanical analysis study of the interfacial changes induced from both the reinforcement and the matrix sides in polypropylene/surface modified talc composites.</i>
	Mustapha Kaci, N Kaid , Université Abderrahmane Mira, Bejaia, Algeria	<i>Influence of Ethylene-Butyl Acrylate-Glycidyl Methacrylate Terpolymer on Compatibility of Ethylene Vinyl Acetate Copolymer/Olive Husk Flour Composites</i>
15.50	Tea	
16.10	Interfaces in Multicomponent Polymers	
	John Torkelson, M M Mok, R S Sandoval, J Kim, W R Burghardt, K R Shull , Northwestern University, USA	<i>Gradient Copolymers: Novel Multicomponent Materials that are all Interphase in Bulk and Provide a new means of Tuning Interfacial Properties in Blends</i>
	Andrea Pucci, F Signori, R Bizzarri, S Bronco, G Ruggeri, F Ciardelli , University of Pisa, Italy	<i>Luminescent Biodegradable Multiphase Materials as Smart Indicators to Thermal Stress</i>
	Amy Peterson, R E Jensen, G R Palmese , Drexel University, USA	<i>Thermoreversible and Remendable Interfaces for Polymer Composites</i>
	Clint Bainbridge, C M Liaw, G C Lees, R Rothon, J Schofield, P Sunderland, D Thetford , Manchester Metropolitan University, UK	<i>A Novel Approach to Polyolefin Recycling</i>
17.15	PLUEDDEMANN AWARD LECTURE	
18.15	Reception	
18.30	Conference Dinner and Bar-B-Que	

<u>3rd September 2010</u>		
THE ROLE OF INTERFACES IN COMPOSITE MANUFACTURE		
09.00	H Hamada Kyoto Institute Technology, Japan (Plenary)	<i>Recent Interfacial problems related to composite manufacturing</i>
09.45	Jim Thomason , University of Strathclyde, Scotland (Keynote)	<i>Interfacial Strength of Fibre Reinforced Thermoplastics</i>
10.15	Coffee	
10.45	Interfaces in Functional Composites	
	Shigeji Konagaya, M Terada, L Sanada, T Yamada , Nagoya University, Japan	<i>Conductivity of Conductive Polymer Composites and Nano-particles</i>
	Nobuo Ikuta, R Matsui, T Tsukano, F Funami, Y Awakura , Shonan Institute of Technology, Japan	<i>Filling Effect of Physisorbed Silane on Magnetic Particulate Composites</i>
	Kazuaki Sanada, S Konagaya , Toyama Prefectural University, Japan	<i>Finite Element Analysis of Effective Electric Conductivity of Conducting Polymer Composites with TiO₂ Nanoparticles</i>
	Seira Morimune, M Koteru, T Nishino, K Goto, K Hata , Kobe University, Japan	<i>Structure and Properties of Poly(vinyl alcohol) Composites with Nanodiamond</i>
	N Chammandecharun, A A van Geenen, H E N Bersee , Delft University of Technology, The Netherlands	<i>Effect of ultrasonication in CNF/Anionic Polyamide 6 composite synthesis</i>
	Alma Hodzic, V Nekouie, P Bailey, C Soutis, S A Hayes, F R Jones , University of Sheffield, UK	<i>Optimisation of Thermo-electrical Properties of Carbon Fibre Reinforced Composites Modified with Carbon Nanotubes</i>
12.45	Closing Remarks	
13.00	Lunch	
	Posters to date	
	S P Reilly, J L Thomason , University of Strathclyde	<i>Effects of silane coating on the properties of glass fibre and glass fibre reinforced epoxy resin</i>
	A Bouleirrou, H Djidjelli, C Ihmouchen, S Krim, J J Martinez , Laboratoire des Matériaux, Algeria	<i>Effect of olive husk flour silanization on the mechanical, morphology and thermal properties of high-density polyethylene composites</i>
	Y Awakura, R Matsui, T Tsukano, F Funami and N Ikuta , Shonan Institute of Technology, Japan	<i>Alkyl Ammonium Silane Effect of Viscosity of Chlorinated Polyethylene Solution</i>
	W S Lyoo, J W Cha, M J Kim, Y G Lee, K Y Kwak, H G Lee, S K Noh , School of Textiles, Yeungnam University, Korea	<i>Preparation of Syndiotactic Poly(vinyl alcohol)/TiO₂ Nanocomposite Microspheres Using Suspension Copolymerization and Heterogeneous Saponification</i>
	P Carnevale, A A van Geenen, H E N Bersee , Delft University of Technology, The Netherlands	<i>Study on interfaces in carbon fibre reinforced thermoplastics</i>
	M Devaiah, S Santhosh Kumar, T Srihari, T Rajasekharan , Defence Metallurgical Research Laboratory, India	<i>Properties of SiC_p/Al₂O₃ ceramic matrix composites as a function of reinforcement content</i>
	EK Oberg, H Sprecht, J Dean, CS Dunleavy and TW Clyne , Cambridge University, UK	<i>The Effect of Interfacial Toughness on Energy Absorption during Ballistic Impact of Ceramic-Composite Bi-Layers</i>

Further information:

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