Dear Colleagues

It is a great pleasure to inform you that the 18th International Conference on Composite Materials (ICCM18) will be held from August 21st to 26th in Jeju, Korea. As one of the most highly acclaimed

meetings in the field of composite materials, it takes place biannually in different countries all over the world, with the most recent ones being held in Kyoto, Japan (2007) and Edinburgh, UK (2009). I am truly glad to host such a big event on the beautiful Island – Jeju.

This year, the organizing committee has chosen "Composite Materials: Key to the Future" as the main theme of the conference, with a focus on the latest developments and trends, as well as the future outlook of the field of composite materials.

The organizing committee is gearing up for an exciting and informative conference program including plenary lectures, symposia, workshops on a variety of topics, poster presentations and various social programs for over 1,000 participants from around the world.

I hope you will join us at the ICCM18 and have a meaningful time with all the global scholars. All members of the ICCM18 Organizing Committee look forward to meeting you in Jeju, Korea.

Sincerely,

WOO IL LEE
Chairman of ICCM18

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ABSTRACT SUBMISSION

Abstract Submission Deadline: February 19, 2011.

ICCM18 Program Committee cordially invites you to submit abstracts for oral presentation for general/organized session and poster presentations. All abstracts should be submitted online. In case of general session/poster session, all abstracts will be reviewed by the program committee or session organizers and assigned to the appropriate session for oral and poster presentations. In case of organized session, each session organizer will review the abstract and select the presenters for session.

Abstract Submission Guideline

The submission of an abstract implies your consent to publish it in the ICCM18 proceeding and that the author will participate in the ICCM18. Each registration with full payment is entitled to only one presentation. All presenting authors of accepted abstracts are expected to attend the conference and register via online registration by **May 31, 2011.** Also, all selected presenters should submit the full paper by **May 31, 2011**. If the presenting author does not register by **May 31, 2011**, the abstract may be automatically withdrawn from the final program.

Special Issues on :
- Composites Part A: Applied Science and Manufacturing
- Journal of Composite Materials

	202B	203	301	302	401	402A
11:30	**T19** **STRUCTURAL HEALTH MONITORING AND MANAGEMENT** Chairs: J Epaarachchi	**T20** **FIBRES, MATRICES AND INTERFACES** Chairs: L Ling/ HJ Jeon	**T21** **IMPACT AND DYNAMIC RESPONSE** Chairs: E Gonzalez/ HL Li	**T22** **INTELLIGENT TEXTILES AND COMPOSITES (ICIT 2011)** Chairs: TJ Kang/ V Safarova	**T23** **PROCESSING AND MANUFACTURING TECHNOLOGIES** Chairs: T Lili	**T24** **DAMAGE AND FRACTURE** Chairs: SW Jeon
	T19-1 IDENTIFICATION OF DISTROTIONS OF FBG SPECTRUM USING FIXED FBG FILTERS G Kahandawa, JA Epaarachchi, H Wang(Univ. of Southern Queensland) This paper details the research work performed to identify distortions of spectra of an embedded FBG sensors using a fixed FBG sensor. The developed method can be used to measure FBG spectra in time domain and to transfer directly to a post processing algorithms.	**T20-1 PREPARATION AND CHARACTERIZATION OF CARBON NANOTUBE/CARBON FIBER MULTI-SCALE REINFORCEMENT** C Wang, XD He, YB Li, QY Peng, L Mei, RG Wang(Harbin Inst. of Technology), LY Tong(The Univ. of Sydney) In this study, a chemical preparation method was introduced to graft the carbon nanotubes onto the carbon fibers, and then the interfacial enhancing mechanisms between carbon fiber and matrix were discussed. Lastly, a simple pullout model of this multi-scale reinforcement from matrix based on the discussed mechanisms was presented to...	**T21-1 DAMPING CAPACITY OF FLY ASH-BASED GEOPOLYMER** Z Pan, K Gong, KN Feng, WH Duan, F Collins(Monash Univ.), JG Sanjayan(Swinburne Univ. of Technology) The feasibility of geopolymer in the manufacturing of concrete railway sleepers was investigated with respects to its vibration damping. Geopolymer showed a damping capacity comparable to Portland cement counterpart. The damping mechanisms are further discussed based on the thermogravimetric analysis and mercury intrusion porosimetry results.	**T22-1 ANALYSIS OF THE MECHANICAL BEHAVIOUR OF MAGNETO SHAPE MEMORY POLYMERS UNDER MAGNETIC FIELD** HD Park, WR Yu, CH Ahn(Seoul National Univ.), P Harrison(Univ. of Glasgow), ZY Guo(Newcastle Univ.) This study was aimed to model the mechanical behavior of a new SMPU composite (magneto SMPU, ma-SMPU), which were prepared by introducing aligned carbonyl iron particles (CIP) under magnetic field. With ma-SMPU, thermomechanical cyclic test and creep test under magnetic field were simulated and the results were analysed.	**T23-1 A 1D COUPLED CURING AND VISCO-MECHANICAL VOID GROWTH MODEL OF THICK THERMOSETTING COMPOSITE LAMINATES** MW Nielsen, JH Hattel, TL Andersen, K Branner, PH Nielsen(Technical Univ. of Denmark) It is generally known that voids have a detrimental effect on the strength and fatigue life of composite laminate structures. A 1D coupled curing and visco-mechanical void growth model for thick thermosetting composite laminates is presented in a finite volume formulation.	**T24-1 FIBER COMPRESSIVE FAILURE CRITERION AS SHEAR BAND MODE BIFURCATION CONDITION** T Nadabe, N Takeda(The Univ. of Tokyo) This study investigates fiber compressive failure criterion as shear band mode bifurcation condition. From the shear band mode bifurcation condition, the characteristics of compressive strength are well reproduced. The present failure criterion is implemented in progressive failure analysis and bearing failure in CFRP bolted joints is analyzed.
11:50	**T19-2 TEST OF SINGLE REFLECTIVE GRATING BASED FIBER OPTIC SENSOR DESIGN FOR MEASUREMENT OF TILT ANGLE** YG Lee, BW Jang, YY Kim, DH Kim, CG Kim(KAIST) This paper describes the prototype design of the fiber optic tiltmeter which is developed to obtain a stable reflected signal when the tilt angle dependent sine function load is applied. Variations of the reflected signals from tilt angle of 0 to -90 was continuously measured and recorded.	**T20-2 MECHANICAL PROPERTIES AND STRAIN INDUCED CRYSTALLIZATION OF NBR COMPOSITES WITH DIFFERENT SURFACE TREATMENTS AND CONTENT OF CARBON NANO-TUBE** JH Sung, SR Ryu, DJ Lee(Yeungnam Univ.) The mechanical properties and strain induced crystallization (SIC) of elastomeric composites are investigated as functions of CNT content, atmospheric-pressure flame plasma (APFP) treatment, acid treatment, and refluxing time. It is found that mechanical properties have a linear relationship with the SIC depending on the CNT content and treatment.	**T21-2 EFFECTS OF PLY CLUSTERING IN LAMINATED COMPOSITE PLATES UNDER LOW-VELOCITY IMPACT LOADING** EV Gonzalez, P Maimi, A Turon, J Costa(Univ. of Girona), PP Camanho(Univ. of Porto) This work presents a complete study of the effects of ply clustering on monolithic, flat and rectangular polymer-based laminated composite plates with conventional stacking sequences, subjected to a drop-weight impact loading.	**T22-2 FABRICATION AND PERFORMANCE OF HYPERBRANCHED SHAPE MEMORY POLYMER COMPOSITES RESPONSIVE TO DIFFERENT STIMULI** JW Cho, SK Yadav(Konkuk Univ.) This paper investigates shape memory performance of carbon nanotube composites with the hyperbranched polymers which can be responsive to different stimulus of temperature, electric field and water. Various fabrication methods are also discussed for conventional, functionalized carbon nanotubes, and in-situ polymerized composites.	**T23-2 THE EFFECT OF PROCESSING PARAMETERS ON STRUCTURAL PROPERTY FOR FILAMENT-WOUND COMPOSITE PRESSURE VESSELS** T Lili, W Zhenqing(Harbin Engineering Univ.), Z Limin(Hongkong Polytechnic Univ.) Two methods for calculating mandrel revolutionary angle, plane-hypothesis method and geodesic path, are discussed. fiber path according to semi-geodesic path is more stable than the path according to plane-hypothesis method. With the increase of open hole diameter, the fiber path calculated by plane-hypothesis method is far from the geodesic trajectories.	**T24-2 CYCLIC CRACK PROPAGATION AND -ARREST IN A UNIDIRECTIONAL POLYMER MATRIX COMPOSITE EXHIBITING LARGE SCALE BRIDGING** S Wahlgren(Risø DTU/LM Wind Power), B Sørensen(Risø DTU), C Lundsgaard-larsen(LM Wind Power) A novel test configuration for characterization of cyclic crack propagation in composite DCB specimens has been proposed. The configuration allows for steady state crack growth in fracture mode I and II and any mixity in between. Crack development hypotheses as well as supporting sample results of tests are presented.
12:10	**T19-3 INTEGRATION OF HEALTH MONITORING SYSTEM FOR COMPOSITE ROTORS** P Kostka, K Holeczek, A Filippatos, W Hufenbach(Technische Universitaet Dresden) A concept of a combined material-integrated structural health monitoring and active vibration damping system is proposed. Using a common set of integrated sensor and actuator components, the system allows the control of the structural dynamic behavior under relevant operating conditions as well as a detection of a progressing damage.	**T20-3 PREPARING CONTINUOUS SIBN CERAMIC FIBER FROM PRECURSOR POLYMER OF N-METHYL-POLYBOROSILAZANES** YQ Peng, KQ Han, MH Yu(Donghua Univ.) SiBN fiber is a new type of ceramic fibers, and expected to possess such comprehensive performances with high mechanical properties, good dielectric behaviors, and excellent thermal resistance. Therefore it is considered as the best candidate for reinforcement in high-temperature, radar-wave-transparent ceramic composites. we have developed a new route to prepare...	**T21-3 SCATTERING OF ANTI-PLANE SH-WAVE BY MULTIPLE CYLINDRICAL CAVITIES AND A LINEAR CRACK** HL Li(Harbin engineering Univ.) In this paper, the method of Green's function is used to investigate the problem of dynamic stress concentration of multiple cylindrical cavities and a linear crack. Multi-polar coordinate system is used too. An example is studied to show the effect of crack on the dynamic stress concentration around cylindrical cavities.		**T23-3 MANUFACTURING TECHNOLOGY OF CERAMIC MATRIX COMPOSITES USING UNDERWATER SHOCK COMPACTION** YK Kim(Kumamoto Univ.), YW Lee(Pukyong National Univ.) As a fabricaton method for ceramics, we introduce an underwater shock compaction technique using a high performance explosive. This technique uses an underwater shock wave generated by detonation of the explosive with a peak shock pressure of about 6 GPa. The underwater shock compaction is very effective to obtain denser...	
		T20-4 NON-ISOTHERMAL CURING KINETIC BENZOXAZINE/ HYDANTOIN EPOXY RESIN SYSTEM L Ling, J Chen(North Univ. of China) Non-isothermal DSC was examined to follow the benzoxazin/ hydantoin epoxy resin curing reaction. A two-paramenter (m, n) autocatalytic model was found by Malke to describe the cure kinetic of the benzoxazin/ hydantoin epoxy resin. No-isothermal DSC curve obtained using the experimental data show agreement with calculated curve of autocatalytic model.				
12:30	**Lunch**					
13:30						
14:00	**Break**					