Final Program

ACCM-6
Official Program

23(Tue)-26(Fri), September 2008
Kumamoto, Kyushu, Japan

CREATION WITH COMPOSITES

The Sixth Asian-Australasian Conference on Composite Materials

The Asian-Australasian Association for Composite Materials (AACM)
The Committee on Composite Materials, the Society of Materials Science, Japan (JSMS)

Welcome to ACCM-6

On behalf of the 6th Asian-Australasian Conference on Composite Materials (ACCM-6) Organizing Committee, I would like to express my heartfelt welcome to all participants for ACCM-6, 23rd-26th September 2008 in Kumamoto Japan.

The Asian-Australasian Association for Composite Materials (AACM) was founded in 1997, as a non-governmental, non-profit scientific and engineering organization, to encourage the frank exchange of information on composite materials which are of interest to the scientific and engineering communities. Thereafter, it has made a great stride toward the provision of an Asian-Australasian-wide discussion forum as evidenced by the successful conferences. The 1st Asian-Australasian Conference on Composite Materials (ACCM-1) held in October 1998 at Osaka was hosted by the Committee on Composite Materials of the Society of Materials Science, Japan (JSMS). Then, ACCM conferences were held with unprecedented successes in Kyongju-Korea (August 2000), Auckland-New Zealand (July 2002), Sydney- Australia (July 2004) and Hong Kong (November 2006). After these brilliant successes for one decade since ACCM-1, the Committee on Composite Materials of JSMS has a distinct honor to host again the ACCM-6 at Kumamoto, Japan.

The ACCM has been aimed at providing a forum for the latest research results, insightful discussions and sharing of ideas on technologies that concern all aspects of composite materials and structures. The concept of composites has spread out into many fields. Therefore, the scope for papers at this conference covers aspects of these new fields along with those of the more established fields of composite materials and structures. The presentations of distinguished 134 papers are arranged to encourage friendly discussions in oral or poster forms. I am eager for all participants to get a lot of benefit by attending the ACCM-6, and attending this conference will become their unforgettable pleasant memories.

Yoshihiro Sawada
Chair of the ACCM-6

The 6th Asian-Australasian Conference Composite Materials (ACCM-6)

September 23-26, 2008
Kumamoto University and Hotel Greenpia Minami-Aso
(Kumamoto, Japan)

Invited Presentation;

"CFRP Materials and Processing Designs for Automobile－Automobile Lightweight Structural Elements of CFRP Composites (ALSTECC) Program in Japan－" by Akihiko KITANO and Eisuke WADAHARA

Keynotes;

1. "Fire Retardancy of Polymer Nanocomposites" by A. DASARI, Z.-Z. YU and Y.-W. MAI
2. "Ultrasonic Dispersion of Inorganic Nanoparticles in Epoxy Resin and Mechanical Properties of the Resulting Nanocomposites" by B. BITTMANN, F. HAUPERT and A. K. SCHLARB
3. "Structural Health Monitoring of CFRP Sandwich Structures by Optical Fiber Based Distributed Strain Measurement" by N. TAKEDA and S. MINAGUCHI

Sessions of Oral Presentation:

A: Processing & Fabrication
B: Nanocomposites
C: Interface
D: Environment
E: Fracture & Fatigue
F: CMC & C/C Composites
G: Natural Fibers & Biobased Composites
H: Impact
I: Design & Optimization
J: Vibration & Damping
K: Smart Materials & Structures, NDI
L: Micromechanics & Analytical Approach
M: Characterization

Date		Room-1	Room-2	Room-3
24(Wed.)	AM	A (8:55~)	E (8:55~)	I(8:55~)
	PM	B (14:00~)	E (14:00~)	I (14:00~)
25(Thu.)	AM	B (8:45~)	F (8:54~)	J (8:45~)
		Poster Presentation, (Discussion at Entrance hall/Lounge space)		
	PM	B (13:30~), C (17:10~)	G (13:30~)	K (13:30~), L (15:20~)
26(Fri.)	AM	D (8:45~10:00)	H,	M,
		Conference Tour		
	Evening	Invited Presentation & Banquet (at Hotel Greenpia Minami-Aso)		

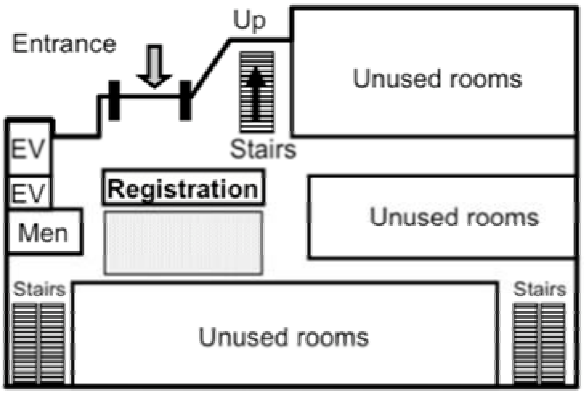
Banquet;

Date: September 26, 2008
Fee: (Japanese Yen)

General Participant	Student Participant	Accompanying person(s)
(included in Registration Fee)	¥10,000	¥12,000 (including Conference Tour Fee)

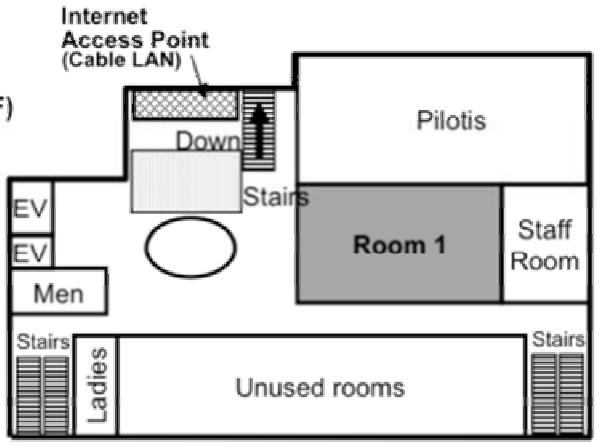
Floor Map of ACCM6

1F (First Floor)



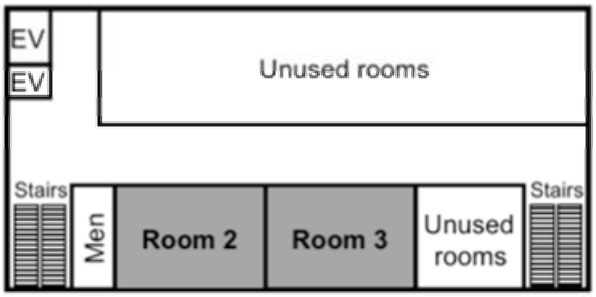
; **Poster presentation (Entrance hall, 1F, Lounge space, 2F)**

2F (Second Floor)

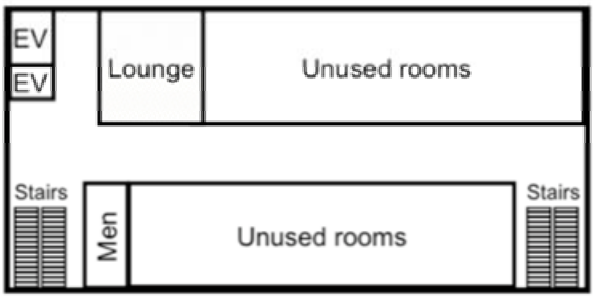


Oral presentation: Room 1 ~ Room 3 (2F, 3F)

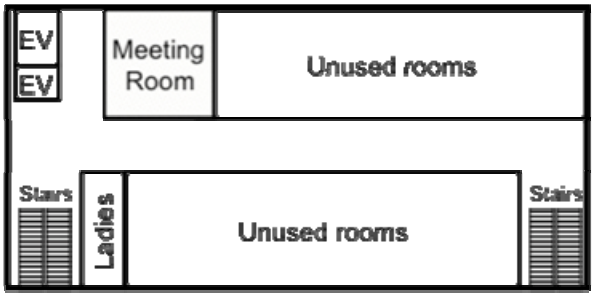
3F (Third Floor)



4F (Fourth Floor)



5F (Fifth Floor)



ACCM6:
The Sixth Asia-Australasian Conference on Composite Materials –
23(Tue.) -26(Fri.) September, 2008
Kumamoto University, Kumamoto, Kyushu, Japan

Program

September 24, 2008
Wednesday Morning

8:30-, Room-1

Opening Address:

- Prof. Yoshihiro SAWADA
  (ACCM-6 Chair General)
- Prof. Lin YE
  (AACM President)

Welcome Address:

- Prof. Tatsuro SAKIMOTO
  (President of Kumamoto Univ.)
- Prof. Isao TANIGUCHI
  (Dean of Faculty of Eng., Kumamoto Univ.)

Time	Room-1	
8:30	**Opening Address**	
	S1-1: Processing & Fabrication 1 **Chairs:** Woo Il LEE, Teruo KIMURA	
8:55		
9:20	o-019 P.17	Three Dimensional Microstructural Characterization of Fly Ash/Al Foam Composite by X-Ray Microtomography Qiang ZHANG, Peter D. LEE , Randhir SINGH and Gaohui WU
9:55	o-062 P.21	Mechanism of Filtration Phenomenon of the Particle-suspended Solution during Liquid Composite Molding Sang Hyuk YEOM, Sihwan KIM, Jong Kyoo PARK, Joung Man PARK and Woo Il Lee
10:10	o-116 P.25	Mechanical Properties of CFRTP/AFRTP Hybrid Composites Molded by Induction Heating System Kazuto TANAKA, Toshiki UEMURA, Norio KOHASHI and Tsutao KATAYAMA
10:35	**Short Break**	
	S1-2: Processing & Fabrication 2 **Chairs:** Woo Il LEE, Teruo KIMURA	
10:45	o-013 P.29	Preparation, Characterization, Flame Retardance and Properties of Novel Halogen-free Expandable Graphite /PMMA Composites containing Silica by Sol-Gel Method Chen-Feng KUAN, Wei-Hsin YEN, Chia-Hsun CHEN, Siu-Ming YUEN, Hsu-Chiang KUAN, Yao-Hsing HUANG and Chin-Lung CHIANG
11:10	o-110 P.33	Injection Molding of FRTP Using Recycled Glass Fiber Naoki AOYAMA, Haruhiro INO, Teruo KIMURA and Hitoshi SAITO
11:35	o-034 P.37	Researches on CEm matrix and its heat resistance properties of filament winding composite Hui CHEN and Li-xia JIA
12:00	o-132 P.40	Advantages of SiC/SiC Composites Fabrication via Micro-Porous Structure Kazuaki NISHIYABU, SatoSru MATSUZAKI and Masaki KOTANI
12:25 -13:25	**Lunch**	

2008/9/24
Wednesday Morning

Time	Room-2		Room-3	
8:30				
	S2-1: Fracture and Fatigue 1 **Chairs:** Masamichi KAWAI, Hiroshi SUEMASU		**S3-1: Design and Optimization 1** **Chairs:** Akira TODOROKI, Yoshihiro NARITA	
8:55	o-033 P.143	Automated Welding of Complex Composite Structures Lars MOSER, Peter MITSCHANG and Alois K. SCHLARB	o-066 P.275	Structural Design and Analysis of 1kW Class Domestic Wind Turbine Blade with Skin-Spar-Foam Sandwich Composite Structure Changduk KONG, Hyunbum PARK, Suhyun CHOI and Sanghooon KIM
9:20	o-010 P.147	Effects of Spew Fillets on Strength of Reinforced Aluminum Structures Combined with CFRP Bonded Adhesively Koun TAKAHASHI, Hideo MORITA, Fumiki TOMIOKA, Shintaro KITADE and Chiaki SATO	o-096 P.278	FEM analysis for composite cylindrical pressure vessels Toshiki KANAI, Eui Sup SHIN, Katsuhiko SASAKI and Yoshihiro NARITA
9:55	o-121 P.153	A Spectrum Fatigue Life Prediction Method Based on the Nonlinear Constant Fatigue Life Diagram for CFRP Laminates Masamichi KAWAI, Toru SHIRATSUCHI and Kyoung Mo YANG	o-114 P.282	Optimum Design of CFRP Tubes for Front Side Members of Automobiles Hyoung-Soo KIM, Goichi BEN and Yoshio AOKI
10:10	o-081 P.157	Mechanical behavior of UV irradiated glass fiber reinforced composite material Keisuke HAYABUSA, Dai KUDO, Toshihiro OHTANI, Masaki Omiya, Hirotsugu INOUE and Kikuo KISHIMOTO	o-004 P.286	Optimization of Rocket Interstage Composite Structure Using Kriging and MOGA Method Akira TODOROKI and Masato SEKISHIRO
10:35	**Short Break**		**Short Break**	
	S2-2: Fracture and Fatigue 2 **Chairs:** Masamichi KAWAI, Hiroshi SUEMASU		**S3-2: Design and Optimization 2** **Chairs:** Akira TODOROKI, Yoshihiro NARITA	
10:45	o-085 P.160	Creep Analysis of Plain-Woven GFRP Laminates Based onHomogenization Theory-Effects of Laminate Configuration on Creep Behavior Tetsuya MATSUDA, Keisuke NAKATA and Masamichi KAWAI	o-038 P.293	A New Stqacking Sequence Optimization Method of CFRP Laminate to Maximize Fracture Load Akira TODOROKI, Takashi SHINODA and Ryosuke MATSUZAKI
11:10	o-029 P.164	An SCG Based Probabilistic Model for Transverse Cracking in CFRP Cross-Ply Laminates under Creep Loading Keiji OGI, Shigeki YASHIRO and Shinji OGIHARA	o-040 P.297	Time-dependent Out-of-Plane Deformation of Symmetric Laminate Including Small Fiber Misaligned Yoshihiko ARAO, Jun KOYANAGI, Hiroshi TERADA and Hiroyuki KAWADA
11:35	o-101 P.168	Low-Velocity Impact and Fatigue Response of Ti/GFRP Laminates Hayato NAKATANI, Tatsuro KOSAKA, Jun OKI, Katsuhiko OSAKA, Yoshihiro SAWADA and Tomonaga OKABE	o-059 P.300	Mechanical and ageing properties of hybrid carbon black filled natural rubber composites for engine mount application Azura A. RASHID and Siti Rohana YAHYA
12:00			o-068 P.304	A Study on Mechanical Behavior of Bone and Acetabular Cup in Artificial Hip Joint Using FRP Koji YASUI, Masaru ZAKO, Tetsusei KURASHIKI, Hideki YOSHIKAWA, Nobuhiko SUGANO and Shun-ichi BANDOH
12:25 -13:25	**Lunch**		**Lunch**	

2008/9/24
Wednesday Afternoon

13:25-13:50, (Room-1)
Keynote 1:
"Fire Retardancy of Polymer Nanocomposites" by A. DASARI, Z.-Z. YU and Y.-W. MAI

Polymer/clay nanocomposites, despite their considerable flame retardancy performance (delayed burning and reduced heat release and mass loss rates), are unable to satisfy the requirements of existing fire safety standards. Here, we briefly discuss our current and recent research efforts to understand the reasons underlying this problem and develop eco-friendly and superior flame retardant polymer nanocomposites.

Key words: *Polymer nanocomposites, Clay, Flame retardancy, Thermal stability, POSS, Graphite oxide*

Time	Room-1		
13:25 ~13:50	**Keynote 1** **Chair:** Tsutao KATAYAMA		
13:50	**Short break**		
14:00 ~15:40	**S1-3: Nanocomposites 1** **Chairs:** Lin YE, Ming-Chuen YIP		
14:00	o-102 P.45	Investigating the Load Transfer Efficiency in the Carbon Nanotubes Reinforced Nanocomposites Ting-Chu LU and Jia-Lin TSAI
14:25	o-124 P.49	Ultrasonic vibration of fluid-conveying double-walled carbon nanotubes Toshiaki NATSUKI and Qing-Qing NI
14:50	o-125 P.52	Preparation and Characterization of Amino Functionalized Graphite Nanoplatelet Yan GENG, Shu-Jun WANG, Jing LI and Jang-Kyo KIM
15:15	o-021 P.56	Shielding Effectiveness of Electromagnetic Interference of MWCNT/PMMA Composites Chen-Chi M. MA, Siu-Ming YUAN, Chia-Yi CHUNG, Kuo-Chi YU, Yi-Hsiuan YU and Ming-Hsiung WEI
15:40	**Short Break**		
15:50 ~17:30	**S1-4: Nanocomposites 2** **Chairs:** Chen-Chi M. MA, Jia-Lin TSAI		
15:50	o-035 P.60	Numerical Simulations of Strength of VGCF/Aluminum Composite Materials Kohei FUKUCHI, Yoshinori KIN, Katsuhiko SASAKI, Terumitsu IMANISHI, Kazuaki KATAGIRI, Atsushi KAKITSUJI and Yoshihiro NARITA
16:15	o-065 P.64	Multifunctional effects by nanostructured interphases Edith MÄDER, Shang-Lin GAO, Julius RAUSCH, Christina SCHEFFLER and Rosemarie PLONKA
16:40	o-057 P.68	Preparation and Characterization of Carbon nanotubes / Epoxy Resin Nano-Prepreg for Nanocomposites Yi-Luen LI, Wei-Jen CHEN, Kuo-Shu WANG and Ming-Chuen YIP
17:05	o-053 P.72	Mechanical and electrical properties of carbon nanofillers reinforced polydimethylsiloxane Norkhairunnisa MAZLAN, Azizan A, Mariatti M and L..C. Sim
17:30		

2008/9/24
Wednesday Afternoon

Time	Room-2	Room-3
13:25	----------	----------
13:50		
	S2-3: Fracture and Fatigue 3 **Chairs:** Xiaowen YUAN, Keiichiro TOHGO	**S3-3: Design and Optimization 3** **Chairs:** Tetsusei KURASHIKI
14:00	o-129 Numerical Study on Debonding between Liner and FW Layer of Composite Pressure Vessel P.172 Takayuki WARA and Hiroshi SUEMASU	o-120 Post-buckling Design Analysis of J and Hat stiffened Composite Panels P.307 Faruk ELALDI
14:25		o-030 Out-of-plane Compressive Buckling Strengths of Regular Hexagonal Honeycombs with Plateau Borders P.311 Mei-Yi YANG and Jong-Shin HUANG
14:50	o-115 Experimental Characterization of Mode I Fracture Behavior of Zanchor Reinforced CF/Epoxy Composites P.176 Takayuki KUSAKA, Masaki HOJO, Keiko WATANABE, Toshiyasu FUKUOKA and Masayasu ISHIBASHI	o-064 Buckling Analysis of Composite Rectangular Plates Reinforced by Curvilinear Fibers P.315 Yoshimasa OONISHI, Shinya HONDA, Yoshihiro NARITA and Katsuhiko SASAKI
15:15	o-028 In-plane and Out-of-plane Fracture Toughness of Paper-Based Friction Material P.180 Yoshinobu SHIMAMURA, Takuya WADA, Keiichiro TOHGO, Hiroyasu ARAKI Shinobu SASAKI, Hiroki HARA and Kazuyuki OKUI	o-095 Optimum Lay-ups for Buckling of Cylindrically Curved Laminated Panels P.319 Ryohei SASAKI, Eui Sup SHIN, Katsuhiko SASAKI and Yoshihiro NARITA
15:40	**Short Break**	**Short Break**
	S2-4: Fracture and Fatigue 4 **Chairs:** Xiaowen YUAN, Keiichiro TOHGO	**S3-4: Design and Optimization 4** **Chairs:** Kenichi TAKEMURA, Tetsusei KURASHIKI
15:50	o-079 Experimental and Analytical Study on Effect of Crack Arrester under Mode II Fatigue Crack Growth in Foam Core Sandwich Panel P.184 Hirokazu MATSUDA, Yasuo HIROSE, Go MATSUBARA and Masaki HOJO	o-122 Off-Axis Notch Sensitivity Modeling of Unidirectional Carbon/Epoxy Composites P.323 Masamichi KAWAI
16:15	o-077 Failure Damage Evolution of a Mechanical Joint of Carbon Fiber Metal Laminates under the Bearing Failure Mode P.188 Terutake MATSUBARA, Yoshihiro TAKAO and Wen-Xue WANG	o-071 Study on Numerical Modeling System for Non Crimp Fabric Composites P.327 Kenta HAMADA, Tetsusei KURASHIKI, Shintaro HONDA and Masau ZAKO
16:40	o-076 Process Analysis of Adhesive Bonding for Composite Pi-Joints P.192 Patryk BURKA, Xiaolin LIU, John SHERIDAN and Mark THOMPSON	o-070 Damage development of Non-Crimp Fabric GFRP laminate under tensile loading P.330 Shintaro HONDA, Tetsusei KURASHIKI, Kenta HAMADA and Masaru ZAKO
17:05	o-107 Effects of Plasma Treatment on Tensile Strength and Interfacial Bonding of Composites comprising NZ Flax Fibres P.197 Xiaowen YUAN, Krishnan JAYARAMAN and Anne-Lise SERRA	o-027 Numerical Simulation Advanced Grid Stiffened Plate during Soft-mould Aided Co-curing Process P.334 Ren MINGFA, Huang QIZHONG and Chen HAORAN
17:30		

2008/9/25
Thursday Morning

10:35-11:30,
(Room-1 & Room-2)
Short presentations for All of posters
(3 min speech for each presentation on platform)

11:30-12:30,
(Entrance hall & Lounge space)
Poster discussion at billboard and lunch

Time	Room-1	
8:45 **~10:25**	**S1-3: Nanocomposites 3** **Chair(s):** Edith MÄDER	
8:45	o-044	Effect of CNT Addition on Thermal Conductivity of VGCF/Aluminum Composite Materials
	P.76	Terumitsu IMANISHI, Katsuhiko SASAKI, Kazuaki KATAGIRI and Atsushi KAKITSUJI
9:10	o-104	Characterizing the Elastic Properties of Carbon Nanotubes/Polyimide Nanocomposites
	P.80	Shi-Hua TZENG, Jia-Lin TSAI and Yu-Tsung CHIU
9:35	o-105	Effect of Carbon Nanotube on Graphitization during Pyrolysis of CNT/Polyaniline Nanocomposite
	P.84	Dong H. NAM, Seung I. CHA, Kyong H. LEE, Chan B. MO, Yong J. JEONG and Soon H. HONG
10:00	o-111	Mechanical Performance of Halloysite-Epoxy Nanocomposites
	P.87	Jianing ZHANG, Shiqiang DENG, Lin YE and Jingshen WU
10:25	Short Break	
10:35 -11:30	**Poster Presentation**	
11:30 -12:30	**Poster discussion at billboard and lunch**	

Poster (Short presentation-1)

Time	Room-1		Room-2	
10:35	p-001	The Effect of Residual Stress on the Interface Failure of Titanium Matrix Composites during the Push-Out Test	p-002	The Effects of Temperature, Strain-rates and Loading Histories on the Inelastic Stress-Strain Behavior of a Biodegradable Nanocomposite Polymer nPLA and Numerical Simulations
	P.411	Mei-Ni YUAN and Yan-Qing YANG	P.415	Tetsuyuki HIROE, Kazuhito FUJIWARA, Hidehiro HATA and Akira YAMASHITA
10:38	p-005	One-Step Synthesizing Functionalized Multi-walled Carbon Nanotubes by Free-Radical Modification and the Application for Fuel Cells	p-004	Thermal Stability, and Morphology of Polyhedral Oligomeric Silsesquioxane Epoxy Nanocomposite
	P.423	Shu-Hang LIAO, Chuan-Yu YEN, Chih-Hung HUNG, Cheng-Chih WENG, Ming-Chi TSAI, Chen-Chi M. MA and Shuo-Jen LEE	P.419	Yie-Chan CHIU, Linawati RIANG, Wei-Chuan TSENG, I-Chen CHOU and Chen-Chi M. MA
10:41	p-007	Enhanced thermal stability of nonlinear optical property in hybrid films containing two-dim ensional chromophore	p-008	Mechanical and Physical Properties of Polydimethylsiloxane/Multi-walled Carbon Nanotube Nanocomposites
	P.431	Po-Hsun CHANG, Yu-Ren CHEN, Hsieh-Chih TSAI, Jian-Yu CHEN and Ging-Ho HSIUE	P.435	Chung-Lin WU, Hsueh-Chu LIN, Ming-Chuen YIP and Weileun FANG
10:44	p-009	SEM Observation of C/C Composites After Bending Test at a High Temperature	p-010	A Study on Numerical Simulation of Crashworthiness and Rollover Characteristics of Low-Floor Bus made of Sandwich Composites
	P.439	Norio IWASHITA	P.443	Hee-Young KO, Kwang-Bok SHIN and Se-Hyun CHO

2008/9/25
Thursday Morning(1)

Time	Room-2		Room-3	
8:45	**S2-5: CMC and C/C Composites**		**S3-5: Vibration and Damping**	
~10:25	**Chair(s):** Norio IWASHITA		**Chairs:** Changduk KONG, Yoshinobu SHIMAMURA	
8:45	o-032	Mechanical and Electrical Properties of Phenolic Resin/Molybdenum Hexacarbonyl Carbon/Carbon Composite for Fuel Cell Bipolar Plate	o-063	Vibration and Design of Porous Rectangular Composite Plates
	P.201	Sheng-Hsiu TSENG, Wei-Jen CHEN, Yi-Luen LI and Ming-Chuen YIP	P.339	Yuhei YAMAGUCHI, Eui Sup SHIN, Yoshihiro NARITA and Katsuhiko SASAKI
9:10	o-015	Development of Titanium/Zirconia Composite by Spark Plasma Sintering (SPS) Method for Artificial Hip Joint	o-103	Modeling Flexural Damping Responses of Composite Laminates
	P.205	Hiroshi KOTANI, Tomoyuki SAITO, Shoichi KIKUCHI, Jun KOMOTORI, Tetsuya NARUSE, Kazutoshi KATAHIRA and Hitoshi OHMORI	P.343	Nai-Ren CHANG and Jia-Lin TSAI
9:35	o-133	Fabrication of Mg-SiC Composites by Shock Consolidation	o-008	Vibration Analysis of Laminated Composite Plates Reinforced by Arbitrarily Shaped Curvilinear Fibers
	P.209	Palavesamuthu MANIKANDAN, Akihisa MORI, Krishnamurthy RAGHUKANDAN and Kazuyuki HOKAMOTO	P.347	Shinya HONDA, Yoshimasa OONISHI, Yoshihiro NARITA and Katsuhiko SASAKI
10:00	o-099	Deformation behavior of Zr-based bulk metallic glass matrix composites in compression	o-067	Study on Forced Vibration Behaviors of Composite Main Wing Structure of a Small Scale WIG Craft
	P.213	Junpei KOBATA, Yorinobu TAKIGAWA, Toshiji MUKAI, Tokuteru UESUGI, Hiroshi TSUDA, Hisamichi KIMURA and Kenji HIGASHI	P.351	Changduk KONG, Jaehuy YOON and Hyunbum PARK
10:25	**Short Break**		**Short Break**	
10:35 -11:30	**Poster Presentation**		**Poster Presentation**	
11:30 -12:30	**Poster discussion at billboard and lunch**		**Poster discussion at billboard and lunch**	

Poster (Short presentation-2)

Time	Room-1		Room-2	
10:47	p-011	Nano-porous Carbon/Silica Composite Made from Natural Rice Husk	p-012	Fabrication of Dense and High-strength Carbon/Silica Composite from Natural Rice Husk by Means of Binderless Hot-pressing
	P.447	Seiji KUMAGAI, Hirotaka ISHIZAWA, Junya SASAKI, Koichi TAKEDA and Yasuhiro TOIDA	P.451	Junya SASAKI, Seiji KUMAGAI, Hirotaka ISHIZAWA and Koichi TAKEDA
10:50	p-013	Effect of Water Absorption on Mechanical Properties of Hemp Fiber Reinforced Composite	p-018	Thermomechanical Contact Analyses of Composite Laminates Based on Domain/Boundary Decomposition Method
	P.455	Kenichi TAKEMURA, Yuichiro MINEKAGE and Hideaki KATOUGI	P.466	Sung Jun KIM, Yoshihiro NARITA and Eui Sup SHIN
10:53	p-015	Strength Properties of Unidirectional Composite Material Reinforced by Manila Hemp Fiber	p-020	A Model for Predicating the Interfacial Bond Strength of Integral CuW/CuCr Materials
	P.459	Koujirou ITOTANI and Hitoshi TAKAGI	P.474	Xiao-hong YANG, Wen ZHU, Zhi-kang FAN, Shu-hua LIANG and Peng XIAO
10:56	p-017	Non-Contact Nondestructive Evaluation of Stud Welding - Key Technology Fixing Parts on Base in Light Metals -	p-022	Effect of Powder Characteristics on the Diffusion of Oxygen during Preparation of Cu/Al_2O_3 Composite
	P.462	Hirohide KAIDA, Keiichi ITOHIRA, Kazuya MORI and Ippei TORIGOE	P.478	Shu-hua LIANG, Xian-hui WANG, Peng XIAO and Zhi-kang FAN

Poster (Short presentation-3)

Time	Room 1		Room 2	
10:59	p-019 P.470	Effects of substrate materials on fatigue crack propagation rate of adhesively bonded DCB joints Kiyoshi ISHII, Makoto IMANAKA and Hideaki NAKAYAMA	p-024 P.486	Measuring Tensile Strength of Nanofibers Kenny Yoonki HWANG, Byoung-Sun LEE and Woong-Ryeol YU
11:02	p-023 P.482	Strengthening and stiffening of ramie single fibers Masahiro ITO, Takafumi DOI, Koichi GODA, Junji NODA and Junji OHGI	p-026 P.493	Cyclic Behaviors of SiC/SiC Composites under Fatigue Loading Yuji TORII, Kei NAGAHIRO, Junji OHGI, Michiyuki SUZUKI, Koichi GODA and Junji NODA
11:05	p-025 P.490	Carbon Nanotube Polymer Composite for Fiber-based Organic Photovoltaics Seung-Yeol JEON and Woong-Ryeol YU	p-032 P.502	Vacuum Breakdown Behavior of WCr Alloys Peng XIAO, Xianhui WANG, Shuhua LIANG and Zhikang FAN
11:08	p-027 P.496	Development of Three-dimensional Composite Scaffold for Regenerating Articular Cartilage Using Braiding Technology Hyun-Chul AHN, Kyoung-Ju KIM and Woong-Ryeol YU	p-034 P.506	Experimental Study on Blast Resistance of Polyethylene Fiber-reinforced Concrete Makoto YAMAGUCHI, Kiyoshi MURAKAMI, Koji TAKEDA and Yoshiyuki MITSUI

Oral Presentation

2008/9/25

Thursday Afternoon (1)

12:30-12:55, (Room 203) Keynote2:

"Ultrasonic Dispersion of Inorganic Nanoparticles in Epoxy Resin and Mechanical Properties of the Resulting Nanocomposites" by B. BITTMANN, F. HAUPERT and A. K. SCHLARB

Research of the past few years showed that the insertion of nanoparticles into a polymer matrix may lead to completely new material properties compared to conventional composites reinforced by microscale fillers. The present study focuses on the ultrasonic dispersion of titanium dioxide and barium sulfate nanoparticles in a DGEBA epoxy resin. A systematic variation of sonication parameters, like ultrasonic amplitude and dispersion time was accomplished to determine the optimum processing parameters.

***Key words**: Nanocomposites, Thermosets, Ultrasonic dispersion, Mechanical propertiese*

Time	Room-1	
12:30	**Keynote2** **Chair:** Yiu-Wing MAI	
12:55	**Keynote3** **Chair:** Toru FUJII	
13:20 ~13:30	**Short Break**	
13:30 ~15:10	**S1-6: Nanocomposites 4** **Chairs:** Qing-Qing Ni, D. BHATTACHARYYA	
13:30	o-123 P.91	Shape Memory Effect and Actuator Behavior of SMP Nanocomposites Qing-Qing NI , Mitushiro YASUDA and Toshiaki NATSUKI
13:55	o-048 P.95	Study on Interfacial Interactions of Nanoparticles/Polymer Composites Wen Hong RUAN , Ming Qiu ZHANG and Min Zhi RONG
14:20	o-042 P.99	Manufacturing and Mechanical Properties of Al/APC-2 Nanocomposite Laminates at Elevated Temperatures Ming-Hwa R. JEN, Yi-Chun SUNG and Yin-Da LAI
14:45	o-003	Research on Crystallization Behavior of Nano-ZnO/Glass Fiber Reinforced Polypropylene Composites Yi-Hua CUI, Zhi-Qi LI, Ding-Zhu WO, Jie TAO and Jian-Jun XUE
15:10 -15:20	**Short Break**	

2008/9/25
Thursday Morning (2) /Afternoon (1)

Poster (Short presentation-4)

Time	Room 1		Room 2	
11:11	p-029 P.499	Fatigue and impact properties of plain-woven CFRP modified with Micro Fibrillated Cellulose Norifumi TAKAGAKI, Kazuya OKUBO and Toru FUJII	p-036 P.510	Development of High Accuracy and High quality Glass-fiber Reinforced Product by Hybrid Ceramics Mold Hidetoshi SAKAMOTO, Mutsumi TOUGE, Yoshifumi OHBUCHI, Hironori TSUCHIMURA and Kousei TAKAHASHI
11:14	p-041 P.527	Evaluation of Absorbed Energy by Fiber Fracture in Progressive Crushing Masatoshi YANAGISAWA, Hiroshi SAITO, Mototsugu TANAKA and Isao KIMPARA	p-038 P.514	Filament Winding Technology and Natural Gas Pressure Vessel Ding Zhu WO
11:17			p-040 P.523	Structured Natural Fibre Thermoplastic Composites Lu ZHANG and Menghe MIAO
11:20				

Oral Presentation

Time	Room-2		Room-3	
12:30	----------		----------	
12:55	----------		----------	
13:20 ~13:30	**Short break**		**Short break**	
13:30 ~15:10	**S2-6: Natural Fibers and Bio-based Composites 1** **Chairs:** Richard J.T. LIN, Kenichi TAKEMURA		**S3-6: Smart Materials and Structures, NDI** **Chairs:** Ryosuke MATSUZAKI, Shigeki YASHIRO	
13:30	o-119 P.215	Effect of Surface Treatment of Bamboo Fiber with Sodium Hydroxide and Silane Coupling Agent on Mechanical Properties of Its Composite Hyojin KIM, Kazuya OKUBO and Toru FUJII	o-100 P.355	Measurement of Cure-Degree Distribution of UV-Curable Polymers by Arrayed Optical Fiber Sensors Tatsuro KOSAKA, Yoshiyuki MINAMI, Katsuhiko OSAKA and Yoshihiro SAWADA
13:55	o-022 P.219	Press Forming of All Bamboo Green Composites Hitoshi TAKAGI and Hiroshi MORI	o-043 P.359	Delamination detection in quasi-isotropic CFRP laminate from residual stress release using the piezoresistivity Tomoyuki YAMAGUCHI, Masahito UEDA, Akira TODOROKI and Yasuyuki KATO
14:20	o-007 P.223	Bio-Based Plastic Foams from Functionalized Plant Oil and Natural Fiber Min Zhi RONG, Ming Qiu ZHANG, Su Ping WU and Hong Juan WANG	o-106 P.363	Effect analysis of stacking sequence for damage monitoring of CFRP thick laminates using electrical resistance change Yusuke SAMEJIMA, Yoshiyasu HIRANO, Akira TODOROKI and Ryosuke MATSUZAKI
14:45	o-016 P.227	Flexural Properties of Bamboo/PBS Composites Prepared by Injection Molding Kazuya OHKITA and Hitoshi TAKAGI	o-054 P.367	Detection of Flaw in CFRP Laminates Using Eddy Current Method with twin probe Takahiro YASUOKA, Masahito UEDA, Akira TODOROKI, Ryosuke MATSUZAKI and Yoshiyasu HIRANO
15:10 ~15:20	**Short break**		**Short break**	

2008/9/25
Thursday Afternoon (2)

12:55-13:20, (Room 203)
Keynote3:
"Structural Health Monitoring of CFRP Sandwich Structures by Optical Fiber Based Distributed Strain Measurement" by N. TAKEDA and S. MINAGUCHI

Since composite facesheets are very thin and lightweight core is weak, composite sandwich structures can be easily damaged when impact or indentation load is applied. The dent of the facesheet significantly deteriorates the stiffness and strength of the sandwich structures. In this study, an impact damage detection system for large sandwich structures is established by using a specific response of PPP-BOTDA sensing system. In the damage detection system, the specific response is employed to detect non-uniform strain distribution along the dent of the facesheet. A validity of the proposed damage detection system is confirmed through an indentation damage detection test.

***Key words**: Health monitoring, Impact damage, Dent of facesheet, Optical fiber sensor, PPP-BOTDA sensing system*

Time	Room-1	
15:20	**S1-7: Nanocomposites 5**	
~17:00	**Chairs:** Qing-Qing NI, D. BHATTACHARYYA	
15:20	o-006	New Approaches for Manufacturing Nanoparticles/Polymer Composites
	P.103	Ming Qiu ZHANG, Min Zhi RONG and Wen Hong RUAN
15:45	o-131	Vapor Permeation Property of Vinyl Ester/Clay Nanocomposites
	P.107	Akira HIRAYAMA, Satoshi MATSUDA, Shuichi TANAKA, Atsushi MURAKAMI and Hajime KISHI
16:10	o-130	Taguchi Analysis of Manufacturing Polylactic Acid Nano-fibrils by Electrospinning
	P.111	Soumendra N. PATRA, Debes BHATTACHARYYA and Allan J. EASTEAL
16:35		
17:00 -17:10	**Short Break**	
17:10	**S1-8: Interface**	
~18:50	**Chair(s):** Yoshihiro TAKAO	
17:10	o-128	Pullout of carbon nanotubes from a polymer inside TEM and SEM
	P.115	Fei DENG, Toshio OGASAWARA and Nobuo TAKEDA
17:35	o-090	Evaluation of Interfacial Debonding Process in Single Fibre Composite using Elasto-plastic Shear-lag and FEM Analyses
	P.119	Souta KIMURA, Jun KOYANAGI, Takayuki HAMA and Hiroyuki KAWADA
18:00	o-018	Tribological and Mechanical Properties of Polyimide Composites Filled with OTS Self-assembled Monolayers Treated Potassium Titanate Whiskers
	P.123	Jiahua ZHU, Yijun SHI, Xin FENG, Huaiyuan WANG and Xiaohua LU
18:25	o-026	Structure and Morphology of Calcium Phosphate Layer on the Surface of Silica-doped Hydroxyapatite Immersed in Simulated Body Fluid
	P.127	N. KOSACHAN, A. JAROENWORALUCK, S. JINAWATH and R. STEVENS
18:50		

2008/9/25
Thursday Afternoon (2)

Time	Room-2		Room-3	
15:20 **~17:00**	**S2-7: Natural Fibers and Bio-based Composites 2** **Chairs:** Xiaolin LIU, Koichi GODA		**S3-7: Micromechanics and Analytical Approach 1** **Chairs:** Junji NODA	
15:20	o-052 P.231	Three Dimensional Nano-Structure and Mechanical Properties of Bacterial Cellulose/Polymer Composite Materials Tokio KIKUCHI, Yoshihito OZAWA, Masayoshi WATANABE and Koichi YABUKI	o-039 P.371	A Micromechanics Model Considering the Particle Size Effect and Debonding Damage in Particulate-Reinforced Composites Yu ITOH, Keiichiro TOHGO and Yoshinobu SHIMAMURA
15:45	o-097 P.235	Vibration Characteristics of Natural Fiber Reinforced Composites Vehicles Ming-Xia FANG,Yan LI and Wei-zhuo QUAN	o-086 P.375	Distributions of Microscopic Interlaminar Stress of CFRP Cross-Ply Laminates - Analysis Based on Multi-Scale Modeling - Akimasa SEKINE, Tetsuya MATSUDA and Masamichi KAWAI
16:10	o-126 P.239	Hybrid structure of bamboo bow Kanjuro SHIBATA, Yuya HIDEKUMA, Tetsuya YOSHIDA, Akihiro OHNISHI, Minayuki SHIRATO, Masashi KUME, Asami NAKAI and Hiroyuki HAMADA	o-084 P.379	Numerical Study for Predicting Tensile Damage Progress in CFRP Laminates with Initial Fiber Cracks Shigeki YASHIRO, Keiji OGI and Tetsuro SHIRAISHI
16:35	o-046 P.243	Effect of Different Woven Pattern on the Kenaf Woven Fabric Reinforced Unsaturated Polyester composites Yusriah LAZIM, Mariatti JAAFAR, and Azhar Abu BAKAR		
17:00 -17:10	**Short break**		**Short break**	
17:10 **~18:50**	**S2-8: Natural Fibers and Bio-based Composites 3** **Chairs:** Min Zhi RONG, Hitoshi TAKAGI		**S3-8: Micromechanics and Analytical Approach 2** **Chairs:** Yoshihito OZAWA, Keiji OGI	
17:10	o-060 P.247	Characterization of biodegradable PLLA/PCL and PLLA/PBSL polymeric blends V. VILAY, M. MARIATTI, Zulkifli AHMAD, K. PASOMSOUK, Mitsugu TODO	o-069 P.383	Effect of Fiber Arrangement in Unidirectional FRP on the Mechanical Property Yuzo FUJITA, Tetsusei KURASHIKI and Masau ZAKO
17:35	o-078 P.251	Porosity and In-plane Permeability of Natural Fibre Reinforcements under Vacuum Infusion Conditions Alessandro FRANCESCHETTI, Xiaolin LIU and Menghe MIAO	o-113 P.387	Temperature Dependence on Fiber Breakage Accumulation for Unidirectional CFRP Laminates Junji NODA, Masayuki NAKADA and Yasushi MIYANO
18:00	o-088 P.255	Manufacturing Flax Fibre-Reinforced Composites Using Rotational Moulding Richard J.T. LIN, Krishnan JAYARAMAN, Kapilan SUKUMARAN and Suraj SIRIWARDANE	o-051 P.391	Mechanical Behavior of Composite Materials System with Ultra Lightweight in Temperature Conditions Yoshihito OZAWA, Tokio KIKUCHI, Masayoshi WATANABE and Koichi YABUKI
18:25	o-055 P.259	Effect of Cure Condition on Mechanical Properties of Natural Fiber/Nanoclay Reinforced Biodegradable Plastic Using Autoclave Molding Method Masahito UEDA, Yasuyuki KATO and Goichi BEN	o-037 P.395	Experimental Verification and Finite Element Simulation of Thick Composite Manufacturing Zhan-Sheng GUO, Lina HE and Jianguo JU
18:50				

2008/9/26
Friday Morning

Time	Room-1	
8:45	**S1-9: Environments**	
10:00	**Chairs:** Jie TAO, Tatsuro KOSAKA	
8:45	o-083	Properties of Hydrogen Permeation Enamel Barrier for Stainless Steel
	P.131	Jie TAO, Zhen-dong HUANG, Hongbing LIU and Jiang XU
9:10	o-089	The Strength Degradation Mechanism of Single Fiber Composite under Water Environment -Prediction Method of Residual Fiber Strength using Crack Propagation Model-
	P.135	Masahiro KOTANI and Hiroyuki KAWADA
9:35	o-098	Effects of LEO environmental factors on ILSS of MWNT-reinforced CFRP Composites
	P.139	Jin-Bum MOON, Myung-Gon KIM, Chun-Gon KIM and Shantanu BHOWMIK
10:00		

10:15 -15:30 **Conference Tour (Kumamoto Castle and Aso volcano)**

	Hotel Minami-Aso Greenpia
15:40 ~16:40	**Invited Presentation** **Chair:** Goichi BEN

16:40 -18:00 **Free time**

18:00 -~:00	**Banquet**

15:40-16:40, (Hotel Minami-Aso Greenpia) Invited Presentation: "CFRP Materials and Processing Designs for Automobile -Automobile Lightweight Structural Elements of CFRP Composites (ALSTECC) Program in Japan -" by Akihiko KITANO and Eisuke WADAHARA

A strong demand for lightweight materials originating from the sudden rise of oil price and the global-warming problems has been accelerating the application of CFRP (Carbon Fiber Reinforced Plastics) to automobile. We conducted a national project named ALSTECC (Automobile Lightweight Structural Elements of CFRP Composites) project for 5 years from October 2003 to March 2008. The purpose of this project is to reduce GHG (greenhouse gas) by developing lightweight CFRP automobile bodies. The project has been funded by METI (Ministry of Economy, Trade and Industry) through NEDO (New Energy & Industrial Technology Development Organization). In the project, four key technologies have been developed corresponding to automobile's life cycle. They are "Short-cycle integrated-fabrication technologies for mass production", "Metal/CFRP joint technologies", "Safety design technologies of CFRP automobile body", and "Recycling technologies". This paper outlines the project and describes some results of the project.

Key words: *Automotive, RTM, Adhesive bonding, Safety design, Energy absorption, Recycle,*

Kumamoto -City of Green and Water-:

As Natsume Soseki's first impression of Kumamoto City, "Kumamoto is a city of forest". Despite the two wars burnt the downtown, the hill where Kumamoto Castle located and bands of Shirakawa River are fulfilled with the greenery of the camphor trees and cherry trees. It is our surprise that there are so many huge trees of hundreds year old-older than the castle itself. Also Kumamoto has rich running water. Ezu Lake and Suizenji Jojuen are always full of crystal water.

*) Soseki NATSUME: Japan's most important novelist in the modern history. He lived here as an English teacher.

History of Kumamoto:

Kumamoto has a different character in Kyushu Island. From 16th century to 19th century, Kumamoto was politically, economically an important center of the island. So Japan's central government put their trustable feudal lords; Kato Kiyomasa, Hosokawa Tadataka etc.; to watch other opponent feudal lords. After the revolution in mid 19th century, new government put a regional government at Kumamoto in Meiji Era. Kumamoto enjoyed its prosperity as a governmental, political center in Kyushu.
(offered from Kumamoto International Convention and Tourism Bureau (KICTB))

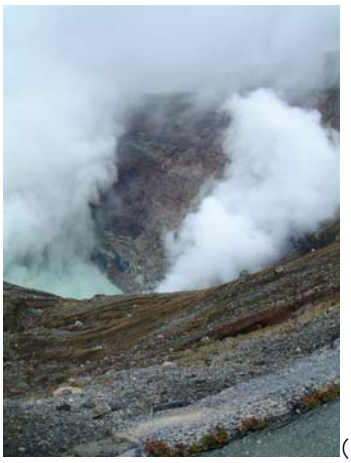
Time	Room-2	Room-3
8:45 **~10:00**	**S2-9: Impact** **Chair(s):** Takayuki KUSAKA	**S3-9: Characterization** **Chair(s):** Toshihiro OHTANI
8:45	o-117 Static and Dynamic Response of Thermoplastics for FRTP Applications P.263 Hideaki KASANO and Osamu HASEGAWA	o-134 Full Scale Demonstration of Patch Composite Repairs in Floating Offshore Units P.399 K.H. LEONG, A.T. ECHTERMEYER, D. McGEORGE, B. MELVE, M. ROBINSON, K.-P. FISCHER and R.M. JOHAR
9:10	o-045 Determination of Shock Absorption Characteristics with Florence Scheme in Multi-layered Composite Structures P.267 Young KIM, Hakin GIMM, Mu-yeol SEO and Tae-won KIM	o-092 Mechanical Properties of Glass Fabric / Phenolic Composites with Injection Molding P.403 Goichi BEN, Norimasa YAMASHITA, Shinya KIMURA, Susumu TAKAHASHI and Sotomi GOTOH
9:35	o-049 Dynamic Behaviors of Shape Memory Alloy Hybrid Composite Structures Subjected to the Low Velocity Impact P.271 Eun-Ho KIM, Jin-Ho ROH and In LEE	o-041 Wettability of Nano-heterogeneous Surfaces Covered by Self-assemble Monolayers (SAMs) P.407 Changsong WANG, Yan ZHANG, Jiahua ZHU, Mingjie WEI, Xin FENG and Xiaohua LU
10:00		

The Symbol of Kumamoto, the Castle Town:
Kumamoto Castle (built 1601-1607 by fuderal lord Kato Kiyomasa), an enormous structure boasting a 400-year history, is one of Japan's three most famous castles. It is 21 times as large as of Tokyo Dome Baseball Stadium (980,000) and there used to be 49 towers existed. It features unique stone walls called "Mushagaeshi" that make it impossible to climb the castle tower. Inside, information on Kumamoto is displayed in a museum-like setting, revealing the history of the town as well as the illustrious past of Kumamoto Castle. Many cherry, ginkgo, and camphor trees have been nurtured on the castle grounds, adding beautiful scenery that changes with the four seasons. What's more, the beautiful stone walls and castle tower reveal both the heart of Kumamoto and the extent of Japanese style.

(offered from KICTB)

Aso volcanoes- world class biggest caldera:
Aso volcanoes are unique accessible active volcano in the world. Aso has erupted more than 165 times since 553 AD. In 1997 two tourists were killed by gas on Aso. A number of mud eruptions have occurred from Aso. Naka-dake is the most active centre in the caldera. Aso caldera is one of the largest in the world and is home to 50,000 people. There is even a railway inside the caldera.

You can climb up to the edge of the volcanic crater, look down inside, enjoy magnificent scenery of the Caldera (large crater sunk by a big eruption) ;25km long x 18km wide. About 60minutes drive from the city center.



(Naka-Dake)

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