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# ORAL SESSIONS

TUESDAY, NOVEMBER 16, 2010

## Plenary 1

Time: 09:30-10:00

Room: 201BCDE, 2F

Chair: Prof. Jia-Lin Tsai

TUE-PL-01 **Recent Progress in Acoustic Metamaterials Research**

*C. T. Sun*

## Plenary 2

Time: 10:30-11:00

Room: 201BCDE, 2F

Chair: Prof. Nyan-Hwa Tai

TUE-PL-02 **An Assessment of the Science and Technology of Carbon Nanotube-Based Fibers and Composites**

*Tsu-Wei Chou, Limin Gao, Erik T. Thostenson, Zuoguang Zhang, Joon-Hyung Byun*

## Session 1 - Nanocomposites & Multi-Functional Composites / Smart Materials (1)

Time: 13:30-15:10

Room: 201A, 2F

Co-Chairs: Prof. Nyan-Hwa Tai, Dr. Joon-Hyung Byun

TUE-SE01-01 **Development of Salisbury Screen Type Radar Absorbing Composite Structures for Wind Turbine Blades**

*Jin Bong Kim, Jung Eun Nam*

TUE-SE01-02 **The Synthesis of Pacitan Clay and its Application in Layered Silicate Polypropylene-Based Nanocomposites**

*Ariadne Juwono, Seto Roseno, Agus Wargadipura, Arif Rahman*

TUE-SE01-03 **Tetrachloride Copper Pair of Two Ethyl Ammonium Thermochromism Thin Film Preparation and Application Discussion**

*Kuei-Chi Li, Hui-Jen Yu, Wei-Jhen Lin*

TUE-SE01-04 **Paramagnetic Bionanocomposites from Chitosan Biopolymer**

*Deeptangshu Chaudhary, Bradley Hawkins, Yu Dong*

TUE-SE01-05 **Hierarchical Structure of PEO/Laponite Clay Nanocomposite**

*Mei-Ling Wu, Meng-Hsing Chen, Hsin-Lung Chen, Yu-Tsung Chiu, Li-Jing Wang*

## Session 2 - Interfaces & Interphases

Time: 13:30-15:10

Room: 201B, 2F

Co-Chairs: Dr. Rong-Ming, Ho Prof. Masaki Hojo

TUE-SE02-01 **Interfacial Evaluation of Single Fiber Reinforced Epoxy Composites Using Micromechanical Technique at Low Temperature**

*Joung-Man Park, Zuo-Jia Wang, Dong-Joon Kwon, Moon-Kwang Um*

TUE-SE02-02 **Interfacial Crack Propagation in Microscopic Model Composites under Static and Fatigue Loadings**

*Masaki Hojo, Yukinobu Matsushita, Mototsugu Tanaka, Taiji Adachi*

TUE-SE02-03 **Research on Failure Criterion of Interface End with Singular Stress Field**

*Ying Dai, Hong-Ying Zhang, Xin-Wei Fu*

- TUE-SE02-04 **EM Transmission Characteristics of Composite Radome Structures with Interfacial Delamination and Different Surface Treatments of FSS** ``  
*Dai Gil Lee, Jin Gyu Kim, Ilbeom Choi, Il Sung Seo*
- TUE-SE02-05 **Preparation of ZnO/Living Block Copolymer Latex Nanoparticles via Pickering Emulsion Polymerization** ``  
*I-Chen Chou, Wen-Yen Chiu*
- TUE-SE02-06 **Mechanical Properties of Elastomeric Composites with Atmospheric-Pressure Flame Plasma Treated Multi-Walled Carbon Nano-Tube and Carbon Black** ``  
*Jong-Hwan Sung, Dong Joo Lee, Sang Ryeoul Ryu*

### Session 3 - Natural Fibers & Green Composite Materials (1)

Time: 13:30-15:10

Room: 201C, 2F

Co-Chairs: Prof. Tzong-Ming Wu, Dr. Karen Chung

- TUE-SE03-01 **High Performance Biodegradable Composite Materials** ``  
*Debes Bhattacharyya, Oliver McGregor, Richard J. T. Lin, Miro Duhovic*
- TUE-SE03-02 **Interfacial and Mechanical Properties of Poly (Butylene Succinate) Biodegradable Composite Reinforced with Coir Fibers** ``  
*Tran-Huu Nam, Shinji Ogihara, Satoshi Kobayashi*
- TUE-SE03-03 **Multi-functional Properties of Green Composites** ``  
*Hitoshi Takagi*
- TUE-SE03-04 **Inter-Phase and Mechanical Properties of Modified Oil Palm Empty Fruit Bunch Cellulose Fibre and Poly (Lactic Acid) Composites** ``  
*Sirisart Quajai, Peerachai Ruangwilairat, Kitti Ongwongsakul, Thanawadee Leejarkpai, Robert Shanks*
- TUE-SE03-05 **The Influence of Natural Fibres on the Flammability of Composites from Bio-Derived Materials** ``  
*Maurice Chai, Simon Bickerton, Debes Bhattacharyya*
- TUE-SE03-06 **Comparing the Mechanical Properties of Kenaf, Flax and Hemp Fibre Mat Reinforced Biocomposites** ``  
*Paul Falzon, Wayne Hillier, K. H. Leong, S Deng, Colin Patrick*
- TUE-SE03-07 **Study on Dynamic Mechanical Properties of Pultruded Kenaf Fiber Reinforced Composites** ``  
*Hazizan Md Akil, Safiee Sahnizam, Mohd Ishak Zainal Arifin, Abu Bakar Azhar, Mohamad Mazuki Adlan Akram*

### Session 4 - ONR Research in Composites (1)

Time: 13:30-15:10

Room: 201D, 2F

Co-Chairs: Dr. Yapa D. S. Rajapakse, Prof. Jia-Lin Tsai

- TUE-SE04-01 **Overview of The ONR Solid Mechanics – Marine Composites Research Program** ``  
*Yapa D. S. Rajapakse*
- TUE-SE04-02 **Application of Optical Measurement Techniques to High Strain Rate Deformations in Composite Materials** ``  
*Janice Dullieu-Barton, Marco Longana, Stavros Syngellakis*
- TUE-SE04-03 **Static and High Strain Rate Compression Response of Carbon/Epoxy-Nanoclay Composites Subjected to Synergistic Effects of UV Radiation and Condensation** ``  
*Mahesh Hosur, Alfred Tcherbi-Narteh, Shaik Zainuddin, Shaik Jeelani*
- TUE-SE04-04 **Advanced Accelerated Testing Methodology for Life Prediction of CFRP Laminates for Marine Use** ``  
*Masayuki Nakada, Yasushi Miyano*
- TUE-SE04-05 **Enhancement of Damage Tolerance Properties of Carbon/Epoxy Composites by Polymer Nanofibers** ``  
*Kunigal Shivakumar*

TUE-SE04-06 **Effect of Periodic Core Property and Supports on Wave Motion in Sandwich Structures**''  
*C.T. Sun, Jung-San Chen*

#### Session 5 - Friction and Wear of Composites

Time: 13:30-15:10

Room: 201E, 2F

Co-Chairs: Dr. Chang Li, Dr. Saito Hiroshi

TUE-SE05-01 **Simplified Measurement of Friction Coefficient between Fracture Surfaces of CFRP Laminate**''  
*Hiroshi Saito, Isao Kimpara*

TUE-SE05-02 **The Effect of Thermal Conductivity and Friction Coefficient on the Contact Temperature of Polyimide Composites Studied by Finite Element Simulation**''  
*Liwen Mu, Xin Feng, Yijun Shi, Jiahua Zhu, Xiaohua Lu*

TUE-SE05-03 **Comparative Study of the Tribological and Corrosive Properties of PTFE Composites Filled with Different Fibers**'''  
*Liwen Mu, Jian Chen, Yijun Shi, Xin Feng, Huaiyuan Wang, Xiaohua Lu*

TUE-SE05-04 **Mechanical and Tribological Behavior of Nanometer and Micrometer TiO<sub>2</sub> Particle-Filled Polyimide**''  
*Yi-Jun Shi, Li-Wen Mu, Xin Feng, Xiao-Hua Lu*

TUE-SE05-05 **Comparative Study on the UV-Curable Coatings Filled with Colloidal and Pyrogenic Nanosilica Particles**''  
*Hui Zhang, Lingyun Zhou, Zhong Zhang, Jianbin Luo*

TUE-SE05-06 **Abrasive Wear Resistance of Transparent Polymeric Coatings Filled with Silica Nanoparticles**''  
*Hui Zhang, Lingyun Zhou, Zhong Zhang*

TUE-SE05-07 **A Study on the Transfer Film in Sliding Contact between Polymeric Composites and Steel Disks Using Nanoindentation**''  
*Li Chang, Klaus Friedrich, Lin Ye*

#### Session 6 - Composites for Fuel Cells & Solar & Wind Energy Materials (1)

Time: 13:30-15:10

Room: 201F, 2F

Co-Chairs: Prof. Tai Yan Kam, Prof. Hak-Sung Kim

TUE-SE06-01 **Energy, Environment, Composites**''  
*Ding Zhu Wo, Li Li*

TUE-SE06-02 **Preparation and Characterization of Polyaniline-CSA Used as a Hole Conductor for Solid Dye Sensitized Solar Cells**''  
*Qi Qin, Jie Tao, Yan Yang, Zuguo Bao*

TUE-SE06-03 **Study on the Preparation and Properties of Bisphenol-S based Benzoxazine/Graphite Composite for Bipolar Plate**''  
*Myung-Sub Kim, Jae-Hoon Lee, Ji-Rae Kim, Seongwoo Choi, Jung Seok Yi, Sung-Hoon Ahn*

TUE-SE06-04 **Low Band Gap Polymer / PC<sub>71</sub>BM Composites for Photovoltaic Applications**''  
*Chain-Shu Hsu, Yen-Ju Cheng, Jhong-Sian Wu*

TUE-SE06-05 **Investigation of CNT with Pt Nano-Bump Composite as Sugar Fuel Cell Electrodes**''  
*Hak-Sung Kim, Jongeun Ryu, H. Thomas Hahn, David Lashmore*

#### Session 7 - Nanocomposites & Multi-Functional Composites / Smart Materials (2)

Time: 15:30-17:30

Room: 201A, 2F

Co-Chairs: Prof. Hsun-Tsing Lee, Prof. Nanjundappa Rudraiah

TUE-SE07-01 **Preparation and Characterization of Fluorescent Silica Nanoparticles and Their Nanocomposites**''  
*Ying-Ling Liu, Chih-Yuan Hsu*

- TUE-SE07-02 **Preparation and Characterization of Poly (Ethylene Terephthalate) Nanocomposites with Layered Double Hydroxides**  
*Tsung-Yen Tsai, Syuan-Ci Su, Tzu-Fang Chen*
- TUE-SE07-03 **The Effect of Electron Beam Irradiation on Sulphur Vulcanized EPDM/Halloysite Nanocomposites**  
*Pooria Pasbakhsh, Hanafi Ismail, Ahmad Fauzi, Bakar Azhar*
- TUE-SE07-04 **Study on the Mechanical and Electrical Properties and Creep Behaviour of Carbon Fiber Nano-Composites**  
*Yi-Luen Li, Wei-Jen Chen, Chin-Lung Chiang, Ming-Chuen Yip*
- TUE-SE07-05 **Fire-Retardant and Fire-Barrier Polyurethane Foam Sealants containing a Ceramifying Filler Composition for Structural Integrity**  
*Robert Shanks, Susan Wong*
- TUE-SE07-06 **Hierarchically Structured Nanocomposites and Their Mechanical Performance**  
*Zhong Zhang*
- TUE-SE07-07 **The Crystallization Behavior of Electrospun Nanofibers of Zinc Oxide Nanoparticles and Poly(3-Hydroxybutyrate-co-3-Hydroxyvalerate) Composites**  
*Yi-Ming Sun, Wen Yu, Chin-Hung Lan*
- TUE-SE07-08 **Effects of Electric Field, Couple Stress and Permeability of Poorly conducting Polluted Fluid Through Composite Materials**  
*Rudraiah Nanjundappa, G. Ranganna, C. O. Ng*
- TUE-SE07-09 **Sisal-PP composites: Forming Characteristics and Stress Relaxation Behaviour**  
*Sanjeev Rao, Krishnan Jayaraman, Debes Bhattacharyya*
- TUE-SE07-10 **Thermal Post-Buckling Characteristics of Functionally Graded Plates under Aerodynamic Effects**  
*Ji-Hwan Kim, Chang-Yull Lee*

#### Session 8 - Aging, Moisture and Viscoelastic Properties

Time: 15:30-17:30

Room: 201B, 2F

Co-Chairs: Dr. Min-Chao Chang, Dr. Tzong-Ming Lee

- TUE-SE08-01 **Investigating the Effects of De-Icing Fluids on the Structural Properties of Bonded Composite Aircraft Structures**  
*Ronald Sterkenburg, Charles Khoury, Peng Hao Wang, Sergey Dubikovsky*
- TUE-SE08-03 **Influence of FRP on the Impact Response of Concrete Filled Steel Tube Structures**  
*Chen Chen, Yinghua Zhao, Chunyang Zhu, Yingfang Fan*
- TUE-SE08-04 **Characterization of Interfacial Degradation in CCF300/BMI Composites at Cyclic Hygrothermal Environment**  
*Yan Zhao, Yunfeng Luo, Yuexin Duan, Yuqin Su, Shanyi Du*
- TUE-SE08-05 **Properties of Epoxy/Silica Thin Film Composites for Electronic Application**  
*Jaafar Mariatti, Y.L. Foo, L.C. Sim*
- TUE-SE08-06 **An Effect of Physical Ageing Progression on Viscoelastic Property in Carbon/Epoxy Composites**  
*Yukie Okudoi, Yoshihiko Arao, Jun Koyanagi, Shinichi Takeda, Hiroyuki Kawada*
- TUE-SE08-07 **Experimental Study on Concrete Filled GFRP-Steel Tube under Cyclic Loading**  
*Chunyang Zhu, Yinghua Zhao, Yingfang Fan, Xiaofei Li*
- TUE-SE08-08 **Size Effect on the Mechanical Behavior of Glass/Polyester Reinforced Pressure Vessels**  
*Amir Jamshidi, Jamal Zamani, Mohamad Salmani Givi, Reza Kazemi*
- TUE-SE08-09 **Innovative Microwave/Ionic Liquid Synthesis of Anatase TiO<sub>2</sub> Nano-Particles for the Application of Photocatalysis and DSSCs**  
*Po-I Liu, Li-Ching Chung, Ming-Yu Yen, Min-Chao Chang, Hsin Shao, Meng-Shun Huang, Chen-Chi M. Ma, Yen-Hui Liu, Arnold Chang-Mou Yang*

### Session 9 - Natural Fibers & Green Composite Materials (2)

Time: 15:30-17:30

Room: 201C, 2F

Co-Chairs: Prof. Jong-Pyng Chen, Prof. Edith Mäder

- TUE-SE09-01 **Jute Fibres and Composites with Multifunctional Sensing Capability**  
*Rong-Chuan Zhuang, Shang-Lin Gao, Thi Thu Loan Doan, Jie Zhang, Jian-Wen Liu, Edith Mäder*
- TUE-SE09-02 **Application of Spring-Back Molding and Needle Punching Technique to Fabrication of Stampable Bamboo Fiber Sheet**  
*Xiaochen Fu, Kazuya Okubo, Toru Fujii*
- TUE-SE09-03 **Development of Green Composite Consisted of Silk Fibroin**  
*Hajime Kousaka, Teruo Kimura*
- TUE-SE09-04 **Properties of Bacterial Cellulose and Mechanical Properties of Carbon/Carbon Composites with BC**  
*Yoshihito Ozawa, Atsushi Takita, Tokio Kikuchi, Masayoshi Watanabe, Koichi Yabuki*
- TUE-SE09-05 **Bionanocomposite Hybrid Polyurethane Foam Reinforced with Empty Fruit Bunch and Nanoclay**  
*Ernie Suzana Ali, Sahrim Ahmad*
- TUE-SE09-06 **Mechanical and Physical Properties of PET/Nylon Base Wood-Plastic Composites**  
*Ming Yuan Shen, Jia-Ying Li, Wei-Jen Chen, Yi-Luen Li, Ming- Hsien Sung, Yao- Kuei Hsiao, Ming-Chuen Yip*
- TUE-SE09-07 **Mechanical Properties of Natural Fiber (Lyocell and Jute) Reinforced Composites**  
*Rasel Md. Sheikh, Foisal Ahmed Mirza, Afsar Ali Md., Byung Sun Kim, Jung Il Song*

### Session 10 - ONR Research in Composites (2)

Time: 15:30-17:30

Room: 201D, 2F

Co-Chairs: Dr. Yapa D. S. Rajapakse, Prof. Jia-Lin Tsai

- TUE-SE10-01 **Time and Temperature Dependence on Mode I Interlaminar Fracture Behavior of CFRP Laminates**  
*Yasushi Miyano, Masayuki Nakada*
- TUE-SE10-02 **Dynamic Mode-II Characterization Using SHPB Embedded with PVDF**  
*Wei-Yang Lu, Bo Song, Helena Jin*
- TUE-SE10-03 **Improving the Strength of Composite Joints from Interface to Fiber Dominated Load Transfer**  
*Erian Armanios, Xinyuan Tan, D. Stefan Dancila*
- TUE-SE10-04 **Hybrid Wind Turbine Blades: Damage Tolerant Design**  
*Ozden Ochog, Norimichi Nanami*
- TUE-SE10-05 **Thermo-mechanical Interaction Effects in Composite Sandwich Structures - Finite Element Analysis vs. High-Order Sandwich Theory Results**  
*Ole Thybo Thomsen, H.N. Krishna Teja Palleti, Yeoshua Frostig, Janice M. Dulieu-Barton*
- TUE-SE10-06 **Thermomechanical Interaction Effects in Composite Sandwich Structures - Initial Experimental Analysis and Derivation of Mechanical Properties**  
*Janice Dulieu-Barton, Shufeng Zhang, Richard Fruehmann, Taher Siavash, Ole Thybo Thomsen*

### Session 11 - Impact & Dynamic Response / Fracture, Fatigue & Damage Mechanics (1)

Time: 15:30-17:30

Room: 201E, 2F

Co-Chairs: Prof. Wen-Shyong Kuo, Prof. Masamichi Kawai

- TUE-SE11-01 **Numerical and Experimental Characterization of High-Speed Impact Damage in CFRP Unidirectional and Cross-Ply Laminates**  
*Keiji Ogi, Shigeki Yashiro, Manabu Takahashi, Akinori Yoshimura*
- TUE-SE11-02 **Impact Behavior and Impact Damage Analysis of CFRP Composite Structures**  
*In Lee, Eun-Ho Kim*

- TUE-SE11-03 **Fabrication and Mechanical Response of Ti/APC-2 Hybrid Nanocomposite Laminates at Elevated Temperature**   
*Ming-Hwa Jen, Yi-Chun Sung, Che-Kai Chang, Feng-Chi Hsu*
- TUE-SE11-04 **Evaluation of Transverse Crack Initiation in Cross-ply CFRP Laminates under High-Cycle Fatigue Loading**   
*Keigo Takamura, Atsushi Hosoi, Narumichi Sato, Hiroyuki Kawada*
- TUE-SE11-05 **Principal Master Diagrams for Fatigue of a Unidirectional CFRP Laminate at Room Temperature**   
*Masamichi Kawai, Takahito Teranuma*
- TUE-SE11-06 **Optimising Phase Transformational Toughening of Polypropylene Pipe Coatings**   
*Qiang Yuan, Russell Varley, Sarah Khor, Mel Dell'Olio, Shirley Shen, Colin Patrick, K.H. Leong, A. Y.L. Leong, Shamsul Farid*
- TUE-SE11-07 **An Experimental Investigation of Low-Velocity Impact Damage of Small Aircraft Composite Structure**   
*Hyunbum Park, Changduk Kong, Minwoong Kim, Sungjin Lim*
- TUE-SE11-08 **Low-Velocity Impact Induced Damages in Titanium/GFRP Hybrid Laminates**   
*Hayato Nakatani, Tatsuro Kosaka, Katsuhiko Osaka, Yoshihiro Sawada*
- TUE-SE11-09 **Failure Behavior of a Three-Layer Steel/Rubber/FRP Hybrid Structure**   
*Essi Sarlin, Asta Luukkonen, Minnamari Vippola, Jyrki Vuorinen, Toivo Lepistö*
- TUE-SE11-10 **The Ballistic Characteristics Of T300/Epoxy Composite Laminates**   
*Guiping Zhao, Chongdu Cho*

#### Session 12 - Composites for Fuel Cells & Solar & Wind Energy Materials (2)

Time: 15:30-17:30

Room: 201F, 2F

Co-Chairs: Prof. Tai Yan Kam, Prof. Hak-Sung Kim

- TUE-SE12-01 **Polyvinyl Alcohol/Carbon Nano-Tube/Potassium Hydroxide Electrolytes for Direct Methanol Alkaline Fuel Cells**   
*Shingjiang Jessie Lue, Ying Ling Liu, Wen-Han Pan*
- TUE-SE12-02 **Plasma Surface Treatment for the Composite Bipolar Plate of Polymer Electrolyte Membrane Fuel Cells**   
*Lee Dai Gil, Yu Ha Na, Lim Jun Woo, Suh Jung Do*
- TUE-SE12-03 **Anisomorphic Constant Life Diagram Approach Taking Account of the Temperature Dependence of Fatigue of CFRP Laminates**   
*Ryousuke Yoshimura, Masamichi Kawai, Yu Matsuda*
- TUE-SE12-04 **Fabrication of a Small Composite Vertical-Axis Wind Turbine**   
*Tai Yan Kam, H. M. Su, B. W. Hwang, Y. L. Hwang, D. Y. Chen*
- TUE-SE12-05 **A New Generation Resin System for Resin Infusion Molding**   
*Feng-Mao Huang, Chun-An Chen, Tsung-Ting Hsieh*



## WEDNESDAY, NOVEMBER 17, 2010

### Session 13 - Joining and Repair of Advanced Composites

Time: 09:00-10:40

Room: 203, 2F

Co-Chairs: Dr. Peir-Shin Wu, Prof. Wen Chan

- WED-SE13-01 **Bonded Repair With Patches On Multiple Holes Laminates**''  
*Wen Chan, Wen Chan, Sakthivel Selvaraj*
- WED-SE13-02 **Assessing the Effectiveness of UV Cured VaRTM Repairs for Composite Aircraft**''  
*Ronald Sterkenburg, Peng Hao Wang, Sergey Dubikovskiy, Erik Buland*
- WED-SE13-03 **Predicting Deformation and Failure of the Composite T-Joint**''  
*Zhenqing Wang, Song Zhou, Jifeng Zhang, Xiaoqiang Wang*
- WED-SE13-04 **Patch Repair of CFRP Panels with Impact Damage Detected by Structural Health Monitoring Technology**''  
*Moto Takai, Shu Minakuchi, Nobuo Takeda*
- WED-SE13-05 **Interlaminar Toughening Effect on Fiber Kinking Onset in Bearing Failure of CFRP Bolted Joints**''  
*Takeaki Nadabe, Juho Siivola, Masaaki Nishikawa, Nobuo Takeda*
- WED-SE13-06 **Improvement of Fracture Toughness of DCB Adhesive Joints Using Polyester Fiber at Cryogenic Temperature**''  
*Lee Dai Gil, Jin Gyu Kim, Jung Hwang Yun, Soon Ho Yoon*

### Session 14 - Nanocomposites & Multi-Functional Composites / Smart Materials (3)

Time: 09:00-10:40

Room: 201A, 2F

Co-Chairs: Dr. Zen-Wen Chiou, Prof. Robert Shanks

- WED-SE14-01 **On Deformation, Toughening and Multi-Functionality of Polymer Nanocomposites**''  
*Yiu-Wing Mai, Aravind Dasari, Zhongzhen Yu, Szu-Hui Lim, Qing-Xin Zhang, Gui-Peng Cui*
- WED-SE14-02 **Electrically Conductive Interphases based on CNTs for Health Monitoring in Continuous Glass Fibre Reinforced Thermoplastics**''  
*Julius Rausch, Edith Mäder*
- WED-SE14-03 **Structure Control in Polymer Nanocomposites**''  
*Libor Matejka, Malgorzata Kubiszyn, Piotr Murias*
- WED-SE14-04 **Switching the Mechanical Performance of Graphene Oxide Paper by Integrating Small Molecules into Nano-Sheets**''  
*Yun Gao, Luqi Liu, Shengzhen Zu, Ding Zhou, Ke Peng, Baohang Han, Zhong Zhang*
- WED-SE14-05 **Effects of Hybridization on the Performance of the Epoxy-Based Nanocomposites**''  
*Wen Shyang Chow, Lee Nah Chang, Norhamidah Mohd Zulkifli*
- WED-SE14-06 **A Study of Electrical Conductivity Improvement of CFRP by Nano-Particles Coated Carbon Fibers for Lightning Strike Protection**''  
*Seong-Wook Seo, Oh-Yang Kwon, Heung-Soap Choi*

### Session 15 - Industrial Applications (1)

Time: 09:00-10:40

Room: 201B, 2F

Co-Chairs: Dr. Ho-Ling Fu, Prof. Shih-Jung Liu

- WED-SE15-01 **Monocoque Composite Sandwich Satellite Structures for Korea STSAT III**''  
*Dai Gil Lee, Jun Woo Lim, Byung Chul Kim, Byoung Jung Kim*
- WED-SE15-02 **Rotational Molding of Polycarbonate Reinforced Polyethylene Composites: Processing Parameters and Properties**''  
*Shih-Jung Liu, Kang-Ming Peng*

- WED-SE15-03 **Ductility Study of Wound GFRP Bar for Concrete Structure**  
*Ying Dai, Wen-Xiao Li, Zhong-Min Xiao*
- WED-SE15-04 **Morphology of Fluid Assisted Injection Molded Polycarbonate/Polyethylene Blends**  
*Shih-Jung Liu, Kun-Yeh Lin*
- WED-SE15-05 **Size Effect in Off-Axis Compressive Notched Strength of a Unidirectional CFRP Laminate at High Temperature**  
*Masamichi Kawai, Yoshimasa Saito*
- WED-SE15-06 **Effects of Fiber Orientation and Residual Stress on Thermal Warping Analysis of TFT-TV FPC Connector**  
*Yih-Cherng Chiang*

#### Session 16 - Natural Fibers & Green Composite Materials (3)

Time: 09:00-10:40

Room: 201C, 2F

Co-Chairs: Prof. Kou-Bing Cheng, Dr. Kevin Kuang

- WED-SE16-01 **Process Monitoring of Natural Composites Using Plastic Optical Fibres**  
*Kevin Kuang, Wern Sze Teo, Yao Ge, Ser Tong Quek*
- WED-SE16-03 **Melt Mixed Styrene-Ethylene-Butylene-Styrene Block Copolymer/Clay Eco-Nanocomposites: Fracture Behaviors**  
*S.-M. Lai, C.-M. Chen*
- WED-SE16-04 **Effects of Wood Constituents and Content, and Glass Fiber Reinforcement on Mechanical Properties and Wear Behavior of Wood/PVC Composites**  
*Narongrit Sombatsompop, Supreda Jeamtrakull, Apisit Kositchaiyong, Teerasak Markpin*
- WED-SE16-05 **Fabrication and Properties of Unidirectional Sisal Fiber Reinforced Polymers**  
*Yan Li, Ye Luo, Hao Ma*
- WED-SE16-06 **A Study of the Mechanical Properties of Flax/TPR Composite Materials**  
*Gobi Kannan T., Cheng K.B.*
- WED-SE16-07 **Improvement of Interfacial Properties of Natural Fibers Reinforced Composite by the Strengthening in the Thickness Direction**  
*Yan Li, Min-Shen Dong, Wei-Dong Yang, Chun-Jing Hu*

#### Session 17 - Nano-Reinforcement & CNT (1)

Time: 09:00-10:40

Room: 201D, 2F

Co-Chairs: Prof. Hsu-Chiang Kuan, Dr. Hong-Yuan Liu

- WED-SE17-01 **Vibration Damping Characteristics of Carbon Fiber-Reinforced Composites Containing Carbon Nanotubes**  
*Shafi Ullah Khan, Chi Yin Li, Naveed Ahmed Siddiqui, Jang-Kyo Kim*
- WED-SE17-02 **Carbon Nanotube Fiber Pullout from Polymer Matrix**  
*Ramasamy Chitrakala, Lianxi Zheng, Kin Liao*
- WED-SE17-03 **Effects Of Nanoparticles On Fibre Composites Delamination**  
*Ying Zeng, Hong-Yuan Liu, Yiu-Wing Mai*
- WED-SE17-04 **Modelling and Simulation of Stress-strain Relations of Reticulate Carbon Nanotube/Polymer Composites under Large Deformation**  
*Qingsheng Yang, Shengyang Qing, Xia Liu*
- WED-SE17-05 **Carbon Nanotubes Structural Mechanics Using the Atomistic-Continuum Mechanics and Equivalent Methods**  
*Chao-Jen Huang, Chung-Jung Wu, Hong-Ann Teng, Kuo-Ning Chiang*
- WED-SE17-06 **Investigation of Deformation Process and Stress-strain Behavior of SNT and SNT/Polymer Composite by Molecular Structuremechanics**  
*Qingsheng Yang, Xia Liu*

#### Session 18 - New Materials (1)

Time: 11:00-12:40

Room: 203, 2F

Co-Chairs: Prof. Teruo Kimura, Prof. Chang-Mou Wu

- WED-SE18-01 **Recyclability of Waste Plasterboard as a Gypsum/Paper Composite Board**  
*Shinji Katsumata, Naoya Kurahashi, Teruo Kimura*
- WED-SE18-02 **Research on Interfacial and Heat Resistant Properties of Polyimide Composites made by Filament Winding Process**  
*Li-Xia Jia, Chen Hui, Xiao-Guang Li, Bai-Feng Yu, Xue Jia, Li-Na Sun*
- WED-SE18-03 **Mechanical Properties of Zeolite Filled Ethylene Vinyl Acetate Composites Crosslinked by Peroxide**  
*Nadras Othman, Nor Diyanna Azahari*
- WED-SE18-04 **Studies on Surface Preparation Systems for Polyurea Protective Coating of Beijing-Shanghai High Speed Railway Bridge Concrete Beams**  
*Wei Bo Huang, Weibo Huang, Xudong Liu, Ping Lu, Jing Zhang*
- WED-SE18-05 **Processing of Ethanol Soluble Few-Layer Graphene Nanosheets**  
*Nguyen Duc Dung, Yin-Ju Chen, Wen-Shyong Kuo, Yu-Lun Chueh*
- WED-SE18-06 **Water Absorption and Corrosion Resistance in Syntactic Foams**  
*Changjun He, Huijian Li, Wei Yu, Xi Liang, Haiyan Peng*

#### Session 19 - Nanocomposites & Multi-Functional Composites / Smart Materials (4)

Time: 11:00-12:40

Room: 201A, 2F

Co-Chairs: Prof. Ying-Ling Liu, Prof. Ming Qiu Zhang

- WED-SE19-01 **Self-Healing Performance of Polymeric Material with Microcapsules and Imidazoline Derivatives Curing Agent**  
*Rongguo Wang, Honglin Hu, Qiong Guo, Wenbo Liu, Xiaodong He*
- WED-SE19-02 **Preparation and Characterization of Self-Healing Epoxy Composites**  
*Ming Qiu Zhang, Min Zhi Rong*
- WED-SE19-03 **Wetting Characteristics of a Dual Scale Surface by Plasma Etching to give Nanohoneycomb Structure**  
*Dongseob Kim, Sangmin Lee, Woonbong Hwang*
- WED-SE19-04 **A Superhydrophobic Artificial Lotus Leaf Structures**  
*Woonbong Hwang, Sangmin Lee, Dongseob Kim*
- WED-SE19-05 **Self-Healing of Thermoplastic Polymer via Living Polymerization**  
*Min Zhi Rong, Ming Qiu Zhang, Hai Ping Wang*
- WED-SE19-06 **PVDF Nano-Composites Prepared by Phase Inversion Technique and Interface Fine Tune**  
*Meng Hou, Xue-Gang Tang, Jin Zou, Rowan Truss, Ming-Bo Yang*
- WED-SE19-07 **Effect of the Microstructure on Thermo-mechanical Properties of Shape-Memory Polymer Reinforced with Short Fibers**  
*Ken Wakatsuki, Masaaki Nishikawa, Akinori Yoshimura, Nobuo Takeda*

#### Session 20 - Industrial Applications (2)

Time: 11:00-12:40

Room: 201B, 2F

Co-Chairs: Dr. Peir-Shin Wu, Prof. Hsien-Kuang Liu

- WED-SE20-01 **Effect of Water Absorption on the Fatigue Fracture Properties of Carbon/Polyamide composites**  
*Kazuto Tanaka, Hirokazu Honda, Tsutao Katayama, Ken Kurashiki*
- WED-SE20-02 **The Compression after Impact Tests of Concrete Cylinders with a Polyurea/CFRP Wrapping System**  
*Hsien-Kuang Liu, Wei-Chong Liao, Yenkuei Chang, Ying-Man Lam*

- WED-SE20-04 **Mechanical Property of Glass Continuous Fiber Reinforced Thermoplastics** ``  
*Kazuto Tanaka, [Noriyuki Endo](#), Toshiki Uemura, Tsutao Katayama, Kazutaka Uno*
- WED-SE20-05 **Foreign Object Impact Response of Aircraft Pylon Made of GFRP and Metallic Materials** ``  
*Syh-Tsang Jenq, [Hui-Chun Chiang](#)*
- WED-SE20-06 **Dynamic Impact Response of Ultra-Light Aircraft with Composite Wing Structure** ``  
*Syh-Tsang Jenq, [Hsi-Wen Lai](#)*
- WED-SE20-07 **The Development of Composite-Aluminum Hybrid Vehicle Wheels** ``  
*[Seung-Hwan Chang](#), Seong-Hwan Yoo, Tae-Seong Lim, Hyo-Joon Kim, Young-Suk Lee*
- WED-SE20-08 **Large Scale Cryogenic Composite Sandwich Mock-Up for Liquefied Natural Gas (LNG) Ship** ``  
*[Bu Gi Kim](#), Soon Ho Yoon, Jin Gyu Kim, Chang Seon Bang, Dai Gil Lee*

#### Session 21 - Natural Fibers & Green Composite Materials (4)

Time: 11:00-12:40

Room: 201C, 2F

Co-Chairs: Prof. Yeng Fong Shih, Prof. Yan Li

- WED-SE21-01 **Influence of Poly (Butylenes Adipate-co-Terephthalate) on the Properties of Biodegradable Composites** ``  
*Yan Li, [Tao Yu](#), Jie Ren*
- WED-SE21-02 **Physical and Mechanical Properties of TEMPO-Oxidized Cellulose Reinforced Composites** ``  
*[Mindaugas Bulota](#), Tuomas Hänninen, Mark Hughes*
- WED-SE21-03 **Study of Self-Reinforced All Polyester Commingled Composites** ``  
*[Hsiao-Ting Su](#), Chang-Mou Wu*
- WED-SE21-04 **Organophosphorus Liquid Crystalline Thermosets Based Borassus Fiber Green Composites and MMT Nanocomposites** ``  
*[Palaninathan Kannan](#), Sudhakara Posa*
- WED-SE21-05 **Development of PLA/Cellulose Composite Paper for Heat Forming** ``  
*[Si Ha](#), Teruo Kimura*
- WED-SE21-06 **Mechanical and Biodegradation Properties of Sago Starch Natural Rubber Latex Composites** ``  
*[Azura A Rashid](#), Muhammad Afq Misman, Hairol Izmar Ahmad*
- WED-SE21-07 **Strength Evaluation of Sliver-Based Green Composites** ``  
*[Baosheng Ren](#), Junji Noda, Koichi Goda*

#### Session 22 - Nano-Reinforcement & CNT (2)

Time: 11:00-12:40

Room: 201D, 2F

Co-Chairs: Dr. Benoit Simard, Prof. Fang-Chyou Chiu

- WED-SE22-01 **Preparation and Properties of Biodegradable PLA/Multi-Walled Carbon Nanotubes Nanocomposites** ``  
*Yeng-Fong Shih, [Yen-Pin Wang](#)*
- WED-SE22-02 **Mechanical Properties of PVDF Nanocomposites Using PVDF-Modified Multi-Walled Carbon Nanotube as an Additive** ``  
*Ying-Ling Liu, [Chia-Ming Chang](#)*
- WED-SE22-03 **Investigation on the Mechanical Performance of Micro/Nanoparticulate Composite Materials via Direct Mixing** ``  
*[Yu Dong](#), Deeptangshu Chaudhary, Charlie Ploumis*
- WED-SE22-04 **Characteristics of GNS/Paraffin Nanocomposites on Thermal Properties and Electrical Conductivity** ``  
*[Yin Ju Chen](#), Duc Dung Nguyen, Ming Chuen Yip, Nyan Hwa Tai*
- WED-SE22-06 **Mechanical and Thermal Properties of Benzoxazine Resin Containing Multiwalled Carbon Nanotubes** ``  
*[Muhammad Kaleemullah](#), Shafi Ullah Khan, Jang-Kyo Kim*

- WED-SE22-07 **Toughening of Epoxies and Epoxy Composites with Reduced Single-Walled Carbon Nanotubes**  
*Benoit Simard, Y. Martinez-Rubi, B. Ashrafi, J. Guan, Y. Zhang, L. Chun, A. Johnston, V. Mirjalili, P. Hubert, O. Bourne*
- WED-SE22-08 **Effect of CNTs and Carbon Blacks on the Short Beam Shear Strength of Carbon Fabric/Epoxy Composites**  
*Hak Gu Lee, Byung Kon Lee, Byun Joon Hyung, Byung Sun Kim*

#### Session 23 - Durability & NDE / Structures & Health Monitoring

Time: 14:00-16:00

Room: 203, 2F

Co-Chairs: Dr. Ho-Ling Fu, Prof. Lin Ye

- WED-SE23-01 **Shannon Entropy and Kurtosis Analyses of Ultrasonic Wave Signals from Active Sensor Network for Damage Identification in Composite Structures**  
*Lin Ye, Dong Wang, Ye Lu, Fucai Li*
- WED-SE23-02 **Temperature Dependence of the Off-Axis Fatigue Strengths of Cross-Ply CFRP Laminates and a Life-Temperature Extrapolation Method**  
*Masamichi Kawai, Hajime Udo*
- WED-SE23-03 **Durability of Natural Fiber Filled SMC Components**  
*Ryuiti Nisida, Yuqiu Yang, Masanori Okano, Hiroyuki Hamada*
- WED-SE23-04 **Detecting the Bonding Defect Between a FRP Wrapping and a Concrete Specimen Using Thermography**  
*Wei-Chong Liao, Bing-Jean Lee, Yenkuei Chang, Shih-Chi Chu*
- WED-SE23-05 **Response Fibre Bragg Grating (FGB) Strain Sensors Embedded at Different Locations Through the Thickness Around a Delamination in a Composite Laminate**  
*Jayantha Epaarachchi, Gayan Rathnaweera, John Canning, Michael Stevenson*
- WED-SE23-06 **Crack Detection of Filament Wound Composite Cylinders Using the Acoustic Emission**  
*Jin-Ho Choi, Jin-Ha Park, Geon-Hui Kim, Jin-Hwe Kweon*
- WED-SE23-07 **Characterization of Edge Delaminated Active Fiber Composites**  
*Ching-Chung Yin, Dwo-Wen Wang*
- WED-SE23-08 **Structural Damage Detection of Offshore Platforms Using Plastic Optical Fibre Sensors**  
*Kevin Kuang, Chan Gee Koh*
- WED-SE23-09 **Nondestructive Testing of CFRP Components of Bicycles**  
*Wei-Chung Wang, Ting-Yu Chang, Chia-Meng Ting*

#### Session 24 - Nanocomposites & Multi-Functional Composites / Smart Materials (5)

Time: 14:00-16:00

Room: 201A, 2F

Co-Chairs: Prof. Chin-Lung Chiang, Prof. Yoshihiro Sawada

- WED-SE24-01 **Preparation, Characterizing and Flame Retardant Properties of Green Silane Functionalized Expandable Graphite Composites**  
*Chin-Lung Chiang, Chen-Feng Kuan, Shao-Lung Chiu, Chia-Hsun Chen, Hsu-Chiang Kuan*
- WED-SE24-02 **Wave Absorbing Properties of Graphite Nanosheet Composites**  
*Hung Chih Lai, W.S Kuo, R.B Yang*
- WED-SE24-03 **Investigating Local Mechanical Properties of Graphite/Polyimide Nanocomposites**  
*Jia-Lin Tsai, Jing-Suei Gao*
- WED-SE24-04 **Fabrication and Characteristics of PE/Carbon Nanocomposites**  
*King Kwok Wong, Goichi Ben*
- WED-SE24-05 **Vibration Control of a Sandwiched Composite Panel by Piezoelectric Actuators with Passive Shunting Circuits**  
*Shyh-Jang Sun, Shan Li, Dar-Ping Juang, Chwei-Yuh Chiou, Dauh-Churn Liu*
- WED-SE24-06 **Effect of Particle Pretreatment on Electrical Resistivity of Carbon Particle/Epoxy Composite**  
*Yoshihiro Sawada, Atsushi Maruo, Koji Ashida, Tatsuro Kosaka, Katsuhiko Osaka*

- WED-SE24-07 **Electrospun Bio-Nanofibrous Functional Mats** ``  
*Xiaowen Yuan, Dongyan Liu, Allan Easteal, Debes Bhattacharyya*
- WED-SE24-08 **Morphology and Mechanical Properties of PLA/Microcrystalline Cellulose Biocomposite Film** ``  
*Dongyan Liu, Xiaowen Yuan, Allan Easteal, Debes Bhattacharyya*
- WED-SE24-09 **Raman-Electromechanical Coupling of SWCNT Coated Single Glass Fibers for Sensor Applications** ``  
*Li Liu, Shafi Ullah Khan, Miao Xu, Peng-Cheng Ma, Jang-Kyo Kim*
- WED-SE24-10 **Thermal and Mechanical Properties of Carbon Aerogels for Nanocomposites** ``  
*Wei-Jen Chen, Ming-Yuan Shen, Yi-Luen Li, Huang-Suo Su, Jia-Ying Li, Chun-Chun Chou, Ming-Chuen Yip*

#### Session 25 - Impact & Dynamic Response / Fracture, Fatigue & Damage Mechanics (2)

Time: 14:00-16:00

Room: 201B, 2F

Co-Chairs: Prof. Syh Tsang Jenq, Dr. Anh Vu Duong

- WED-SE25-01 **Impact Simulation and Experiment of Laminated Composite Plates** ``  
*Shun-Fa Hwang, Jia-Ching Li*
- WED-SE25-02 **Compression After Impact Performance of Vectran-Stitched Composites** ``  
*Kwek-Tze Tan, Naoyuki Watanabe, Hiraku Hoshi, Yutaka Iwahori, Takashi Ishikawa*
- WED-SE25-03 **Experimental Characterization of Mode I Impact Fracture Toughness in CFRP Adhesive Joints** ``  
*Akira Watanabe, Handy Ismail, Takayuki Kusaka, Yasutoshi Nomura, Atsushi Kataoka, Satoshi Matsumoto*
- WED-SE25-04 **The Effect of Heat Treatment on the Compressive Mechanical Properties of Carbon/Phenolic Resin Ablator** ``  
*Tomohiro Era, Ken Goto, Hiroshi Hatta, Hitoshi Kohri, Takayoshi Yagasaki*
- WED-SE25-05 **Characterization of Fatigue Damage of Orthotropic CF/NY6 Laminates Through Thermoelastic Stress Analysis** ``  
*Ryuta Suzuki, Toshiyuki Uenoya, Hiroyuki Miyamoto*
- WED-SE25-06 **Restraining Effects of Transverse Cracking in 90° Layer of Thin-ply CFRP Cross-Ply Laminates** ``  
*Hiroki Takeuchi, Hiroshi Saito, Isao Kimpara*
- WED-SE25-07 **Dynamic Delamination of Z-Pin Reinforced Laminates** ``  
*Weinong Chen, Andrew Schlueter*
- WED-SE25-08 **Energy Dissipation of CFRP-Kevlar Hybrid Composites Shield for Space Use** ``  
*Jin-Bum Moon, Gun Lim, Chun-Gon Kim, Shantanu Bhowmik*
- WED-SE25-09 **Influence of Speed on the Crushing Behavior of Composite Plates** ``  
*Anh Vu Duong, Samuel Rivallant, Jean-Jacques Barrau, Caroline Petiot, Benoit Malherbe*

#### Session 26 - Mechanics & Methods

Time: 14:00-16:00

Room: 201C, 2F

Co-Chairs: Prof. Ming-Chuen Yip, Prof. Masamichi Kawai

- WED-SE26-01 **Damage Progress and Failure of Impact Damaged Composite Laminate under Compressive Load** ``  
*Hiroshi Suemasu, Hayato Sameshima, Makoto Ichiki, Yuichiro Aoki*
- WED-SE26-02 **Off-Axis Fatigue Strength of Notched Fiber Metal Laminate GLARE-3 and Mechanistic Modeling** ``  
*Masamichi Kawai, Tomoya Sato*
- WED-SE26-03 **Design of a New Rotating-Grip Test Fixture for Testing Off-Axis Composites** ``  
*Yi Xiao, Masamichi Kawai, Hiroshi Hatta*

WED-SE26-04 **Development on Ultra-High-Speed In-Situ Observation Method for Tensile Fracture Behavior of Model Fiber-Reinforced Composite**

*Mototsugu Tanaka, Tomoki Hama, Hideaki Kusano, Yoshiyasu Hirano, Yuichiro Aoki, Hiroshi Saito, Isao Kimpara*

WED-SE26-05 **The Effect of Molding Condition on Mechanical Properties of Glass Fiber Reinforced Thermoplastic Using In Situ Polymerizable Polyamide6 as the Matrix**

*Koichi Nakamura, Norio Hirayama, Goichi Ben, Hirofumi Nisida*

WED-SE26-06 **A Study on the Variation of the Orthotropic Properties of T800 Carbon/Epoxy Composites According to the Forming Pressure**

*Myong-Gil Park, Sung-Kyum Cho, Hyun-Jun Kim, Seung Hwan Chang*

WED-SE26-07 **Influence of Head Shape on the Burst Pressure of Thin Walled Cylindrical Composite Vessels**

*Mohamad Salmani Givi, Jamal Zamani, Amir Jamshidi*

WED-SE26-08 **Experimental and FEM Analysis of Filament-Reinforced Cylindrical Vessels under Internal Pressure**

*Amir Jamshidi, Jamal Zamani, Mohamad Salmani Givi*

WED-SE26-09 **A Study of Fire Resistance of Membranes for Architectural Uses**

*Feng-Chun Tseng, Sheng-Fu Chiu, Lo-Hwa Li, Chen-Ni Wang*

### Session 27 - Nano-Reinforcement & CNT (3)

Time: 14:00-16:00

Room: 201D, 2F

Co-Chairs: Prof. Wen Hong Ruan, Prof. Chen-Feng Kuan

WED-SE27-01 **Synthesis of ZnO/CNTs Hybrid Nanoparticles and their Reinforcement in Nylon-6 Polymer Fibers**

*Vijaya Rangari, Ghouse Mohammad, Shaik Jeelani*

WED-SE27-02 **Analytical and Experimental Study for Vibration of Laminated VGCF/Al Circular Plates**

*Naoaki Koya, Shinya Honda, Katsuhiko Sasaki, Yoshihiro Narita*

WED-SE27-03 **The Effect of Carbon Nanotubes and Nanosilica Particles on the Toughening Performance of Polymer-Based Nanocomposites**

*Tsung-Han Hsieh, Anthony Kinloch, Ambrose Taylor, Sprenger Sprenger*

WED-SE27-04 **Multi-walled Carbon Nano-Tubes/Copper Nano-hybrids Reinforced Carbon Fabric Composites**

*Wonoh Lee, Sang-Bok Lee, Joon-Hyung Byun*

WED-SE27-05 **Evaluation of Soundproof Effect of Nanoclay-reinforced Polypropylene Composites**

*Jun Yan, Jae-Chul Lee, Yeon-June Kang, Sung-Hoon Ahn*

WED-SE27-06 **Preparation, Structure and Mechanical Properties of Unidirectional Nano-Silica/PP Composites**

*Ming-Hui Wang, Ming-Qiu Zhang, Min-Zhi Rong, Wen-Hong Ruan*

## THURSDAY, NOVEMBER 18, 2010

### Session 28 - Nanocomposites & Multi-Functional Composites / Smart Materials (6)

Time: 09:00-10:40

Room: 201A, 2F

Co-Chairs: Prof. Yihua Cui, Prof. Gad Marom

- THU-SE28-01 **Multi-Functional Smart Materials and Their Applications**''  
*Shanyi Du, Jinsong Leng*
- THU-SE28-02 **Preparation, Fabrication and Tribological Behavior of Nano-Al<sub>2</sub>O<sub>3</sub> Reinforced PET Composite Materials**''  
*Yihua Cui, Xin Jin, Feng Shen, Xinxin Wang, Bo Xie*
- THU-SE28-03 **Preparing Organic-Inorganic Nanocomposite via Selective Dispersion of PS-Tethered SiO<sub>2</sub> Particles in Polystyrene-Block-Polymethylmethacrylate Copolymer**''  
*Raymond Tsiang, Chia-Hong Liu, Je-Yuan Yeh, Li-Ko Chiu*
- THU-SE28-04 **Inducing Supramolecular Structures in Polymers by the Combined Effects of Nanoparticles and Flow**''  
*Gad Marom*
- THU-SE28-06 **Mechanical and Electric Properties of Carbon Nanotubes/Epoxy Nanocomposites with NMP**''  
*Meng-Kao Yeh, Nyan-Hwa Tai, Chi-Shun Song, Ching-Chih Hsieh*
- THU-SE28-07 **Optimizing Electrophoretic Deposition Conditions for VGCF/Carbon Fiber Hybrid Multiscale Composites via Taguchi Method**''  
*Yi-Qi Wang, Joon-Hyung Byun, Byung-Sun Kim, Jung-Il Song*

### Session 29 - Computational Mechanics & Multi-Scale Modeling

Time: 09:00-10:40

Room: 201B, 2F

Co-Chairs: Prof. Kuo-Ning Chiang, Prof. Seung-Hwan Chang

- THU-SE29-01 **A Multi-Scale Analysis for Structural Design of Fibrous Composites**''  
*Masaru Zako*
- THU-SE29-02 **Optimization of Fibrous Composite Plates for In-Plane Strength Using Curvilinear Fibers**''  
*Shinya Honda, Kosuke Owatari, Yoshihiro Narita*
- THU-SE29-03 **Vibration Optimization of Laminated Parallelogram Plates with Experimental Verification**'''  
*Toshinori Fujii, Shinya Honda, Yoshihiro Narita*
- THU-SE29-04 **Free Vibration of Rectangular Composite Sandwich Plates with Internal Masses and Flexible Supports**''  
*Tai Yan Kam, S.J. Wang*
- THU-SE29-05 **Finite Element Analysis of Biomechanical Behavior of Fractured Tibia Applied by Composite Bone Plates**'''  
*Suk-Hun Kim, Seung-Hwan Chang*
- THU-SE29-06 **Elliptical Inclusion Problems in Composites**''  
*Seiichi Nomura, Thanuj Pathapalli*

### Session 30 - Biomedical Composites & Bio-Mimetic Materials

Time: 09:00-10:40

Room: 201C, 2F

Co-Chairs: Prof. Hsin-Lung Chen, Prof. Jyh-Ping Chen

- THU-SE30-01 **Local Strain Distribution During Loading in Nacre by In-Situ Fe-Sem**''  
*Yoshihisa Tanaka, Hideki Kakisawa, Satoshi Kishimoto*
- THU-SE30-02 **The Effect of Biomimetic Nanostructured Cell Matrixes on Neural Behaviors**''  
*Yen-Pei Lu, Ming-Yu Lin, Ting-Gang Chen, Min-An Tsai, Pei-Chen Yu, Yu-Cheng Ou, Fu-Han Ho*



THU-SE30-03 **Estimation of Mechanical Behaviors for FRP Cup in Artificial Hip Joint under Press-Fit Loading**

*Tetsusei Kurashiki, Hayato Oka, Tetsusei Kurashiki, Masaru Zako, Shun-Ichi Bandoh*

THU-SE30-04 **Supramolecular Chemistry on Multi-walled Carbon Nanotubes Decorated with Fe<sub>3</sub>O<sub>4</sub> Nanoparticles for Controlled Targeted Drug Delivery**

*Yu-Jen Lu, Shin-Ming Li, Kuo-Chen Wei, Yuan-Li Huang, Hong-Chieh Tsai, Chiung-Yin Huang, Pin-Yuan Chen, Shu-Mei Chen, Chen-Chi M. Ma, Jyh-Ping Chen*

#### Session 31 - Metal Matrix Composites

Time: 09:00-10:40

Room: 201D, 2F

Co-Chairs: Dr. Ho-Chung Fu, Prof. Syang-Peng Rwei

THU-SE31-01 **Friction Stir Welding of SiCp/2009Al Composite Plate**

*Zong-Yi Ma, Dong Wang, Quan-Zhao Wang, Bolu Xiao*

THU-SE31-03 **A Study on Impact Behavior of Composites Reinforced by Randomly Distributed Spherical Particles**

*Khanh-Hung Nguyen, Ngoc-Trung Nguyen, Yong-Bin Park, Jin-Hwe Kweon, Jin-Ho Choi*

THU-SE31-04 **Evaluation of Strength of Composite Single-Lap Bonded Joint Exposed to Hot Water Environment**

*Hyeon-Jeong Yang, Mun-Gyu Jeong, Bae-Hyun Choi, Jin-Hwe Kweon, Jin-Ho Choi*

THU-SE31-05 **Effect of RVE Size in the Discrete Dislocation Simulation of the Mechanical Response of Metal Matrix Composites with Nanosized Reinforcement Particles**

*Elliot Law, Sze-Dai Pang, Ser-Tong Quek*

THU-SE31-06 **Thermal Properties of Diamond/Ag Composites Fabricated by Wet Ball-Milling Method**

*Jiun-Shian Liu, Chih-Yu Chung, Su-Jien Lin, Mu-Tse Lee, Tze-Han Chen*

#### Session 32 - Sandwich Structure

Time: 11:00-13:00

Room: 201A, 2F

Co-Chairs: Prof. Meng-Kao Yeh, Prof. Chang-Hsuan Chiu

THU-SE32-01 **Analysis, Experiment and Cost Design for Vibration of Hybrid Laminated Plates**

*Takashi Koshiba, Shinya Honda, Yoshihiro Narita*

THU-SE32-02 **Experimental Determination of Design Allowable for Composite Sandwich Joints**

*Yong-Bin Park, In-Hun Kim, Jin-Hwe Kweon, Jin-Ho Choi, Hyun-Il Cho*

THU-SE32-03 **Balancing Structural and Acoustic Performance of Sandwich Panels for Vehicle Applications with Topology, Property, and Size Optimization**

*Christopher Cameron, Eleonora Lind-Nordgren, Per Wennhage, Peter Göransson*

THU-SE32-04 **High Temperature and Room Temperature Evaluation of Characteristics for Heat-Resistant CFRP Sandwich Panel**

*Keiju Oguri, Masashi Koyama, Ken Goto, Kenji Minesugi, Yuichi Ishida, Hiroshi Fukuda*

THU-SE32-05 **Residual Dent Formation on Foam Core Sandwich Beams Under Indentation Loading**

*Takafumi Uezono, Shu Minakuchi, Nobuo Takeda*

THU-SE32-06 **Critical Strain Energy Release Rate of Crack-Embedded Sandwich Structure by Finite Element Method**

*Meng-Kao Yeh, Wan-Hsuan Huang*

THU-SE32-07 **Bending Behavior of Sandwich Beam with a Central Debonding Region**

*Meng-Kao Yeh, Yu-Wen Chiu*

THU-SE32-09 **Development of Composite Plates for Compact Plate Silencer**

*Karen Hoi Yan Cheung, Yat Sze Choy, Kin Tak Lau, Liang Wu*

### Session 33 - Textile Composites

Time: 11:00-13:00

Room: 201B, 2F

Co-Chairs: Prof. Jieng-Chiang Chen, Prof. Kurashiki Tetsusei

- THU-SE33-01 **Development of Artistic Composites Reinforced by Silk-Obi Material**''  
*Naoya Kurahashi, Motonari Araki, Teruo Kimura*
- THU-SE33-02 **On an Estimation of Damage Development for Non Crimp Fabric Composites Based on Mesh Superposition Method**''  
*Tetsusei Kurashiki, Yuzo Fujita, Yuki Watanabe, Tatsuya Watanabe, Masaru Zako*
- THU-SE33-03 **Mechanical Characteristics of Woven Angle-Ply Laminate Based on Multi-Scale Analysis**''  
*Yuki Watanabe, Yuzo Fujita, Masaru Zako, Tetsusei Kurashiki*
- THU-SE33-04 **Notch Strength of Jute Fiber Woven Fabric Reinforced Composites**''  
*Yutaka Tanaka, Ying Yu, Yuguang Yang, Hiroyuki Hamada*
- THU-SE33-05 **A Spatial Spring Model for Predicting the Elastic Properties of 3D (4-Step) Braided Composites**''  
*Wen-Liang Chen, Chung-Li Hwan, K.-H. Tsai, Wei-Chong Liao*
- THU-SE33-06 **The Formation of the Multi Submicron Grooves Structure on Fiber Surface and its Water Transportation Properties**''  
*Ruey-Loung Chern, Chao-Huei Liu*
- THU-SE33-07 **Relationship between Coefficient of Thermal Expansion and Thermal Residual Stress in CF/Epoxy Plain-Weave Composite**''  
*Satoshi Takahashi, Naoyuki Watanabe, Hikaru Hoshi, Yutaka Iwahori*
- THU-SE33-08 **The Study of the Composite Materials Surface Roughness Using Reflection Theory to Quantitative Analysis**''  
*Guei-Ci Li, Ching-Hsuan Wang, Huei-Ren You, Min-Long Cai*

### Session 34 - Ceramic Composites

Time: 11:00-13:00

Room: 201C, 2F

Co-Chairs: Prof. Jem-Kun Chen, Dr. Akio Ohtani

- THU-SE34-01 **Fabrication of Poly(Ether Imide)/BaTi<sub>4</sub>O<sub>9</sub> Composites for the Microwave Flexible Substrate Application**'''  
*Cheng-Fu Yang, Chia-Ching Wu, Chean-Cheng Su*
- THU-SE34-02 **Fabrication of 0.655Pb(Mg<sub>1/3</sub>Nb<sub>2/3</sub>) O<sub>3</sub>- 0.345PbTiO<sub>3</sub> Ceramics and Devices by Tape-Casting Process**'''  
*Kongjun Zhu, Hui Wang, Jinhao Qiu, Jun Luo, Hongli Ji*
- THU-SE34-03 **Tensile Fracture Behavior of Silicon Impregnated C/C Composite**''  
*Akio Ohtani, Ken Goto*
- THU-SE34-04 **Finite Element Analysis of Fracture Toughness in Al<sub>2</sub>O<sub>3</sub>/SiC Bi-Materials Interfaces**''  
*Gi-Beop Nam, Hyun-Kon Ku, Afsar Ali Md., Jung Il Song, Rasel Md. Sheikh*
- THU-SE34-06 **Densification of Porous Yttria-Stabilized Zirconia: Model and Application**''  
*Jan Ma, Jie Lu*

### Session 35 - Processing & Manufacturing Technologies

Time: 11:00-13:00

Room: 201D, 2F

Co-Chairs: Prof. Woo Il Lee, Dr. Richard J. T. Lin

- THU-SE35-01 **Simulation and Experimental Study on Unsaturated Flow Behavior and Void Minimization in Liquid Composite Molding Process**''  
*Woo Il Lee, Jae Won Jung, In Joo Hwang, Chung Hae Park, Moon Kwang Um*

- THU-SE35-02 **Spontaneous Impregnation and Capillary Phenomena in Carbon Fiber Rovings** ``  
Angelos Miaris, Ralf Schledjewski
- THU-SE35-03 **Identifications of End Milling Machinability Parameters for Glass Fibre Reinforced Plastics Using Statistical Methods** ``  
Richard J.T. Lin, Azwan I. Azmi, Debes Bhattacharyya
- THU-SE35-04 **A 2.5D Model of the Resin Infusion Process, Experiments and Simulation** ``  
Simon Bickerton, Quentin Govignon, Bart Verleye, Piaras Kelly
- THU-SE35-05 **Micro-Structure and Tribological Properties of Low-Carbon Steels (Steel 20 and Steel 45) by ECAP** ``  
Song-Jeng Huang, Po-Chou Lin
- THU-SE35-06 **Effect of Maleated Poly(Ethylene-1-Octene) and Zinc Ionomer Content on the Impact Performance of Long Carbon Fiber Reinforced Thermoplastics** ``  
Hyun-Min Kang, Chi Hoon Choi, Do Suck Han, Myungchul Park, HeeJune Kim
- THU-SE35-07 **Application of Distributed Optical Fiber Sensing to Manufacturing Process Monitoring of CFRP Panels** ``  
Kota Fujimoto, Yusaku Ito, Shu Minakuchi, Tadahito Mizutani, Nobuo Takeda, Hiroki Koinuma, Takayuki Shimizu
- THU-SE35-08 **Effect of Polystyrene-Modified Natural Rubber (SNR) on Mechanical Properties of Waste Natural Rubber Latex/Polystyrene Blend (WNRL/PS)** ``  
Orathai Boondamnoen, Azlan Ariffin, Azura A. Rashid, Ohshima Masahiro, Soawaroj Chuayjulji
- THU-SE35-09 **Stacking Sequence Optimization of Filament Wound Composite Cylinder Using Micro-Genetic Algorithm for Underwater Applications** ``  
Ji-Seon Kim, Chul-Jin Moon, Jin-Hwe Kweon, Jin-Ho Choi, Jong-Rae Cho, Sang-Rae Cho, Yoon-Sik Cho

# POSTER SESSIONS

TUESDAY, NOVEMBER 16, 2010

17:30-18:30

WEDNESDAY, NOVEMBER 17, 2010

16:20-17:30

## B. Biomedical Composites & Bio-Mimetic Materials

- B-GEN-01 **Preparation of Novel Liquid Suppository Through In Situ Gelling for Site-Targeting Delivery of Anti-Colorectal Cancer Drug**  
*Hong-Ru Lin, Tseng Chao-Chih, Ling Ming-Hung, Lin Yiu-Jiuan, Wang Tsui-Shuang*
- B-GEN-02 **Poly(Acrylic Acid)-Chitosan Hydrogel Composites Reinforced by Nano-Silica for Tissue Engineering Application**  
*Hong-Ru Lin, Hsu Feng-Chien, Ling Ming Hong, Lin Yiu-Jiuan*
- B-STU-03 **Preparation of Ti/Mg Composite with Uniform and Gradient Porosity by Powder Metallurgy for Biomedical Applications**  
*Yueqin Wang, Jie Tao, Jinlong Zhang, Tao Wang*
- B-GEN-04 **Development of a Novel Composite Fiber Wound Dressing for Promoting Restoration of Skin Architecture**  
*Chan-Yi Yang, Jui-Sheng Lee, Chih-Kang Peng*
- B-GEN-05 **Fabrication of Electrospun (ES) Hydrophilic PLA95/Biocerimic Membranes for GTR/GBR Applications**  
*Hsin-Tai Hu, Hong-Da Wu, Chia-Hsiang Chang, Sheng-Yang Lee, Jen-Chang Yang*
- B-GEN-06 **Enhanced Physical and Wound Closure Properties in PU/Hydrogel Nanocomposites Containing FGF-2 and a Series of Dressings**  
*Te-Hsing Wu, Hong-Ru Lin, Lei-Han Shen, Jia-Hau Li, Nini-Chen Tsai*
- B-GEN-07 **The Development of a Nanocrystalline Apatite Reinforced Crosslinked Hyaluronic Acid-N, O-Carboxymethylchitosan (NOCC) Composite as an Injectable Bone Cement**  
*Fwu-Long Mi, Shu-Huei Yu, Deh-Wei Tang, Hao-Ying Hsieh, Tzu-Hung Kuo, Wei-Ren Wang Wang*
- B-GEN-08 **Antibacterial, Antioxidant and Cytotoxicity of Caffeic acid / N,O-carboxymethylchitosan (NOCC)/ Methylcellulose Composite Films**  
*Shu-Huei Yu, Fwu-Long Mi, Yi-Cheng Ho, Hao-Ying Hsieh, Po-Hsien Lin*
- B-GEN-09 **Preparation and Characterization of a New Biocompatible Nanocomposite: Bacterial Cellulose/Poly (Vinyl Alcohol)**  
*Magdiel Setyawati*
- B-STU-10 **Programmed Self-Organization of Nanoparticles on a DNA-Templated Nanostructure**  
*Ming-Yu Lin, Fu Han Ho, Chao Chai Yang, Hung Ji Huang, Yuh-Shyong Yang*
- B-GEN-11 **Chromatin-Like Beads-on-String Structure of DNA-Dendrimer Complex**  
*Chun-Jen Su, Chun-Yu Chen, Yen-Chi Huang, Hsin-Lung Chen*
- B-GEN-12 **Simulation of DNA Structural Effect for High-Sensitive Biosensor**  
*Fu Han Ho, Ming Yu Lin*
- B-STU-13 **The Synthesis of Calcium Phosphate by Reverse Emulsion Method and Its Use for the Preparation of Chitosan Composite Membranes**  
*Hung-Yin Tai, Trong-Ming Don, Earl Fu*

## C. Ceramic Composites

- C-STU-01 **Relations Between Matrix Densification and Fatigue Property for Unidirectional SiC/SiC Composites**  
*Yohei Komizo, Junji Noda, Michiyuki Suzuki, Koichi Goda*
- C-GEN-02 **Microwave Absorption Behavior of Transparent Al-Doped Hexagonal ZnO Nanofilms**  
*Shi-Yuan Tong, Jenn-Ming Wu, Yu-Ting Huang, Min-Da Yang, Mean-Jue Tung*

C-GEN-03 **Characterization of NiCuZn ferrite and its Composite Materials**

*Chih-Wen Chen, Li-Jiun Wang, Wen-Song Ko, Mean-Jue Tung*

C-STU-04 **Synthesis and Characterization of Fluoro-Contain Polymethylsilsesquioxane**

*Wen-Pin Chuang, Yuung-Ching Sheen, Su-Mei Wei, Chen-Chi M. Ma, Wei-Syuan He*

**D. Composites for Fuel Cells & Solar**

D-STU-01 **Facile Route for Synthesizing Anatase TiO<sub>2</sub> Nanocrystals via Microwave-Assisted Process for Dye-Sensitized Solar Cells**

*Ming-Yu Yen, Min-Chien Hsiao, Shu-Hang Liao, Han-Min Tsai, Po-I Liu, Li-Ching Chung, Chen-Chi M. Ma, Min-Chao Chang, Shao Hsin*

D-STU-02 **Effect of Graphite Sizes and Carbon nanotubes Content on Flowability of Bulk Molding Compound and Formability of the Composite Bipolar Plate for Fuel Cell**

*Min Chien Hsiao, Shu-Hang Liao, Chen-Chi M. Ma, Ming-Yu Yen, Min-Hsuan Hsiao, Han-Min Tsai, I-Ting Wu*

D-STU-03 **Constructing a Hierarchical Graphene-carbon Nanotubes Architecture for Enhancing Exposure of Graphene and Electrochemical Activity of Pt Nanoclusters**

*Shin-Yi Yang, Yuan-Li Huang, Hsi-Wen Tien, Jen-Yu Wang, Wei-Ning Lin, Shin-Ming Li, Yu-Sheng Wang, Chen-Chi M. Ma, Chi-Chang Hu*

D-GEN-04 **Composites Bipolar Plates for PEM Fuel Cells**

*Yong-Song Chen, Biing-Jyh Weng, Jiunn-Yih Lee, Jin-Tarng Hwang*

D-STU-05 **Novel Semi-Interpenetrating Network Membranes Containing Polyhedral Oligomeric Silsesquioxanes (POSS) in Direct Methanol Fuel Cell (DMFC) Applications**

*Ying-Jie Yen, Yun-Sheng Ye, Chih-Chia Cheng, Wen-Yi Chen, Feng-Chih Chang*

D-STU-06 **Influences of Gas Diffusion Layers with Pitch-Based Carbon Coated in Polymer Electrolyte Membrane Fuel Cell**

*Wei-Hung Chen, Tse-Hao Ko, Jui-Hsiang Lin, Chih-Jung Hung, Yi-Chen Lin, Han-Sin Yan, Wan-Jing Chen*

D-GEN-08 **Tandem Structure Composite Electrodes by EISA Method for Hybrid Solar Cells**

*Po-Chou Chen, C.B. Tsai, R.R. Wang*

**E. Computational Mechanics & Multi-Scale Modeling**

E-STU-01 **A Study on the Standardized Finite Element Models for Carbody Structures of Railway Vehicle Made of Sandwich Composites**

*Kwang-Bok Shin, Hyung-Jin Jang, Hee-Young Ko, Tae-Hwan Ko*

**G. Friction and Wear of Composites**

G-GEN-01 **Studies on the Amorphous Thin Film Characteristics of A Zr-Based Fabricated by Magnetron Sputtering Process**

*Chi-Wen Chu, C.H Lin, C.H Hung*

**H. Impact & Dynamic Response / Fracture, Fatigue & Damage Mechanics**

H-STU-01 **Fracture Behavior of Epoxyacrylate Composites with Surface-Modified Silica Spheres**

*Yu-Chieh Su, Trong-Ming Don*

H-GEN-02 **Evaluation for Impact Performance of Inline Disk wheel made of Carbon Fiber Reinforced Composites**

*Sang-Jin Lee, Kwang-Bok Shin*

H-STU-03 **Sound Radiation of Laminated Composite Plates Subjected to Transient Vibration**

*Tai Yan Kam, T H Chiang*

**I. Industrial Applications**

I-STU-01 **Preparation and Microwave Absorbency of Fe and FeNi<sub>3</sub> Composites**

*Chen-Chi M. Ma, Kuo-Chi Yu, Chih-Chun Teng, Yuan-Li Huang, Siu-Ming Yuen, Shu-Hang Liao, Shie-Heng Lee, Ching-Chih Chang*

- I-STU-02 **Dielectric Properties of Carbon-Based Rubber Composites** ``  
*Kuang Yang Liao, Tzong-Ming Wu*
- I-GEN-03 **A Study on the Behavior of Fireproof Material Bonded CFRP Confining Concrete Exposed to Fire** ``  
*Ching-Chang Lin, Cheng-Hou Liu*
- I-GEN-04 **The Strength and Ductility of Concrete Specimens Strengthened by Carbon Fiber Reinforced Plastics** ``  
*Ching-Chang Lin, Wei-Chong Liao*
- I-STU-05 **Low Temperature Processible Low Refractive Index Polymethylsilsesquioxane** ``  
*Wen-Pin Chuang, Yuung-Ching Sheen, Su-Mei Wei, Chen-Chi M. Ma, Wei-Syuan He*
- I-GEN-06 **Experimental Study and Finite Element Analysis of GFRP Dowels for Concrete Pavement** ``  
*Chi-Ping Wang, Shang-Yi Lai, Hong-Yu Pan*
- I-GEN-07 **Preparation and Evaluation of Hydrocarbon Trap for Gasoline-Powered Vehicle Using Nonwoven Composite** ``  
*Young Hwan Bae, Yeong Og Choi*
- I-GEN-08 **A Study on Mechanical Performances and Reliability Assessment of Creep Lifetimes for Carbon Fiber Reinforced Polymer Plates in Civil Applications** ``  
*Ki-Young Kim, Jong-Seong Yoo, Woo-Lee Park*
- I-GEN-09 **Integral Composite Fuel Tank** ``  
*Kuo-Wei Wu, Chu-Cheng Ko, Cheng-Ching Lee*
- I-GEN-10 **Study on the Development of Porous Materials Used in Aerostatic Platform** ``  
*C.S. Lin, C.C. Chang, W.T. Chen, F.M. Chen*

#### J. Interfaces & Interphases

- J-GEN-01 **Preparation and Interfacial Properties of Diblock Copolymer (PS-b-PDMS)** ``  
*Hou-Hsein Chu, Jimmy Wang, Kuang Sein Chuang*

#### K. Joining and Repair of Advanced Composites

- K-GEN-01 **Preparation And Characteristics of High Temperature Epoxy-Phenolic Adhesive Film For Bonding Metal And Reinforced Composites** ``  
*Shyi-Liang Jwo, Darping Chuang, Cheng-Huan Wang, Ling-Yueh Yang, Jen-Pin Yu*

#### L. Metal Matrix Composites

- L-STU-01 **Preparation and Capacitive Characteristics of PANI/Ti Composite Electrodes** ``  
*Yen-Chang Chen, Tar-Hwa Hsieh, Ko-Shan Ho*
- L-GEN-02 **Characterization of Carbonyl Iron Composite and the Application of Radio Frequency Identification** ``  
*Yu-Ting Huang, Mean-Jue Tung, Chih-Wen Chen, Li-Jiun Wang, Wen-Song Ko*

#### M. Nanocomposites & Multi-Functional Composites / Smart Materials

- M-GEN-02 **Quantitative Approach to the Degree of Dispersion in Nanoparticles Reinforced Polymer Composites Using UV-vis Spectroscopy** ``  
*Lee Sang-Bok, Lee Wonoh, Yi Jin-Woo, Jeong Bo-Hwa, Um Moon-Kwang*
- M-STU-03 **Synergetic Effect of Thermal Conductive Properties of Epoxy Composites Containing Functionalized Multi-Walled Carbon Nanotubes and Aluminum Nitride** ``  
*Chih-Chun Teng, Chen-Chi M. Ma, Kuo-Chan Chiou, Tzong-Ming Lee*
- M-STU-04 **Electrical, Morphological and Rheological Properties of Silane Modified Silver Nanowire Conductive Polymer Composites** ``  
*Yi-Hsiuan Yu, Chen-Chi M. Ma, Siu-Ming Yuen, Chih-Chun Teng, Yuan-Li Huang, Ikai Wang, Ming-Hsiung Wei*
- M-STU-05 **Experimental and Modeling Study of C/C Composites by the CVI of the Pyrolysis Carbon from Propane** ``  
*Gui-Yung Chung, Kyung-Hoon Bang*

- M-GEN-06 **Static and Modulated Force Mechanical Properties of Functionalised POSS - Elastomer Nanocomposites** \*\*\*\*  
*Robert Shanks, Steven Spoljaric*
- M-GEN-07 **Isothermal Crystallization Behavior of Isotactic Polypropylene/Polyhedral Oligomeric Silsesquioxane Nanocomposites** \*\*\*\*  
*Jean-Hong Chen, Hsin-Lung Chen, Wei-Tsung Chuang, U-Ser Jeng*
- M-GEN-08 **Microstructure and Morphology Ruptured and Developed of Polyethylene-Block-Poly (Ethylene Glycol) Diblock Copolymers During Heating and Isothermal Crystallization Processing by Time Resolved Simultaneous WAXS and SAXS** \*\*\*\*  
*Jean-Hong Chen, Wen-Bin Su, Hsin-Lung Chen, Wei-Tsung Chuang, U-Ser Jeng*
- M-STU-09 **One-Step Reduction of Silver Nanocomposites Using Polyaniline Reductant** \*\*\*\*  
*Wan-Ting Lo, Ko-Shan Ho, Tar-Hwa Hsieh*
- M-GEN-10 **Percolation Threshold and Activation Energy of Polypropylene-Alkyl Polyoxyethylene-Montmorillonite Intercalated Complex** \*\*\*\*  
*Robert Shanks, Muthukumaraswamy Pannirselvam, Rahul Gupta, B. Park, Hyoung Choi, Margaret Jollands, Sati Bhattacharya*
- M-GEN-11 **Effects of Polyether Treated Clay on Thermal Properties of Polypropylene Clay Nanocomposites** \*\*\*\*  
*Robert Shanks, Muthukumaraswamy Pannirselvam, Rahul Gupta, B. Park, Hyoung Choi, Margaret Jollands, Sati Bhattacharya*
- M-STU-12 **A Study on the Thermal and Mechanical Properties of PMMA Composite Materials by Compounding with Natural and Expanded Graphite** \*\*\*\*  
*Chun-Wei Wu, Kuo-Bin Cheng, To-Hing Tang*
- M-STU-13 **Synthesis and Phase Behavior of Mesoporous Silicas Templated by Amphiphilic Diblock Copolymer Poly(Ethylene Oxide)-b-Polyethylene** \*\*\*\*  
*Jheng-Guang Li, Wei-Chih Chen, Shiao-Wei Kuo*
- M-STU-14 **Preparation and Electromagnetic Properties of Polypyrrole-Coated Silica/Ni-Zn ferrite Nanoparticles II. Influence of Silica Shell** \*\*  
*Po-Hsing Li, Tar-Hwa Hsieh, Ko-Shan Ho*
- M-GEN-15 **Flame Retardant Properties of Polylactide Nanocomposite with Aluminum Hydroxide and Montmorillonite** \*\*\*\*  
*Cheng-Bin Yu, Kuo-Chung Cheng, Sea-Fue Wang, Tsu-Hwang Chuang, Wenjeng Guo*
- M-STU-16 **Preparation of Gold/Arabinogalactan Nanocomposites by Green Route** \*\*\*\*  
*Chih-Wei Chou, Ya-Lin Fang*
- M-STU-17 **Transparent Sulfur-containing Polyimide/TiO<sub>2</sub> Optical Hybrid Films with High Flexibility, Tunable Refractive Index, and Excellent Thermal Stability** \*\*\*\*  
*Pei-Hsuan Wang, Chih-Jung Chen, Guey-Sheng Liou*
- M-STU-18 **Synthesis and Characterization of Polyhedral Oligomeric Silsesquioxane (POSS) with Multifunctional Benzoxazine Groups through Click Chemistry** \*\*\*\*  
*Yi-Chen Wu, Shiao-Wei Kuo*
- M-GEN-19 **Polymer Nanocomposites Containing Clay/Silica Nanohybrids** \*\*\*\*  
*Jeng-Yue Wu, Tzu-Fan Tseng*
- M-STU-20 **Preparation and Degradation Behavior of Polyaniline Coated Monodispersed Polystyrene Particles** \*\*\*\*  
*Erh-Chiang Chen, Tzong-Ming Wu*
- M-STU-21 **Size and Shape-controlled Synthesis of Gold Nanostructure through Heating Route by Natural Polymer in Aqueous Solution** \*\*\*\*  
*Chih-Wei Chou, Ko-Hsin Chang*
- M-STU-22 **Biosynthesis and Characterization of a Biopolymeric Metal Nanocomposites** \*\*\*\*  
*Chih-Wei Chou, Ya-Hsun Hou*
- M-GEN-23 **Preparation and Characterization of Polyimide/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> Composites Films** \*\*\*\*  
*Cheng-Ho Chen, Chen-Fang Lin*
- M-STU-24 **Tensile Strength of a Single Silk Nanofiber** \*\*\*\*  
*Kai Wei, Naotaka Kimura, Taiki Nakamura, Byoung-Suhk Kim, Ick-Soo Kim*

- M-GEN-25 **Preparation and Characterization of The Poly(l-Lactic Acid)/Titania Nanocomposites by the Sol-Gel Processing** \*\*\*  
*Shu Chuan Liao, Chih Yuan Hsu, Chiu Pei Chun, Chean Cheng Su*
- M-STU-26 **High Refractive Index PU-Acrylate/ZrO<sub>2</sub> Transparent Nanocomposite** \*\*  
*Sho-Hsun Wang, Shinn-Jen Chang, Kuen-Yi Wu, Anthony Shiaw-Tseh Chiang*
- M-GEN-28 **Stability and Physicochemical Properties of the Aqueous Polyurethanes/Silica/Silver Nitrate Nanocomposite Dispersions** \*\*\*  
*Hsun-Tsing Lee, Hsiao-Chieh Chen, Chih-Chi Chen*
- M-GEN-29 **Preparation, Characterization, Flame Retardance and Thermal Properties of Organic-Inorganic Composites Involving Epoxy and Polyhedral Oligomeric Silsesquioxane (POSS)** \*\*\*  
*Chin-Lung Chiang, Chung-Hwei Su, Yi-Bang Chiu, Chih-Chun Teng*
- M-STU-30 **Synthesis of Thermo-Sensitive Nanoparticles Based on Poly(N-Isopropylacrylamide-co-((2-Dimethylamino) Ethyl Methacrylate)) Copolymer for Drug Controlled Release** \*\*\*  
*Han-Min Tsai, Cheng-Liang Peng, Shu-Jyuan Yang, Ming-Jium Shieh, Chia-Fu Lin, Min-Chien Hsiao*
- M-STU-31 **Ordered Mesoporous Silicas with Large Regulable Pores Templated from Amphiphilic Diblock Copolymer Poly(Ethylene oxide)-b-poly(ε-Caprolactone)** \*\*  
*Jheng-Guang Li, Yu-De Lin, Yen-Hsiang Chang, Shiao-Wei Kuo*
- M-STU-32 **The Effect of Layered Structure of MWCNT/SMP Composites on Electromagnetic Shielding** \*\*  
*Qingqing Ni, Xudong Jin, Toshiaki Natsuki*
- M-STU-33 **High Performance Polybenzoxazine Nanocomposites Containing Multifunctional Polyhedral Oligomeric Silsesquioxane (POSS) with Vinyl-terminated Benzoxazine Groups** \*\*  
*Kai-Wei Huang, Shiao-Wei Kuo*
- M-STU-34 **In Situ Preparation of Gold-Polymer Nanocomposite by Seed-Mediated Growth Method** \*\*\*  
*Chih-Wei Chou, Hui-Hsuan Hsieh*
- M-STU-35 **Chitosan-Based Multifunctional Nanocomposites for Cancer Therapy: Synthesis, Characterization, and Functionality** \*\*\*  
*Chia-Heng Yang, Chin-Weng Chou*
- M-STU-36 **Thermal and Mechanical Properties of Carbon Aerogels for Nanocomposites** \*\*\*  
*Wei Jen Chen, Ming Yuan Shen, Yi Luen Li, Huang Suo Su, Jia Ying Li, Chun Chun Chou, Ming Chuen Yip*
- M-GEN-41 **Waterborne Polyurethanes/Silver Nitrate Nanocomposites: Interaction Between the Two Components on Properties of the Dispersions and Their Cast Films** \*\*\*  
*Hsun-Tsing Lee, Li-Huei Lin, Chee-Chan Wang*
- M-STU-42 **Effects of Multi-Walled Carbon Nano-Tube and Carbon Black Content on Mechanical and Electrical Properties of Silicone Rubber Composites** \*\*\*  
*Jun-Man Lee, Sang Ryeoul Ryu, Lee Dong-Joo*
- M-STU-43 **Phase Behavior of Inorganic/Poly(4-Vinylpyridine)-b-Poly(ε-Caprolactone) Hybrids System** \*\*\*  
*Tao Lin, Chien-Lin Li, Rong-Ming Ho, Jia-Chong Ho*
- M-STU-44 **Inorganic Gyroid with Low Refractive Index from Block Copolymers Templatation** \*\*\*  
*Han-Yu Hsueh, Rong-Ming Ho*
- M-STU-45 **Formation of Gyroid Conductive Polymer Thin Films through Block Copolymer Templatation and Electroplating** \*\*\*  
*Ming-Shiuan She, Rong-Ming Ho*

## N. Nano-Reinforcement & CNT

- N-GEN-01 **The Effect of Modification and Processing Condition on the Properties of Multiwall Carbon Nanotube/Acrylonitrile-Butadiene-Styrene Nanocomposite** \*\*\*  
*Chia-Hsun Chen, Chen-Cheng Wang, Hsu-Chiang Kuan, Chen-Feng Kuan*
- N-GEN-02 **Viscoelasticity of Thermoplastic Polyurethane Silica Nanocomposites** \*\*\*  
*Robert Shanks*
- N-GEN-03 **Preparation and Characterization of MWCNT/poly (VB-a) Nanocomposites** \*\*\*  
*Jieh-Ming Huang, Jia-Ling Gau*



- N-GEN-04 **Preparation and Properties of Carbon Nanotubes/Carbon Fiber Composite Material** \*\*\*  
*Shir-Joe Liou, Tien-Fu Huang, Ting-Chu Lu, Wei-Lun Hsu, Ying-Man Lam, Yu-Yao Wu*
- N-GEN-05 **A Highly Active Fe-Co Catalyst Supported on Nickel Powder for Hydrogen Generation from Alkaline NaBH<sub>4</sub> Solution** \*\*\*  
*Su-Ming Chang, Bing-Jyh Weng, Huei-Mei Tsai, Ti-Cheng Ou*
- N-GEN-06 **Preparation of Carbon Nanotube-Graft-Titania Nanocomposites** \*\*\*  
*Yao Wen Hsu, Chih Yuan Hsu, Cheng Fu Yang, Chean Cheng Su*
- N-GEN-07 **A Reactive Compatibilizer in Improving the Physical Properties of Multiwall Carbon Nanotube/Nylon 6 Nanocomposite** \*\*\*  
*Hsu-Chiang Kuan, Hsin-Chin Peng Peng, Chin-Ying Wang*
- N-GEN-08 **Effect of the Compatibilizer in the Multiwall Carbon Nanotube/Super-Toughened Polyethylene Terephthalate Nanocomposites** \*\*\*  
*Hsu-Chiang Kuan, Kun-Chang Lin, Chin-Ying Wang*
- N-GEN-09 **A New Strategy of Preparing Multiwall Carbon Nanotube/PC/ABS Nanocomposite by a Reactive Compatibilizer** \*\*\*  
*Lung-Chien Wu, Hsu-Chiang Kuan, Shih-Liang Huang, Mei-Huei Tsai, Min-Chi Chung, Chia-Hsun Chen*
- N-GEN-10 **Properties of Thermoplastic Polymer-Carbon Nanotube Composites Fabricated by High-Shear Process** \*\*\*  
*Kyong-Hwa Song, Chi-Hoon Choi, Do-Suck Han, Ki-Jeong Hong*
- N-GEN-11 **Thermal Properties of Carbon Aerogel Reinforced Epoxy Nanocomposites** \*\*\*  
*Ming Yuan Shen, Wei-Jen Chen, Chih-Wei Huang, Ming-Hsien Sung, Yao-Kuei Hsiao, Ming-Chuen Yip*
- N-STU-12 **Effect of Extended Polymer Chain on the Properties of Transparent Multi-Walled Carbon Nanotubes/Poly (Methyl Methacrylate/Acrylic Acid) Film** \*\*\*  
*Yuan-Li Huang, Hsi-Wen Tien, Chen-Chi M. Ma, Yi-Hsuan Yu, Shih-Yi Yang, Ming-Hsiung Wei, Sheng-Yen Wu*
- N-STU-13 **Abraction of Transparent Conductive Film Consisting Graphene Nanosheets and Silver Nanocomposite** \*\*\*  
*Hsi-Wen Tien, Yuan-Li Huang, Chen-Chi M. Ma, Shin-Yi Yang, Wei-Ning Lin*

#### O. Natural Fibers & Green Composite Materials

- O-STU-01 **Effect of Cyclic Loading on the Tensile Properties of Ramie/PP Composites** \*\*\*  
*Ken-Ichi Matsushige, Junji Noda, Koichi Goda, Kenji Aoki, Shigeo Araki*
- O-GEN-02 **Effectly Improvement in Heat Resistance of Polylactide by Welled-Dispresed Silica and Nanotubes Nanocomposites** \*\*\*  
*Sheng-Ju Liao, Chen-Yu Huang*
- O-STU-03 **Recycled Disposable Chopsticks Fiber-Reinforced Polypropylene Green Composites** \*\*\*  
*Yeng-Fong Shih, Chien-Chung Huang, Po-Wei Chen, Chin-San Wu*
- O-GEN-04 **Polylactic Acid (PLA)/Banana Fiber (BF) Biodegradable Green Composites** \*\*  
*Yeng-Fong Shih, Chien-Chung Huang*
- O-STU-05 **The Properties of Glycerol Pseudo-Thermoplastic Cellulose Triacetate as Reinforcement** \*\*  
*Chi-Che Tung, Chin-An Lin, Hsiao-Chi Tsai*
- O-GEN-06 **Physical and Mechanical Properties of Polymer Eco-Nanocomposites** \*\*  
*It Meng Low, Abdullah Alhuthali*
- O-GEN-07 **Cotton Fabrics Reinforced PLA Composite Materials** \*\*\*  
*Chin-Chih Yang, Jieng-Chiang Chen, Chang-Mou Wu, Ru-Hau Ji, Shiua-Chi Tsai*
- O-STU-08 **Effect of Molding Conditions on Shear Strength of Laminated Bamboo Composites** \*\*  
*Hirohito Matsukawa, Hitoshi Takagi*
- O-GEN-09 **Numerical Prediction of Mechanical Properties for Polylactide/Cotton Woven Fabric Composite** \*\*  
*Jeng-Jong Lin*
- O-GEN-10 **Bending of 3-D Natural Fiber Fabric Reinforced Composites** \*\*\*  
*Jieng-Chiang Chen, Chin-Chih Yang, Chang-Mou Wu, Zhi-Jie Xu, Yi-An Teng*

- O-GEN-11 **Thermoplastic Composites with Cellulose Bast-Fibre**''  
*Robert Shanks, [Sirisart Ouajai](#), W. Prissanaroon-Ouajai, Alma Hodzic, Amparat Reung-U-Rai*
- O-GEN-12 **The Effect of D-Sorbitol on Thermal Properties of Polyvinyl Alcohol with Various Molecular Weights**'''  
*[Wen-Chin Tsen](#), Yao-Chi Shu, Fu-Sheng Chuang, Shin-Cheng Jang, Chinen-Chung Chen, Syang-Peng Rwei, Chun-Chun Huang*
- O-GEN-13 **Thermal Degradation of Polyvinyl Alcohol with Various Plasticizers**''  
*[Yao-Chi Shu](#), Wen-Chin Tsen, Fu-Sheng Chuang, Hung-Yi Tsi, Shin-Cheng Jang, Chinen-Chung Chen, Syang-Peng Rwei, Chun-Chun Huang*
- O-GEN-14 **Phase Transitions and Compatibility for Biodegradable PLA/PBS Blends**''  
*Hung-Yi Tsi, Wen-Chin Tsen, Yao-Chi Shu, Chien-Chung Chen, [Fu-Sheng Chuang](#)*
- O-GEN-15 **Mechanical Properties of Sugarcane and Polyurethane/Epoxy Interpenetrating Polymer Networks Composites**''  
*Jin-Lin Han, [Kuan-Liang Liu](#), Sun-Mou Lai*
- O-STU-16 **The Study of Biocomposites on Jute Fiber Reinforced PLA/PCL**'''  
*[Yi-An Teng](#), Jieng-Chiang Chen, Chi-Wen Cheng, Ching-Shiun Wu*
- O-GEN-17 **A Study of the Morphology and Optical Properties of Inject-Molded Polycarbonate/Polylactic Acid Blend**''  
*[Yao Chu Chung](#)*
- O-GEN-18 **Morphology and Properties of Polylactide and Polycarbonate Green Blends**''  
*[Yeh Wang](#), S. M. Chiao, C. M. Huang, T.-F. Hung*
- O-STU-19 **Mechanical Characteristics of Nano-Filler-Cellulose Fibre-Reinforced Epoxy Nanocomposites**'''  
*[It Meng Low](#), Hatem Alamri*
- O-GEN-20 **Plant Fibers and Wasted Fibers/Epoxy Green Composites**'''  
*Yeng-Fong Shih, [Ji-Xuan Cai](#)*

#### P. New Materials

- P-GEN-01 **Isolation and Characterization of Organosolv Lignins from Native Plants in Taiwan**'''  
*[Yung-Chan Lin](#), En-Nan Liu, Ruei-Shuang Hong, Cheng-Han Hsieh, Shyue-Ming Jang*
- P-GEN-02 **Solar Reflective Index, Adhesion Level and Thermal Properties of TiO<sub>2</sub>/Polyurethane Coating onto Wood/Natural Rubber Composite Sheet**''  
*[Ekachai Wimolmala](#), Natita Hamaviriyapornwattana, Teerasak Markpin, Narongrit Sombatsompom*
- P-GEN-03 **New Thermosetting Resins from Siloxane-Imide-Containing Benzoxazine**'''  
*[Kaichi Chen](#), Hsuntien Li, Wenbin Chen, Shuchen Huang*
- P-GEN-04 **High Modulus, Low CTE PI/Silica Hybrid Film**'''  
*Chyi-Ming Leu, Tzong-Ming Lee, [Chih-Cheng Lin](#)*
- P-STU-05 **A Supramolecular Solid State Polymer Electrolyte**'''  
*[Ying-Chieh Yen](#)*
- P-GEN-07 **High Performance Transparent PI/Silica Hybrid Substrate for Flexible Display and Electronics**'''  
*[Chyi-Ming Leu](#), Yung-Lung Tseng, Tzong-Ming Lee*

#### R. Processing & Manufacturing Technologies

- R-GEN-01 **Mechanical and Thermal Properties of Glass/Carbon Hybrid Fiber Reinforced Epoxy Composites for Pultrusion**'''  
*Yun-Yun Sun, [Chin-Hsing Chen](#), Ping-Hung Chen*
- R-GEN-02 **Induction Heating of C-FRP with Vacuum Assistance**''  
*[Eitoku Nakanishi](#), Seijirou Maki, Satonori Matsumoto*
- R-GEN-03 **Processing of Refined Pitch**''  
*[Hsin-Ping Chang](#), Chuen-Ming Gee, Ching-Jang Lin, Shinn-Shyong Tzeng, Ping-Yu Chang*
- R-GEN-04 **Tensile Behavior and Microstructure of 3D Pitch-Based Carbon/Carbon Composites**''  
*[Chuen-Ming Gee](#), Hsin-Ping Chang, Ching-Jang Lin, Shinn-Shyong Tzeng, Ting-Yu Wu*

- R-GEN-05 **Development of Continuous Fiber-Reinforced Thermoplastic Composites Based on Multi-Layered Hybrid Roving** \*\*\*  
*Gihune Jung, HeeJune Kim, Chi Hoon Choi, Hyun Min Kang*
- R-STU-06 **Effect of Rheological Properties on Fibrous PVA Produced by Electrospinning** \*\*  
*Qingqing Ni, Fan Liu, Yasushi Murakami*
- R-GEN-07 **Characterization of Mechanical and Thermal Properties of Self-healing Microcapsules Under Various Isothermal Conditions** \*\*\*  
*Sung Ho Yoon, Gil Hyung Lee, Michael R. Kessler*
- R-GEN-08 **Manufacturing of Bow-Type Composite Landing Structure** \*\*  
*Yung-Kun Lin, Yu-Der Chen, Jiunn-Shyong Lin, Peir-Shin Wu*
- R-GEN-09 **Experiments Study of VARTM Process for Composites Panels of Various Thicknesses** \*\*  
*Yu-Der Chen, Han-Chz Liu, Yung-Kun Lin, Jiunn-Shyong Lin*

#### S. Sandwich Structure

- S-GEN-01 **Compression of Sandwich Composites with Recycled Corrugated Board as a Core Material** \*\*  
*Jieng-Chiang Chen, Chin-Chih Yang, Yi-An Teng, Tzu-Hsuan Lin, Jiun-Lung Jou*
- S-GEN-02 **The Application of a Roll Forming Simulation Using Sandwich Panel in Automotive Structure Parts** \*\*  
*Dug-Young Lee, Won-Ho Choi, Woo-Seok Hwang, Ji-Hyun Yoon, Bo-Sung Choi*
- S-GEN-03 **Compression Properties of Skins for Co-Cured Sandwich Panels** \*\*  
*Kuo-Wei Wu, Jiunn-Shyong Lin, Peir-Shin Wu*

#### U. Testing : Mechanics & Methods

- U-GEN-01 **Purification of Bovine Serum Albumin by Organic Modified Montmorillonite** \*\*  
*Tsung-Yen Tsai, Chao-Chen Hsu, Wei-Ming Lu, Sin-Hsin Huang*

#### V. Textile Composites

- V-GEN-01 **A Study on the Temperature Difference and Qmax of the Cooling Knitted Fabrics** \*\*  
*Kou Bin Cheng, T. W Cheng, T. H Tang, T. J. Yueh*
- V-GEN-02 **Flame Retardant Properties of Glass Fabric/PP Composites** \*\*  
*Chin-Chih Yang, Chang-Mou Wu, Jieng-Chiang Chen, Lu-Jun Huang, Yi-An Teng*
- V-GEN-03 **Nylon Braided Yarn Reinforced Epoxy Composites** \*\*  
*Jieng-Chiang Chen, Chang-Mou Wu, Chin-Chih Yang, Yi-An Teng, Ya-Shin Liou*
- V-STU-04 **Influence Morphology of Polypropylene/Polyvinyl Alcohol Alloy on Viscosity Ratio** \*\*  
*Hsiao-Chi Tsai, Chin-An Lin*
- V-STU-05 **The Influence of Electromagnetic Wave Absorption on Three Dimensional Orthogonal Woven Fabric Structure** \*\*  
*Kuei-Chi Lee, Jian-Hwa Chen, H. J. Yu*
- V-GEN-06 **Improvement of Interfacial Bonding of Pultruded Composite by Surface Modified Glass Fibers** \*\*  
*Min-Sun Kim, Eui-Su Kim*
- V-GEN-07 **Effect of Plasma Surface Treatment on the Hydraulic Characteristics of Geocomposite** \*\*  
*Min-Sun Kim, Youn-Jin Cho*
- V-GEN-08 **Analyses on Performance and Morphology of PVC/Fiberglass Composite Screen** \*\*  
*Song-Jun Doh, Min-Sun Kim*
- V-GEN-09 **Preparation of Multi-layered Poly (Phenylene Sulfide) Nonwoven Composite for Bag-Type Filtration** \*\*  
*Yeong-Og Choi*
- V-GEN-10 **Study on Different Spinning Process to Electrical Resistance Properties of Anti-Static Polyester Fiber** \*\*  
*Sheng-Shan Chang*
- V-GEN-11 **Photodecolouration of Methyl Blue Using TiON/Polyol Composite Photocatalyst Coatings Under Visible Light Irradiation** \*\*  
*Yu-Lin Kuo, Te-Li Su, Chiu-Chun Lai, Tsai-Jung Wu, Li-Wen Lin, Min-Yan Dong, Pi-Chen Tsai*

## W. Wind Energy Materials

- W-STU-01 **The Mechanical Behavior and Thermal Properties of CNT/CFRP Laminate Composites for Wind Blade Composite Material**''

*Chen-Chi M. Ma, Kuan-Ku Ho*

- W-STU-02 **The Bending and Impact Behavior of CNT/GFRP Laminate Composites for Wind Blade Composite Material**''

*Chen-Chi M. Ma, Kuan-Ku Ho*

## X. Others

- X-GEN-01 **Cathodoluminescence Analysis for Improvement of Phosphors Fabricated by a Combinatorial Ink-Jet Printing Method**''

*Mei-Lun Wu, Chang Fang-Ching, Lo Shen-Chuan, Chen Jung-Hsuan, Lin Li-Jiaun*

- X-GEN-02 **Preparation of Low Polarity Acrylates and the Application of Low-K Films**''

*Chih-Kai Huang, Hung-Yang Tseng, Kuo-Huang Hsieh, Jin-Lin Han, Chung-Chih Wu*

- X-STU-03 **Fabrication and Characterization of Oxide-Free Graphene Thin Films**''

*Se Young Oh, Sung Hwan Kim, Tae Jin Kang*

- X-GEN-04 **The Flexible Device with Vertically Aligned Carbon Nanotubes Pattern**''

*Tsung-Yen Tsai, Nyan-Hwa Tai*

- X-GEN-07 **The UV Resistant Performance of Epoxy-based Transparent LED Encapsulant**''

*Chih-Hau Lin, Chia-Wen Hsu, Hsun-Tien Li, Shu-Chen Huang, Kai-Chi Chen*