## 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-Hsien 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*
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 Oghara, 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 Ouajai, 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
Hazirun Md Akil, Safiee Sahinizam, 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 Dulieu-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, Yosushi Miyano

TUE-SE04-05 Enhancement of Damage Tolerance Properties of Carbon/Epoxy Composites by Polymer Nanofibers
Kunigal Shivakumar
## Session 5 - Friction and Wear of Composites

**Time:** 13:30-15:10  
**Room:** 201E, 2F  
**Co-Chairs:** Dr. Chang Li, Dr. Saito Hiroshi

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<td>Simplified Measurement of Friction Coefficient between Fracture Surfaces of CFRP Laminate</td>
<td>Hiroshi Saito, Isao Kimpara</td>
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<td>TUE-SE05-02</td>
<td>The Effect of Thermal Conductivity and Friction Coefficient on the Contact Temperature of Polyimide Composites Studied by Finite Element Simulation</td>
<td>Liwen Mu, Xin Feng, Yijun Shi, Jiahua Zhu, Xiaohua Lu</td>
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<td>TUE-SE05-03</td>
<td>Comparative Study of the Tribological and Corrosive Properties of PTFE Composites Filled with Different Fibers</td>
<td>Liwen Mu, Jian Chen, Yijun Shi, Xin Feng, Huaiyuan Wang, Xiaohua Lu</td>
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<td>TUE-SE05-04</td>
<td>Mechanical and Tribological Behavior of Nanometer and Micrometer TiO2 Particle-Filled Polyimide</td>
<td>Yi-Jun Shi, Li-Wen Mu, Xin Feng, Xiao-Hua Lu</td>
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<td>Comparative Study on the UV-Curable Coatings Filled with Colloidal and Pyrogenic Nanosilica Particles</td>
<td>Hui Zhang, Lingyun Zhou, Zhong Zhang, Jianbin Luo</td>
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<td>TUE-SE05-06</td>
<td>Abrasive Wear Resistance of Transparent Polymeric Coatings Filled with Silica Nanoparticles</td>
<td>Hui Zhang, Lingyun Zhou, Zhong Zhang</td>
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<td>A Study on the Transfer Film in Sliding Contact between Polymeric Composites and Steel Disks Using Nanoindentation</td>
<td>Li Chang, Klaus Friedrich, Lin Ye</td>
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## 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

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<td>Qi Qin, Jie Tao, Yan Yang, Zuguo Bao</td>
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<td>Myung-Sub Kim, Jae-Hoon Lee, Ji-Rae Kim, Seongwoo Choi, Jung Seok Yi, Sung-Hoon Ahn</td>
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<td>Low Band Gap Polymer / PCBM Composites for Photovoltaic Applications</td>
<td>Chain-Shu Hsu, Yen-Ju Cheng, Jhong-Sian Wu</td>
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<td>Investigation of CNT with Pt Nano-Bump Composite as Sugar Fuel Cell Electrodes</td>
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## 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

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<td>Preparation and Characterization of Fluorescent Silica Nanoparticles and Their Nanocomposites</td>
<td>Ying-Ling Liu, Chih-Yuan Hsu</td>
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Tsung-Yen Tsai, Syuan-Ci Su, Tzu-Fang Chen

TUE-SE07-03  The Effect of Electron Beam Irradiation on Sulphur Vulcanized EPDM/Halloysite Nanocomposites
Pooya 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

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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/Epoxide Composites
Yukie Okudo, Yoshihiko Arai, 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, Mohammad Salmani Givi, Reza Kazemi

TUE-SE08-09  Innovative Microwave/Ionic Liquid Synthesis of Anatase TiO₂ Nano-Particles for the Application of Photocatalysis and DSSCs
Po-I Liu, Li-Ching Chung, Ming-Yu Yan, 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
Yoshito 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

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 Ochoo, 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 Palletti, 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, Shigeaki 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 Terasuma

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, Changdak 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
## 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

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<td>Improvement of Fracture Toughness of DCB Adhesive Joints Using Polyester Fiber at Cryogenic Temperature</td>
<td>Lee Dai Gil, Jin Gu Kim, Jung Hwang Yun, Soon Ho Yoon</td>
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## 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

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<td>Julius Rausch, Edith Mader</td>
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<td>Libor Matejka, Malgorzata Kubiszyn, Piotr Murias</td>
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<td>Switching the Mechanical Performance of Graphene Oxide Paper by Integrating Small Molecules into Nano-Sheets</td>
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## Session 15 - Industrial Applications (1)

**Time:** 09:00-10:40  
**Room:** 201B, 2F  
**Co-Chairs:** Dr. Ho-Ling Fu, Prof. Shih-Jung Liu

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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

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

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<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>WED-SE19-01</td>
<td>Self-Healing Performance of Polymeric Material with Microcapsules and Imidazoline Derivatives Curing Agent</td>
<td>Rongguo Wang, Honglin Hu, Qiong Guo, Wenbo Liu, Xiaodong He</td>
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<tr>
<td>WED-SE19-02</td>
<td>Preparation and Characterization of Self-Healing Epoxy Composites</td>
<td>Ming Qiu Zhang, Min Zhi Rong</td>
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<td>WED-SE19-03</td>
<td>Wetting Characteristics of a Dual Scale Surface by Plasma Etching to give Nanohoneycomb Structure</td>
<td>Dongseob Kim, Sangmin Lee, Woonbong Hwang</td>
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<td>WED-SE19-04</td>
<td>A Superhydrophobic Artificial Lotus Leaf Structures</td>
<td>Woonbong Hwang, Sangmin Lee, Dongseob Kim</td>
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<td>WED-SE19-05</td>
<td>Self-Healing of Thermoplastic Polymer via Living Polymerization</td>
<td>Min Zhi Rong, Ming Qiu Zhang, Hai Ping Wang</td>
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<td>WED-SE19-06</td>
<td>PVDF Nano-Composites Prepared by Phase Inversion Technique and Interface Fine Tune</td>
<td>Meng Hou, Xue-Gang Tang, Jiu Zou, Rowan Truss, Ming-Bo Yang</td>
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<td>WED-SE19-07</td>
<td>Effect of the Microstructure on Thermo-mechanical Properties of Shape-Memory Polymer Reinforced with Short Fibers</td>
<td>Ken Wakatsuki, Masaaki Nishikawa, Akinori Yoshimura, Nobuo Takeda</td>
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### Session 20 - Industrial Applications (2)

**Time:** 11:00-12:40  
**Room:** 201B, 2F  
**Co-Chairs:** Dr. Peir-Shin Wu, Prof. Hsien-Kuang Liu

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<tr>
<td>WED-SE20-01</td>
<td>Effect of Water Absorption on the Fatigue Fracture Properties of Carbon/Polyamide composites</td>
<td>Kazuto Tanaka, Hirokazu Honda, Tsutao Katayama, Ken Kurashiki</td>
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<td>WED-SE20-02</td>
<td>The Compression after Impact Tests of Concrete Cylinders with a Polyurea/CFRP Wrapping System</td>
<td>Hsien-Kuang Liu, Wei-Chong Liao, Yenkuei Chang, Ying-Man Lam</td>
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<td>WED-SE20-04</td>
<td>Mechanical Property of Glass Continuous Fiber Reinforced Thermoplastics</td>
<td>Kazuto Tanaka, Noriyuki Endo, Toshiki Uemura</td>
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<td>WED-SE20-05</td>
<td>Foreign Object Impact Response of Aircraft Pylon Made of GFRP and Metallic Materials</td>
<td>Syh-Tsang Jenq, Hui-Chun Chiang</td>
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<td>WED-SE20-06</td>
<td>Dynamic Impact Response of Ultra-Light Aircraft with Composite Wing Structure</td>
<td>Syh-Tsang Jenq, Hsi-Wen Lai</td>
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<td>WED-SE20-07</td>
<td>The Development of Composite-Aluminum Hybrid Vehicle Wheels</td>
<td>Seung-Hwan Chang, Seong-Hwan Yoo, Tae-Seong Lim, Hyo-Joon Kim, Young-Suk Lee</td>
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<td>WED-SE20-08</td>
<td>Large Scale Cryogenic Composite Sandwich Mock-Up for Liquefied Natural Gas (LNG) Ship</td>
<td>Bu Gi Kim, Soon Ho Yoon, Jin Gyu Kim, Chang Seon Bang, Dai Gil Lee</td>
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**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

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<tr>
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<tr>
<td>WED-SE21-01</td>
<td>Influence of Poly (Butylenes Adipate-co-Terephthalate) on the Properties of Biodegradable Composites</td>
<td>Yan Li, Tao Yu, Jie Ren</td>
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<tr>
<td>WED-SE21-02</td>
<td>Physical and Mechanical Properties of TEMPO-Oxidized Cellulose Reinforced Composites</td>
<td>Mindaugas Bulota, Tuomas Hänninen, Mark Hughes</td>
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<td>WED-SE21-03</td>
<td>Study of Self-Reinforced All Polyester Commingled Composites</td>
<td>Hsiao-Ting Su, Chang-Mou Wu</td>
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<td>WED-SE21-04</td>
<td>Organophosphorus Liquid Crystalline Thermosets Based Borassus Fiber Green Composites and MMT Nanocomposites</td>
<td>Palaninathan Kannan, Sudhakara Posa</td>
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<td>WED-SE21-05</td>
<td>Development of PLA/Cellulose Composite Paper for Heat Forming</td>
<td>Si Ha, Teruo Kimura</td>
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<td>WED-SE21-06</td>
<td>Mechanical and Biodegradation Properties of Sago Starch Natural Rubber Latex Composites</td>
<td>Azura A Rashid, Muhammad Afiq Misman, Hairol Izmar Ahmad</td>
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<td>WED-SE21-07</td>
<td>Strength Evaluation of Sliver-Based Green Composites</td>
<td>Baosheng Ren, Junji Noda, Koichi Goda</td>
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**Session 22 - Nano-Reinforcement & CNT (2)**

Time: 11:00-12:40  
Room: 201D, 2F  
Co-Chairs: Dr. Benoit Simard, Prof. Fang-Chyou Chiu

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

#### WED-SE23-03
**Durability of Natural Fiber Filled SMC Components**  
Ryutiti Nisida, Yujiu Yang, Masanori Okano, Hironuki 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 (FBG) Strain Sensors Embedded at Different Locations Through the Thickness Around a Delamination in a Composite Laminate**  
Jayantha Epagachchi, 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)

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<td>Co-Chairs: Prof. Chin-Lung Chiang, Prof. Yoshihiro Sawada</td>
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#### 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
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<tr>
<td>WED-SE24-07</td>
<td>Electrospun Bio-Nanofibrous Functional Mats</td>
<td>Xiaowen Yuan, Dongyan Liu, Allan Eastal, Debes Bhattacharyya</td>
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<td>WED-SE24-08</td>
<td>Morphology and Mechanical Properties of PLA/Microcrystalline Cellulose Biocomposite Film</td>
<td>Dongyan Liu, Xiaowen Yuan, Allan Eastal, Debes Bhattacharyya</td>
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<td>Raman-Electromechanical Coupling of SWCNT Coated Single Glass Fibers for Sensor Applications</td>
<td>Li Liu, Shaﬁ Ullah Khan, Miao Xu, Peng-Cheng Ma, Jang-Kyo Kim</td>
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<td>WED-SE24-10</td>
<td>Thermal and Mechanical Properties of Carbon Aerogels for Nanocomposites</td>
<td>Wei-Jen Chen, Ming-Yuan Shen, Yi-Luen Li, Huang-Suo Su, Jia-Ying Li, Chun-Chun Chou, Ming-Chuen Yip</td>
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**Session 25 - Impact & Dynamic Response / Fracture, Fatigue & Damage Mechanics (2)**

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<tr>
<td>WED-SE25-01</td>
<td>Impact Simulation and Experiment of Laminated Composite Plates</td>
<td>Shun-Fa Hwang, Jia-Ching Li</td>
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<td>WED-SE25-02</td>
<td>Compression After Impact Performance of Vectran-Stitched Composites</td>
<td>Kwek-Tze Tan, Naoyuki Watanabe, Hiraku Hoshi, Yutaka Iwahori, Takashi Ishikawa</td>
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<td>WED-SE25-03</td>
<td>Experimental Characterization of Mode IImpact Fracture Toughness in CFRP Adhesive Joints</td>
<td>Akira Watanabe, Handy Ismail, Takayuki Kusaka, Yasutoshi Nomura, Atsushi Kataoka, Satoshi Matsumoto</td>
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<td>WED-SE25-04</td>
<td>The Effect of Heat Treatment on the Composite Mechanical Properties of Carbon/Phenolic Resin Ablator</td>
<td>Tomohiro Era, Ken Goto, Hiroshi Hatta, Hitoshi Kohri, Takayoshi Yagasaki</td>
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<td>WED-SE25-05</td>
<td>Characterization of Fatigue Damage of Orthotropic CF/NY6 Laminates Through Thermoelastic Stress Analysis</td>
<td>Ryuta Suzuki, Yoshiyuki Ueno, Hiroyuki Miyamoto</td>
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<td>WED-SE25-06</td>
<td>Restraining Effects of Transverse Cracking in 90°Layer of Thin-ply CFRP Cross-Ply Laminates</td>
<td>Hiroki Takeuchi, Hiroshi Saito, Isao Kimpara</td>
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<td>WED-SE25-07</td>
<td>Dynamic Delamination of Z-Pin Reinforced Laminates</td>
<td>Weinong Chen, Andrew Schlueter</td>
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<td>WED-SE25-08</td>
<td>Energy Dissipation of CFRP-Kevlar Hybrid Composites Shield for Space Use</td>
<td>Jin-Bum Moon, Gun Lim, Chun-Gon Kim, Shantanu Bhowmik</td>
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<td>WED-SE25-09</td>
<td>Influence of Speed on the Crushing Behavior of Composite Plates</td>
<td>Anh Vu Duong, Samuel Rivallant, Jean-Jacques Borrau, Caroline Petiot, Benoit Malherbe</td>
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**Session 26 - Mechanics & Methods**

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<tr>
<td>WED-SE26-01</td>
<td>Damage Progress and Failure of Impact Damaged Composite Laminate under Compressive Load</td>
<td>Hiroshi Suemasu, Hayato Sameshima, Makoto Ichiki, Yuichiro Aoki</td>
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<td>WED-SE26-02</td>
<td>Off-Axis Fatigue Strength of Notched Fiber Metal Laminate GLARE-3 and Mechanistic Modeling</td>
<td>Masamichi Kawai, Tomoya Sato</td>
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<td>WED-SE26-03</td>
<td>Design of a New Rotating-Grip Test Fixture for Testing Off-Axis Composites</td>
<td>Yi Xiao, Masamichi Kawai, Hiroshi Hatta</td>
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<td>Co-Chairs: Prof. Wen Hong Ruan, Prof. Chen-Feng Kuan</td>
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<tr>
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<th>Synthesis of ZnO/CNTs Hybrid Nanoparticles and their Reinforcement in Nylon-6 Polymer Fibers</th>
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<tr>
<td>Vijaya Rangari, Ghouse Mohammad, Shaik Jeelani</td>
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<th>Analytical and Experimental Study for Vibration of Laminated VGCF/Al Circular Plates</th>
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<td>Naoaki Koya, Shinya Honda, Katsuhiko Sasaki, Yoshihiro Narita</td>
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<th>WED-SE27-03</th>
<th>The Effect of Carbon Nanotubes and Nanosilica Particles on the Toughening Performance of Polymer-Based Nanocomposites</th>
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<th>Multi-walled Carbon Nano-Tubes/Copper Nano-hybrids Reinforced Carbon Fabric Composites</th>
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<td>Wanoh Lee, Sang-Bok Lee, Joon-Hyung Byun</td>
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<th>Evaluation of Soundproof Effect of Nanoclay-reinforced Polypropylene Composites</th>
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<td>Jun Yan, Jae-Chul Lee, Yeon-June Kang, Sung-Hoon Ahn</td>
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<th>WED-SE27-06</th>
<th>Preparation, Structure and Mechanical Properties of Unidirectional Nano-Silica/PP Composites</th>
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<td>Ming-Hui Wang, Ming-Qiu Zhang, Min-Zhi Rong, Wen-Hong Ruan</td>
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### Session 28 - Nanocomposites & Multi-Functional Composites / Smart Materials (6)

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<td>Co-Chairs: Prof. Yihua Cui, Prof. Gad Marom</td>
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#### 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$_2$O$_3$ 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$_2$ Particles in Polystyrene-Block-Poly(methylmethacrylate) 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-SE28-05 Mechanical and Electric Properties of Carbon Nanotubes/Epoxxy 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

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<td>Co-Chairs: Prof. Kuo-Ning Chiang, Prof. Seung-Hwan Chang</td>
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#### 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

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<td>Co-Chairs: Prof. Hsin-Lung Chen, Prof. Jyh-Ping Chen</td>
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#### 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
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

Supramolecular Chemistry on Multi-walled Carbon Nanotubes Decorated with Fe₃O₄ 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
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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-II 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
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**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, Yuijia Yang, Hiyuki Hamada*

**THU-SE33-05** The Formation of the Multi Submicron Grooves Structure on Fiber Surface and its Water Transportation Properties

*Ruey-Loung Chern, Chao-Huei Liu*

**THU-SE33-06** 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-SE33-07** 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*

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**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)/BaTiO$_3$ Composites for the Microwave Flexible Substrate Application

*Cheng-Fu Yang, Chia-Ching Wu, Chean-Cheng Su*

**THU-SE34-02** Fabrication of 0.655Pb(Mg$_{1/3}$Nb$_{2/3}$O$_3$) - 0.345PbTiO$_3$ Ceramics and Devices by Tape-Casting Process

*Kangjun 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$_2$O$_3$/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 Unsaturation 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*
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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
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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

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B-GEN-09 Preparation and Characterization of a New Biocompatible Nanocomposite: Bacterial Cellulose/Poly (Vinyl Alcohol)
Magoon 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

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Yohei Komizo, Junji Noda, Michiyuki Suzuki, Koichi Goda

C-GEN-02 Microwave Absorption Behavior of Transparent Al-Doped Hexagonal ZnO Nanofilms
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C-GEN-03  Characterization of NiCuZn ferrite and its Composite Materials
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C-STU-04  Synthesis and Characterization of Fluoro-Contain Poly(methylsilsesquioxane)
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D. Composites for Fuel Cells & Solar

D-STU-01  Facile Route for Synthesizing Anatase TiO₂ Nanocrystals via Microwave–Assisted Process for Dye-
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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
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D-GEN-04  Composites Bipolar Plates for PEM Fuel Cells
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D-STU-06  Influences of Gas Diffusion Layers with Pitch-Based Carbon Coated in Polymer Electrolyte
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D-GEN-08  Tandem Structure Composite Electrodes by EISA Method for Hybrid Solar Cells
Po-Chou Chen, C.B. Tsai, R.R. Wang

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