

# Conference Program

**2023 1<sup>st</sup> International Symposium on Carbon Materials (2023 ISCM-1) for Energy, Environment, Sustainability, and Bio-applications with the 6<sup>th</sup> Taiwan Carbon Conference**

## Day-1

Jan. 31, 2023 (Tuesday)		
13:00-18:00	Registration & Welcome Reception	
13:00-13:40	Overview, fundamental science of carbon materials (碳材料的分類、鑑定分析與碳材料應用)	Prof. Ching-Yuan Su, National Central University (蘇清源教授-國立中央大學機械系)
13:40-14:10	XRD (Phase identity, Rietveld Refinement) (X-ray 檢測原理與實務)	Dr. Ya-Ching Yang, Bruker Taiwan Co. Ltd. (楊雅晴博士-布魯克生命科學公司)
14:10-14:40	Electron Microscopy and Image Analysis-SEM, TEM and AFM (顯微鏡檢測與影像分析)	Dr. Tsu-Wei Huang, TEMIC Co. Ltd. (黃祖緯博士-台灣電鏡公司)
14:40-15:10	Application of Synchrotron-based X-ray Photoelectron Spectroscopy in Carbon Materials(同步輻射中心所屬 XPS 在碳材料的檢測應用)	Dr. Chia-Hsin Wang, NSRRC, Taiwan. (王嘉興博士-國家同步輻射研究中心)
15:10-15:30	Coffee Break	
15:30-16:00	Introduction of Electrochemical Principles and Applications –I (電化學原理與應用-I)	Prof. Fu-Ming Wang, National Taiwan University of Science and Technology (王復民教授-國立臺灣科技大學應用科技研究所)
16:00-16:30	Introduction of Electrochemical Principles and Applications –II (電化學原理與應用-II)	Sales Manager, Chris Lee Aurora Borealis Technology Co. Ltd. (李中皓經理-北極光科技公司)
16:30-17:00	Principles and Applications of FT-IR and Raman Spectroscopy(紅外光及拉曼光譜檢測原理與應用)	Assistant Application Manager Eason Hsu, Scinco Taiwan Co., Ltd (許立昇應用副理-新國科技公司)

## Day-2

Feb. 1, 2023 (Wednesday)	
09:00-09:10	Opening (Prof. NH Tai, Prof. TZ Hung, and Prof. JH Lin & Prof. YC Pu)
Session 1 (Main hall) Chairman-Prof. Nyan-Hwa Tai (National Tsing Hua University)	
09:10-10:00	Plenary Speech-1* <b>online</b> <b>Prof. Hui Ming Cheng</b> (Academician, CSA, China) "Carbon-based Materials for Thermal Management"
10:00-10:50	Plenary Speech-2 <b>Prof. Hiroto Nishihara</b> (Tohoku University, Japan) "Graphene mesosponge: graphitized and highly mesoporous graphene with high durability and sponge-like flexibility"

10:50-11:40	<p align="center"><b>Plenary Speech-3</b>  <b>Prof. Jin Z. Zhang</b> (University of California, USA)  “Synthesis and Novel Properties of Metal Halide Perovskites: From Quantum Dots to Magic Sized Clusters and Molecular Clusters”</p>		
11:40-11:50	<p align="center"><b>Group Photo</b></p>		
11:50–13:00	<p align="center"><b>Lunch Break</b></p>		
<b>Session 2</b>		<b>Parallel discussion-A</b>	
	<p align="center"><b>Carbon for Energy</b>  <b>Chair: Prof. Chi-Chang Hu</b>  (National Tsing Hua University)    <b>Main Hall</b></p>	<p align="center"><b>Carbon for Environment</b>  <b>Chair: Prof. Chin-Jung Lin</b>  (National Ilan University)  <b>Prof. Jarn-Horng Lin</b>  (National University of Tainan)    <b>Room A (1F/J106)</b></p>	<p align="center"><b>Carbon for Bio-sensing</b>  <b>Chair: Prof. Ting-Yu Liu</b>  (Ming Chi University of Technology)    <b>Room B (B1F/JB106)</b></p>
13:00-13:30	<p><b>Keynote-1*online</b>  <b>Prof. Qiang Zhang</b>  (Tsinghua University, China)  “The Promotion of Emerging Carbon Materials for Lithium-Sulfur Batteries through Lithium Bond Chemistry”</p>	<p><b>Keynote-2</b>  <b>Prof. Chin-Jung Lin</b>  (National Ilan University, Taiwan)  “Simultaneous regeneration of spent activated carbon and mineralization of desorbed dyes by hydrothermal carbonization”</p>	<p><b>Keynote-6</b>  <b>Prof. Cheng-Te Lin</b>  (UCAS, China)  “Carbon-Based Thermal Management Materials for Electronic Packaging”</p>
13:30-14:00	<p><b>Keynote-4</b>  <b>Prof. Yoshikiyo Hatakeyam</b>  (Gunma University, Japan)  “Tracking Structural Changes of Carbon Electrodes by Time-Resolved Operando Wide- and Small-Angle X-ray Scattering”</p>	<p><b>Keynote-5</b>  <b>Prof. Jiunn-Der Liao</b>  (NCKU, Taiwan)  “The transesterification of waste cooking oil by heterogeneous strontium oxide catalysts in titanium supports is a continuous process capable of repeated cycles”</p>	<p><b>Keynote-3*online</b>  <b>Dr. Veerappan Mani</b>  (KAUST, Saudi Arabia)  “Electrochemical Sensing and Biosensing Applications of Laser-Scribed Graphene Electrodes”</p>
14:00-14:20	<p><b>Invited-1</b>  <b>Dr. Ryan D. Corpuz</b>  (DLSU, Philippines)  “One-pot synthesis of PEG derived Carbon Dots with ambient photoluminescence stability in aqueous condition”</p>	<p><b>Invited-2* online</b>  <b>Prof. Dinh Viet Cuong</b>  (NUCE, Vietnam)  “Critical controlled arsenic removal in groundwater using an integrated active biochar filter and capacitive deionization system”</p>	<p><b>Invited-3</b>  <b>Prof. Andri Hardiansyah</b>  (BRIN, Indonesia)  “Exploration of magnetic graphene nanosheets-biopolymers nanocomposites encapsulated natural drug for breast cancer therapy”</p>
14:20-14:40	<p><b>Invited-4</b>  <b>Prof. Lyn Marie DJ Corpuz</b>  (UST, Philippines)  “rGO stabilized <math>\delta</math>-MnO<sub>2</sub> as cathode material for zinc-ion battery”</p>	<p><b>Invited-5</b>  <b>Prof. Yu-Chieh Ting</b>  (NTU, Taiwan)  “Digestate-derived biochar for air pollution removal and the feasibility to produce solid recovered fuel”</p>	<p><b>Invited-6</b>  <b>Prof. Shou-Heng Liu</b>  (NCKU, Taiwan)  “Functionalized biochars for cycloaddition of carbon dioxide to propylene oxide”</p>
14:40–15:00	<p align="center"><b>Coffee Break</b></p>		
<b>Session 3</b>		<b>Parallel discussion-B</b>	
	<p align="center"><b>Energy &amp; Carbon Materials</b>    <b>Chair</b>  <b>Prof. Cheng-Te Lin</b>  (UCAS, China)  <b>Prof. Wen-Shyong Kuo</b>  (Feng Chia University)    <b>Main Hall</b></p>	<p align="center"><b>Sustainability &amp; Nano Carbon</b>    <b>Chair</b>  <b>Prof. Chun-Han Hsu</b>  (NTJN, Taiwan)  <b>Dr. Tzu-Hsien Hsieh</b>  (Taiwan CPC corporation)    <b>Room A (J-106)</b></p>	<p align="center"><b>Carbon-based Materials</b>    <b>Chair</b>  <b>Prof. Chi-Hsien Huang</b>  (Ming Chi University of Technology)  <b>Prof. Ying-Chieh Chen</b>  (National Tsing Hua University)    <b>Room B (JB-106)</b></p>
15:00–15:30	<p><b>Keynote-7*online</b>  <b>Prof. Seiji Samukawa</b>  (Tohoku University, Japan)  “Creating Green Nanostructures and Nanomaterials for</p>	<p><b>Keynote-8</b>  <b>Prof. Tsukagoshi Kazuhito</b>  (NIMS, Japan)  “Electromechanical Switching of C<sub>60</sub> film for the nanoscale</p>	<p><b>Keynote-9</b>  <b>Prof. Yu-Fen Hung</b>  (NTHU, Taiwan)  “Self-Assembled Carbon Dots in Bioapplications”</p>

	Advanced Energy Nanodevices”	memory”	
15:30-15:50	<b>Invited-7</b> <b>Prof. Chia-Yun Chen</b> (NCKU, Taiwan) “Toward solution-processed heterojunction-based photodetectors: Characteristics of flexible UV and wavelength-selective detection”	<b>Invited-8</b> <b>Prof. Chun-Han Hsu</b> (NTJN, Taiwan) “Synthesis of Multiporous Carbons with Biomass for Applications in Supercapacitors and Capacitive Deionization”	<b>Invited-9</b> <b>Prof. Yi-Ting Lai</b> (MCUT, Taiwan) “Graphene-based materials for wastewater treatment”
15:50-16:10	<b>Invited-10</b> <b>Prof. M. Sivakumar</b> (Alagappa University, India) “An intensive pursuit on sulfur electrode using various carbonaceous materials for energy storage application”	<b>Invited-11</b> <b>Prof. Che-Ning Yeh</b> (NTHU, Taiwan) “Evolution of Lithium Plating on Graphite Anodes”	<b>Invited-12</b> <b>Dr. Jing-Yi Li</b> (NCHU, Taiwan) “Design and tailoring of the dual-type organosilica-derived membranes”
16:10-16:30	<b>Oral-1</b> <b>Dr. Debabrata Mohanty</b> (Yuan Ze University, Taiwan) “Effect of Different Conductive Carbon Material Content on the Electrochemical Performance of Li-ion Batteries”	<b>Invited-13</b> <b>Prof. Sheng-Kuei Chiu</b> (Feng Chia University, Taiwan) “Enhancing the Photoluminescence of Monolayer MoS <sub>2</sub> through Gap-Assisted Synthesis at a Wafer-Scale”	<b>Oral-4</b> <b>Prof. Chih-Ching Huang</b> (National Taiwan Ocean University, Taiwan) “Partial Carbonization of Phytochemicals Boosts the Antimicrobial Activity”
16:30-16:50	<b>Oral-2</b> <b>Dr. Yu-Ting Huang</b> (Providence University, Taiwan) “Cationic Iridium Complexes with 4-fluoro-4'-pyrazolyl-(1,1'-biphenyl)-2-carbonitrile Ligands: Synthesis, Characterizations, and Applications in Light-Emitting Electrochemical Cells (LECs)”	<b>Invited-14</b> <b>Prof. I-Hsiang Tseng</b> (Feng Chia University, Taiwan) “Improving CO <sub>2</sub> conversion via carbon-modified graphitic carbon nitride films”	<b>Oral-5</b> <b>Dr. Sih-Yu Wu</b> (Providence University, Taiwan) “Benzothiazole-Based Host Materials And Their Use In Phosphorescent OLEDs”
16:50-17:10	<b>Oral-3</b> <b>Dr. Mani Govindasamy</b> (MCUT, Taiwan) “CoAl <sub>2</sub> O <sub>4</sub> Nanoparticles Decorated on CNFs as High-Efficiency Bifunctional Catalysts for Efficient Electrochemical Aqueous Asymmetric Supercapacitors and Sensors”	<b>Oral-7</b> <b>Dr. Chung-Ting Tsai</b> (CSCC, Taiwan) “Development of graphite crucibles for the growth process of single crystal SiC boules”	<b>Oral-6</b> <b>Dr. Shivam Gupta</b> (NTHU, Taiwan) “Carbon nanomaterials and ferrites for electromagnetic interference shielding”
17:00–18:30	<b>Coffee Break &amp; Poster Section-1</b> <b>Room D (JB-102) &amp; Room E (JB-103)</b>		

## Day-3

<b>Feb. 2, 2023 (Thursday)</b>	
<b>Session 4 (Main hall) Chairman- Prof. Wei-Ren Liu (Chung Yuan Christian University)</b>	
09:10-10:00	<b>Plenary Speech-4</b> <b>Prof. Huan-Cheng Chang</b> (Academia Sinica, Taiwan) “Nanodiamonds with Fluorescent Quantum Defects for Bioimaging and Biosensing Applications”
10:00-10:50	<b>Plenary Speech-5</b> <b>Prof. Chi-Chang Hu</b> (National Tsing Hua University, Taiwan) “Electrochemical Activation and Capacitance Enhancement of Carbons for High-Voltage Supercapacitors”

10:50-11:10	<b>Coffee Break</b>		
<b>Session 5</b>		<b>Parallel discussion-C</b>	
	<b>Nano Carbon &amp; Carbon Composites</b>  <b>Chair: Prof. Chien-Kuo Hsieh</b> (Ming Chi University of Technology) <b>Main Hall</b>	<b>Carbon for Environment</b>  <b>Chair: Prof. Chia-Yun Chen</b> (National Cheng Kung University) <b>Room A (1F/J-106)</b>	<b>Carbon for Energy</b>  <b>Chair: Prof. Ju-Liang He</b> (Feng Chia University) <b>Room B (B1F/JB-106)</b>
11:10-11:40	<b>Keynote-10</b> <b>Prof. Yu-Sheng Hsiao</b> (National Taiwan University of Science and Technology, Taiwan) "Lasers-Induced Graphene Technologies for Flexible Electronics"	<b>Keynote-11</b> <b>Prof. Wei-Ting Chen</b> (St. Mary's Junior College of Medicine) "Study on particulates and volatile organic compounds removal with carbon quantum dots/ titanium dioxide nanofibers prepared by electrospinning"	<b>Keynote-12</b> <b>Prof. Yi-Hung Liu</b> (National Central University, Taiwan) "Fabrication of Carbon Fiber-Based Electrodes for Energy Storage Applications"
11:40-12:00	<b>Invited-16</b> <b>Prof. Shu-Huei, Hsieh</b> (NFU, Taiwan) "A novel Carbon fiber battery"	<b>Invited-17</b> <b>Prof. Yi-Hsueh Chuang</b> (NYMCTU, Taiwan) "Combining ultraviolet A with chlorine dioxide as a pretreatment with GAC sorption for potable reuse"	<b>Invited-18</b> <b>Dr. Tzu-Hsien Hsieh</b> (Taiwan CPC corporation) "Bio-based Hierarchical Porous Carbon Fabrication and Application in Energy Storage"
12:00-13:00	<b>Lunch Break</b>		
13:00-14:00	<b>臺灣碳材料學會-第六屆會員大會</b>		
<b>Session 6</b>		<b>Parallel discussion-D</b>	
	<b>Carbon for Bio-sensing</b>  <b>Chair: Prof. Jiunn-Der Liao</b> (National Cheng Kung University) <b>Room A (1F/J-106)</b>	<b>Nano Carbon Materials</b>  <b>Chair: Prof. Shou-Heng Liu</b> (NCKU, Taiwan) <b>Room B (B1F/JB-106)</b>	
14:00-14:20	<b>Oral-8</b> <b>Dr. Ching-Wei Lin</b> (Academia Sinica, Taiwan) "Towards clinical translation of using carbon Nanotube fluorescence for biomedical imaging applications"	<b>Oral-9</b> <b>Dr. Ngoc Thanh Thuy Tran</b> (NCKU, Taiwan) "DFT study on graphene-based materials: structural, electronic, and magnetic properties"	
14:20-14:40	<b>Oral-10</b> <b>Prof. Yi-Chang Chung</b> (NUK, Taiwan) "Targeting polydopamine-based carbon nanoparticles on labelling and treatment of cancer cells"	<b>Oral-11</b> <b>Prof. Chane-Yuan Yang</b> (NCYUT, Taiwan) "Microwave-assisted Fabrication of Carbon Aerogel Electrodes and its Application in Capacitive Deionization"	
14:40-15:00	<b>Oral-12</b> <b>Dr. Md Moniruzzaman</b> (Gachon University, Korea) "Polycyclic carbon dots for bioimaging and enhanced NIR-triggered photothermal activity"	<b>Oral-13</b> <b>Dr. Dhivya Sundar</b> (Feng Chia University, Taiwan) "Photocatalytic CO <sub>2</sub> conversion into solar fuels using carbon-based materials"	
15:00-15:20	<b>Oral-14</b> <b>Prof. Jongsung Kim</b> (Gachon University, Korea) "Preparation of carbon dots for biosensing and wound-healing applications"	<b>Oral-15</b> <b>Dr. Chinchu Gibi</b> (Feng Chia University, Taiwan) "Role of carbon materials for electrochemical sensing applications"	
15:20-17:00	<b>Coffee Break &amp; Poster Section-2</b> <b>Room D (JB-102) &amp; Room E (JB-103)</b>		
18:30-21:00	<b>Band Banquet</b> (Evergreen Plaza Hotel, 3F Banquet Hal-嘉賓廳) <b>Awards for Young Scientist, Distinguished Service, and Carbon Materials</b>		

## Day-4

**Feb. 3, 2023(Friday)**

**Session 7 (Main hall) Chairman- Prof. Chun-Hu Chen (National Sun Yat-sen University)**

09:10-10:00

**Plenary Speech-6**

**Prof. Hsisheng Teng (National Cheng Kung University)**

**“Carbon-Based Photocatalysts for H<sub>2</sub> Production and CO<sub>2</sub> Conversion”**

10:00-10:30

**2022 Young Scientific Award Lecture-1**

**Prof. Tin-Yu Liu (Ming Chi University of Technology)**

10:30-11:00

**2022 Young Scientific Award Lecture-2**

**Prof. Ching-Yuan Su (National Central University)**

11:00-12:00

**Coffee Break**

**Session 8**

**Student Oral Competition (SOC)**

**SOC-1**

**SOC-2**

**SOC-3**

10:00-12:00

**Room A (J-106)**

**Room B (JB-106)**

**Room C (JB-101)**

12:00-12:30

**Best Student Oral Awards & Best Poster Awards**

**(Prof. NH Tai & Prof. WR Liu)**

**Closing & Announcement for the 7<sup>th</sup> Taiwan Carbon Conference**

**Pick up a take-out lunch box when you leave.**