

# Program

## Plenary Lectures and Technical Symposium

### Plenary Lectures

#### 1. Prof. King-Ning Tu



**Topic: “*Flux-driven Phase Transformations in Open Systems*”**

**City University of Hong Kong, China**

#### Professional Experience

**City University of Hong Kong, China**

- Now: Chair Professor of Dept. of Materials and Electrical Engineering, Dept. of Electrical Engineering, and Dept. of Systems Engineering

**National Yang Ming Chiao Tung University, Taiwan**

- 2016-Now: TSMC Chair Professor
- 2019-2022: Yushan Scholar (sponsored by Ministry of Education, Taiwan)

**National University of Singapore (NSU) , Singapore**

2002-2002: Tan Kah Kee Visiting Professorship, School of Materials Engineering

**UCLA, USA**

- 1998-2004: Chair, Dept. of Materials Science & Engineering
- 1993-2016: Professor, Dept. of Materials Science & Engineering, and Electrical Engineering

**Cornell University, USA**

- 1988-1993: Adjunct Professor

**IBM T. J. Watson Research Center, USA**

- 1985-1987: 3rd Level Manager of Materials Science Department
- 1978-1985: 2nd Level Manager of Thin Film Science Department
- 1972-1978: 1st Level manager of Kinetics and Diffusion Group

**Honor**

- IEEE Division of Components, Packaging, and Manufacturing Technology Award, 2017
- Materials Research Society-Fellow, 2014
- TMS John Bardeen Award, 2011
- TMS-EMPM Division Distinguished Scientist/Engineer Award, 2006
- Member of Academia Sinica, ROC, 2002
- Humboldt Research Award for Senior US scientists, 1996
- Acta/Scripta Metallurgical Lecturer, 1990-1992
- Churchill College - Overseas Fellow, 1990
- The Metallurgical Society - Fellow, 1988
- Materials Research Society - President, 1981

**Research topics**

- Thin Film Materials Science, Kinetics in Nanoscale Materials, and Reliability Science in Microelectronic Devices Institute of Materials Chemistry and Engineering, Kyushu University, Japan

**2. Prof. Burn J. Lin**

**Topic: “Materials and Processes that Enabled 1/25-wavelength Lithography”**

**National Tsing-Hua University, Taiwan****Professional Experience****National Tsing Hua University, Taiwan**

- 2021-Now: Distinguished Research Chair Professor and Dean of College of Semiconductor Research

**TSMC, Taiwan**

- 2011-2015: Vice President/Distinguished Fellow
- 2000-2011: Senior Director

**Linnovation, Inc., USA**

- 1992-2000: President

**IBM, USA**

- 1970-1992: Research staff member/ Research staff manager/ Department manager / Executive staff

**Honor**

- SPIE Mozi Prize (墨子獎) The SPIE Mozi Award recognizes outstanding discoveries, inventions, or scientific and technical achievements in the field of optics. (2023)
- Taiwan Photonics Society Life Achievement Award (2023)
- Outstanding EE Professional (金選傑出 EE 人) (2023)
- The 15th Pan Wen Yuan Award. (2021)
- Future Science Prize in Mathematics and Computer Science. (2018)
- Elected as Members of Academia Sinica. (2014)
- Recipient of the IEEE Jun-Ichi Nishizawa Medal. (2013)
- Honored as an Industrial Technology Research Institute Laureate (2013).
- Recognized with the IEEE Cleo Brunetti Award in 2009.
- Inducted as a Life Member of the US National Academy of Engineering, for exceptional technical innovations and leadership in semiconductor manufacturing lithography. (2008)
- Received the SPIE Inaugural Frits Zernike Award (2004).
- SPIE Fellow (2003~).
- IEEE Fellow (2003~).

**Research topics**

Electrical and Electronic Engineering, Photolithography, Electromagnetic Wave and Photonics

### 3. Prof. Haruyuki Inui



**Topic: “Single-Crystal Mechanical Properties of High- and Medium-Entropy Alloys with the FCC Structure”**

**Kyoto University, Kyoto, Japan**

#### **Professional Experience**

**Kyoto University, Kyoto**

- 2004.11-Now: Professor

**Osaka University, Suita**

- 2022.07-Now: Guest Professor

**Kyoto University, Kyoto**

- 1989.04-2004.10: Associate Professor

**University of Pennsylvania, Philadelphia**

- 1988.04-1989.3: Postdoctoral Fellow

#### **Honor**

- Alexander von Humboldt Research Award in 2021
- Honda Frontier Award in 2019
- JIM Tanigawa-Harris Award in 2012
- Council Member, Science Council of Japan since 2017
- President of JIM in 2019

#### **Research topics**

- Crystal Plasticity in Structural Materials, Small Scale Plasticity in Brittle Intermetallics and Ceramics, Atomic-Scale Defect Characterization by Advanced Scanning/Transmission Electron Microscopy.

## 4. Prof. Cheng-Wei Qiu



**Topic: “Metasurfaces in Fusion”**

**National University of Singapore, Singapore.**

### Professional Experience

#### National University of Singapore (NUS)

- 2017-2020 & 2020-2023: Dean’s Chair Professor, Associate Professor, College of Design and Engineering (appointed twice)
- 2009-2017: Assistant Professor, Department of Electrical and Computer Engineering

#### Massachusetts Institute of Technology (MIT)

- 2007-2009: Postdoctoral Fellow, MIT Department of Physics

### Honor

- Fellow of Optica (formerly OSA, 2023~).
- Fellow of SPIE (2023~).
- Robert T. Poe Prize (2023).
- Highly Cited Researchers (Web of Science) (2019, 2020, 2021, 2022).
- Fellow of the Electromagnetics Academy, USA (2021~).
- World Scientific Medal by Institute of Physics Singapore (2021).
- Top 10 Breakthroughs (research) by Physics World (2020).
- SPIE Rising Researcher Award (2018).
- Young Engineering Research Award (2018).
- Faculty Young Research Award (NUS) (2013).
- MIT TR35@Singapore Award (2012).
- URSI Young Scientist Award (2008).

## 5. Prof. Kazunari Domen



**Topic: “Large scale solar hydrogen production using particulate photocatalysts”**

**Shinshu University/ The University of Tokyo, Japan**

### Professional Experience

#### The University of Tokyo

- 2019-present: University Professor
- 2004-2019: Professor, Department of Chemical System Engineering School of Engineering, The University of Tokyo

#### Shinshu University

- 2019-present: Special Contract Professor of Research Initiative for Supra-Materials (RISM)
- 2017-present: Special Contract Professor, Cross appointment, Center for Energy & Environmental Science

#### Tokyo Institute of Technology

- 1996-2004: Professor, Chemical Resources Laboratory
- 1990-1996: Associate Professor, Chemical Resources Laboratory
- 1982-1990: Associate Researchers, Chemical Resources Laboratory

#### IBM Almaden Research Center

- 1985-1986: Visiting Scientist

### Honor

- Award the EIC Horizon Prize for 'Fuel from the Sun: Artificial Photosynthesis (2022)
- Fellow of Royal Society of Chemistry (2022~)
- Japan Society of Coordination Chemistry Contribution Award (2022)
- The Honorary Fellow of Chinese Chemical Society (2020)
- Advance of Catalysis Award of APACS (2019)
- Lee Hsun Lecture Award (2019)
- The Japanese Photochemistry Association Lectureship Award (2018)

- The Japan Petroleum Institute Award (2018)
- Lewis Lecturer; University of Cambridge (2014)
- The Chemical Society of Japan Awards (2011)

### Research topics

Physical chemistry, heterogeneous catalysis, photocatalysts, surface chemistry

## 6. Prof. Raj Banerjee



**Topic:** *“Solution thermodynamics guided tuning of local chemical ordering in high entropy alloys: breaking the strength-ductility compromise”*

### University of North Texas, USA

#### Professional Experience

##### University of North Texas, USA

- 2020-Now: University Presidential Professor
- 2018-Now: Regents Professor

##### Ohio State University, USA

- 2012-Now: Adjunct Professor

##### School of Materials Engineering, Nanyang Technology University, Singapore

- 2018-Now: Visiting Professor

##### Indian Institute of Technology, Bombay, India

- 2023-Now: Visiting Professor

#### Honor

- ASM International Fellow (2023)
- National Talent Search Scholarship, India (1987)

### Research topics

Titanium alloys, High entropy alloys, Ni base superalloys, Soft magnetic materials, Additive Manufacturing, Functionally graded materials

## 7. Prof. Richard Catlow FRS



**Topic: “*COMPUTER MODELING as a TOOL in MATERIALS SCIENCE*”**

### UCL Chemistry, UK

#### Professional Experience

##### Cardiff University, UK

- 2015-present: Professor of Computational and Catalytic Chemistry, School of Chemistry

##### University College London, UK

- 2014-present: Professorial Research Fellow, Chemistry Department
- 2007-2014: Dean of the Faculty of Mathematical and Physical Sciences
- 2002-2007: Head of Chemistry Department (joint appointment with The Royal Institution)
- 1976-1985: University Lecturer in Chemistry

##### The Royal Institution, London, UK

- 1998-2007: Director, Davy Faraday Research Laboratory
- 1989-2007: Wolfson Professor of Natural Philosophy

##### University of Keele, UK

- 1985-1989: Professor of Physical Chemistry, Joint Appointment between University of Keele and Daresbury Laboratory

##### University of Oxford, UK

- 1975-1976: IBM Research Fellow: St John's College, Oxford
- 1973-1975: ICI Research Fellow: Theoretical Chemistry Department, Oxford

#### Honor

- Fellow of the International Science Council, 2022
- Honorary Doctorate, University of Bath, UK, 2022
- Knight Bachelor, 2020
- Member of the Leopoldina: The German National Science Academy, 2020
- Royal Society of Chemistry, Faraday Lectureship Prize, 2020
- CNR Rao Award Lectureship of the Chemical Research Society of India, 2020
- Fellow of the Learned Society of Wales, 2017



- Honorary Fellow of the Cuban Chemical Society, 2016
- Honorary Professor: University of Limpopo, South Africa, 2014
- Gerhardt Ertl Lecturer, Berlin, 2014

### Research topics

Current work is centred on the investigation of complex materials using a combination of computer modelling, quantum mechanical, synchrotron radiation and neutron scattering techniques. Present projects have a strong emphasis on nano-science, catalysis and energy materials.

## 8. Prof. Zhong Lin Wang



**Topic: *TENG - from scientific discoveries to technological innovations***

### Georgia Institute of Technology, USA

#### Professional Experience

##### Georgia Institute of Technology, USA

- Now(2023): Regents' Professor and Hightower Chair Emeritus, Materials Science and Engineering
- 1995-2016: Director of the Georgia Tech Center for Nanostructure Characterization

##### Beijing Institute of Nanoenergy and Nanosystems (BINN), Chinese Academy of Sciences, China

- Now(2023): Director and Chief Scientist

##### National Institute of Standards and Technology, USA

- 1993-1995: Research Fellow

##### Oak Ridge National Laboratory, USA

- 1989-1993: Research Fellow

##### Cavendish Laboratory in Cambridge, England

- 1988-1989: Research Fellow

#### Honor

- Global Energy Prize 2023
- Research.com: Ranked #1 in materials science in 2023 worldwide; ranked #1 in materials science globally and ranked #9 across all fields worldwide in 2022.



- Fellow of the National Academy of Inventors, the highest honor bestowed upon an inventor who achieves commercial impact through research, in 2022.
- Celsius Lecture Laureate, Sweden in 2020
- Albert Einstein World Award for Science in 2019
- Diels-Planck lecture award in 2019
- ENI Award in 2018
- Global Nanoenergy Prize, the NANOSMAT Society, UK in 2017
- Outstanding Achievement in Research Innovation award, Georgia Tech in 2016
- Router Citation Laureate in Physics in 2015
- World Technology Award (Materials) in 2014
- James C. McGroddy Prize for New Materials in 2014

### **Research topics**

- Nanogenerators and Self-powered Sensors; Coined Piezotronics and Piezo-phototronics for the Third Generation Semiconductor

## Symposium A: Green Energy Materials

### A1 Energy Storage

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building B1 B03**

Chair: Yu-Sheng Su, National Yang Ming Chiao Tung University, Taiwan  
Co-Chair: Hsin-Jay Wu, National Yang Ming Chiao Tung University, Taiwan

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building B1 B03**

Chair: Han-Yi Chen, National Tsing Hua University, Taiwan  
Co-Chair: Sheng-Heng Chung, National Cheng-Kung University, Taiwan

#### Keynote Speech

##### **“Next-Generation Sulfur Cathode: Electrocatalyst to Accelerate Sulfur Conversion Reaction”**

Lecturer: Jin-Woo Lee, Korea Advanced Institute of Science and Technology, Korea

Date & Time: November 18 (Sat.) 13:30-14:05

Venue: Delta Building B1 B03

#### Keynote Speech

##### **“Energy Storage Using Polyoxometalates”**

Lecturer: Ulrich Stimming, Technical University of Munich/Litricity GmbH, Germany

Date & Time: November 19 (Sun.) 13:30-14:05

Venue: Delta Building B1 B03

#### Invited Talk

##### **“Site-Specific Doping Strategy for Better-Performance Energy Materials: A Root-Cause Analysis Using Neutron and X-Ray Scattering”**

Lecturer: Wei Kong Pang, University of Wollongong, Australia

Date & Time: November 19 (Sun.) 14:05-14:30

Venue: Delta Building B1 B03

#### Invited Talk

##### **“Highly Safe Aqueous Rechargeable Batteries via Electrolyte Regeneration”**

Lecturer: Sihyoung Oh, Korea Institute of Science and Technology, Korea

Date & Time: November 19 (Sun.) 14:30-14:55

Venue: Delta Building B1 B03

**Invited Talk**

**“Local Structural Features of Medium-Entropy Garnet with Ultra-Long Cycle Life”**

Lecturer: Wang Hay Kan, Institute of High Energy Physics, China

Date & Time: November 19 (Sun.) 14:55-15:20

Venue: Delta Building B1 B03

## **A2 Energy Conversion and Generation**

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building B1 B03**

Chair: Tung-Han Yang, National Tsing Hua University, Taiwan

Co-Chair: Kuan-Wen Wang, National Central University, Taiwan

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building B1 B03**

Chair: Yu-Sheng Su, National Yang Ming Chiao Tung University, Taiwan

Co-Chair: Hsin-Jay Wu, National Yang Ming Chiao Tung University, Taiwan

### **Invited Talk**

#### **“Development of Organic Thermoelectric Materials and Device”**

Lecturer: Cheng-Liang Liu, National Taiwan University, Taiwan

Date & Time: November 18 (Sat.) 14:45-15:10

Venue: Delta Building B1 B03

### **Invited Talk**

#### **“Effect of Electrode Materials on Thermoelectric Property of Bi<sub>2</sub>Te<sub>3</sub> and Sb<sub>2</sub>Te<sub>3</sub> Thin Film Modules”**

Lecturer: Albert T. Wu, National Central University, Taiwan

Date & Time: November 18 (Sat.) 15:10-15:35

Venue: Delta Building B1 B03

### **Invited Talk**

#### **“The underlying mechanisms leading to the ultralow thermal conductivity of high-performance thermoelectric materials”**

Lecturer: Pai-Chun Wei, National Cheng Kung University, Taiwan

Date & Time: November 18 (Sat.) 15:35-16:00

Venue: Delta Building B1 B03

### **Keynote Speech**

#### **“Recent Developments in Enhancement Principles for Thermoelectrics”**

Lecturer: Takao Mori, National Institute for Materials Science (NIMS), Japan

Date & Time: November 18 (Sat.) 16:15-16:50

Venue: Delta Building B1 B03

## **A3 Hydrogen Energy**

**Date & Time: November 17 (Fri.)**

**Venue: Delta Building B1 B03**

13:30-15:20

Chair: Yung-Tin Pan, National Tsing Hua University, Taiwan

Co-Chair: Min-Hsin Yeh, National Taiwan University of Science and Technology, Taiwan

15:40-17:15

Chair: Tung-Han Yang, National Tsing Hua University, Taiwan

Co-Chair: Kuan-Wen Wang, National Central University, Taiwan

### **Keynote Speech**

**“Understanding The Design Rules of Electrocatalyst for Oxygen Evolution Reaction”**

Lecturer: Hong Yang, University of Illinois Urbana-Champaign, USA

Date & Time: November 17 (Fri.) 13:30-14:05

Venue: Delta Building B1 B03

### **Invited Talk**

**“Establishing Tandem Surface Engineering for Graphene Quantum Dot-Assisted Prussian Blue Analogues for Electrocatalytic Oxygen Evolution Reaction”**

Lecturer: Min-Hsin Yeh, National Taiwan University of Science and Technology, Taiwan

Date & Time: November 17 (Fri.) 14:05-14:30

Venue: Delta Building B1 B03

### **Invited Talk**

**“Metastable High-Entropy-Alloy Atomic Layers for Catalysis”**

Lecturer: Tung-Han Yang, National Tsing Hua University, Taiwan

Date & Time: November 17 (Fri.) 14:30-14:55

Venue: Delta Building B1 B03

### **Invited Talk**

**“Investigating the Impact of Indium Oxides on Copper Catalysts to Enhance Selectivity in Co<sub>2</sub>-To-Co Electrochemical Reduction”**

Lecturer: Kuan-Wen Wang, National Central University, Taiwan

Date & Time: November 17 (Fri.) 14:55-15:20

Venue: Delta Building B1 B03

### **Keynote Speech**

#### **“High-Performance Hydrogen Storage Alloys for Microgrids and Remote Area Power Supply Systems”**

Lecturer: Sammy Lap Ip Chan, National Central University, Taiwan Date

& Time: November 17 (Fri.) 15:40-16:15

Venue: Delta Building B1 B03

### **Invited Talk**

#### **“Benzo[c]cinnoline- Based Conjugated Polymers as Organocatalysts for Photocatalytic CO<sub>2</sub> Reaction.”**

Lecturer: Jyh-Chien Chen, National Taiwan University of Science and Technology, Taiwan Date &

Time: November 17 (Fri.) 16:50-17:15

Venue: Delta Building B1 B03

### **Invited Talk**

#### **“Value-added electrolysis toward sustainable energy conversion”**

Lecturer: Meng-Che Tsai, National Taiwan University of Science and Technology, Taiwan Date &

Time: November 17 (Fri.) 17:15-17:40

Venue: Delta Building B1 B03

## **A4 Photocatalysis and Photosynthesis**

**Date & Time: November 17(Fri.)**

**Venue: Delta Building B1 B03**

Chair: Lu-Yin Lin, National Taipei University of Technology, Taiwan

Co-Chair: Ho-Hsiu Chou, National Tsing Hua University, Taiwan

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building B1 B03**

Chair: Chih-Yu Chang, National Taiwan University of Science and Technology, Taiwan Co-

Chair: Cheng-Yu Wang, National Yang Ming Chiao Tung University, Taiwan

**Date & Time: November 20 (Mon.)**

**Venue: Delta Building B1 B03**

Chair: Lu-Yin Lin, National Taipei University of Technology, Taiwan

Co-Chair: Ho-Hsiu Chou, National Tsing Hua University, Taiwan

### **Keynote Speech**

#### **“Perovskite Solar Cell: Is It the Holy Grail of Next Generation Photovoltaic or Just Another Paper Monster?”**

Lecturer: Tzu-Chien Wei, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 15:40-16:15

Venue: Delta Building B1 B03

### **Invited Talk**

#### **“All-Perovskite Tandem Solar Cells”**

Lecturer: Shuzi Hayase, The University of Electro-Communications, Japan

Date & Time: November 19 (Sun.) 16:15-16:40

Venue: Delta Building B1 B03

### **Invited Talk**

#### **“Customizing Co-Evaporated Perovskites for Optoelectronic Devices”**

Lecturer: Annalisa Bruno, Nanyang Technological University, Singapore

Date & Time: November 19 (Sun.) 16:40-17:05

Venue: Delta Building B1 B03

### **Keynote Speech**

#### **“Molecularly Engineered Interfaces in Perovskite Optoelectronic Materials and Devices”**

Lecturer: Hin-Lap Yip, City University of Hong Kong, China

Date & Time: November 17 (Fri.) 16:15-16:50

Venue: Delta Building B1 B03



**Invited Talk**

**“Interface Engineering for High-Performance and Stable Perovskite Solar Cell and Shadow-Effect Energy Generator”**

Lecturer: Chih-Yu Chang, National Taiwan University of Science and Technology, Taiwan

Date & Time: November 20 (Mon.) 10:05-10:30

Venue: Delta Building B1 B03

**Invited Talk**

**“Heterojunction And Co-Catalyst Engineering of Bismuth Vanadate by Nickel Molybdenum Oxide and Carbon Quantum Dot Decorations for Photoelectrochemical Water Splitting”**

Lecturer: Lu-Yin Lin, National Taipei University of Technology, Taiwan

Date & Time: November 20 (Mon.) 10:50-11:05

Venue: Delta Building B1 B03

**Invited Talk**

**“Semiconducting Polymer Photocatalysts for Solar-Driven Hydrogen Evolution”**

Lecturer: Ho-Hsiu Chou, National Tsing Hua University, Taiwan

Date & Time: November 20 (Mon.) 11:05-11:30

Venue: Delta Building B1 B03

**Invited Talk**

**“Interfacial Structure Modification and New Functionalities Using Low-Energy Proton Irradiation”**

Lecturer: Jongill Hong, Yonsei University,

Korea Date & Time: November 20 (Mon.)

11:30-11:55 Venue: Delta Building B1 B0

## Symposium B. Materials Sustainability

**Date & Time: November 17 (Fri.)**

**Venue: Delta Building B1 B08**

Chair: Jyh-Ming Ting, National Cheng Kung University, Taiwan  
Co-Chair: Wen-Hui Cheng, National Cheng Kung University, Taiwan

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building B1 B08**

Chair: Jyh-Ming Ting, National Cheng Kung University, Taiwan  
Co-Chair: Wen-Hui Cheng, National Cheng Kung University, Taiwan

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building B1 B08**

Chair: Jyh-Ming Ting, National Cheng Kung University, Taiwan  
Co-Chair: Wen-Hui Cheng, National Cheng Kung University, Taiwan

### Keynote Speech

**“Heterojunction Photocatalysts for Seawater Splitting in A Novel Twin Photoreactor to Simultaneously Separate H<sub>2</sub> And O<sub>2</sub>”**

Lecturer: Jeffrey Chi-Sheng Wu, National Taiwan University, Taiwan

Date & Time: November 17 (Fri.) 13:30-14:05

Venue: Delta Building B1 B08

### Invited Talk

**“Engineering of a Viable Artificial Leaf for Solar H<sub>2</sub> Production”**

Lecturer: Phong D. Tran, University of Science & Technology of Hanoi, Vietnam

Date & Time: November 17 (Fri.) 14:05-14:30

Venue: Delta Building B1 B08

### Invited Talk

**“Vibrational Spectroscopy at Electrified Interfaces: Electrochemical CO<sub>2</sub> Reduction Reaction”**

Lecturer: Heng-Liang Wu, National Taiwan University, Taiwan

Date & Time: November 17 (Fri.) 14:30-14:55

Venue: Delta Building B1 B08

**Invited Talk**

**“Electrocatalyst Design for Efficient Hydrocarbon Partial Oxidation and  $\text{CO}_2 + \text{NO}_3^-$  Co-Electrolysis to Urea: A Quantum Mechanical Perspective”**

Lecturer: Mu-Jeng Cheng, National Cheng Kung University, Taiwan

Date & Time: November 17 (Fri.) 14:55-15:20

Venue: Delta Building B1 B08

**Keynote Speech**

**“Electrode Materials Designs from Energy Storage to Water Desalination”**

Lecturer: Chi-Chang Hu, National Tsing Hua University, Taiwan

Date & Time: November 17 (Fri.) 15:40-16:15

Venue: Delta Building B1 B08

**Invited Talk**

**“Alkali Metal Incorporated Iron Oxygen Carriers for Chemical Looping  $\text{CO}_2$  Splitting”**

Lecturer: Yung-Tin Pan, National Tsing Hua University, Taiwan

Date & Time: November 17 (Fri.) 16:15-16:40

Venue: Delta Building B1 B08

**Invited Talk**

**“Functional Polyurethane Materials from Sustainable Resources”**

Lecturer: Yi-Chun Chen, National Chung Hsing University, Taiwan

Date & Time: November 17 (Fri.) 16:40-17:05

Venue: Delta Building B1 B08

**Invited Talk**

**“Triboelectric Nanogenerators for Sustainable Autonomous Wearables and Soft Robots”**

Lecturer: Ying-Chih Lai, National Chung Hsing University, Taiwan

Date & Time: November 17 (Fri.) 17:05-17:40

Venue: Delta Building B1 B08

**Keynote Speech**

**“High-Performance Lithium-Chlorine Battery with Porous Carbon Materials”**

Lecturer: Yuan-Yao Li, National Chung Cheng University, Taiwan

Date & Time: November 18 (Sat.) 13:30-14:05

Venue: Delta Building B1 B08

**Invited Talk****“Sulfonate-Functionalized Metal–Organic Frameworks for Electrochemical Applications”**

Lecturer: Chung-Wei Kung, National Cheng Kung University, Taiwan

Date & Time: November 18 (Sat.) 14:05-14:30

Venue: Delta Building B1 B08

**Invited Talk****“Organic And Metal–Organic-Based Electrode Materials for Sustainable Energy Storage”**

Lecturer: Watchareeya "Bee" Kaveevivitchai, National Cheng Kung University, Taiwan

Date & Time: November 18 (Sat.) 14:30-14:55

Venue: Delta Building B1 B08

**Invited Talk****“Solution-Based Synthesis of Earth-Abundant Materials For (Photo)Electrocatalytic Solar Fuel Production and Organic Waste Valorization”**

Lecturer: Yi-Hsuan Lai, National Cheng Kung University, Taiwan

Date & Time: November 18 (Sat.) 14:55-15:10

Venue: Delta Building B1 B08

**Invited Talk****“Recycling Of Low-Grade Magnesium Scraps for H<sub>2</sub> Generation in Livestock Wastewater”**

Lecturer: Jun-Yen Uan, National Chung Hsing University, Taiwan

Date & Time: November 19 (Sun.) 13:30-13:55

Venue: Delta Building B1 B08

**Invited Talk****“The Impact of Non-Aqueous Solvent Properties on Mass Transfer Pinch in CO<sub>2</sub> Absorber”**

Lecturer: Yu-Jeng Lin, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 13:55-14:20

Venue: Delta Building B1 B08

**Invited Talk****“Understanding of Lithium Plating on Graphite Electrode”**

Lecturer: Che-Ning Yeh, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 14:20-14:45

Venue: Delta Building B1 B08

**Invited Talk****“Sustainable Materials for Clean Energy and CO<sub>2</sub> Neutrality”**

Lecturer: Shou-Heng Liu, National Cheng Kung University, Taiwan

Date & Time: November 19 (Sun.) 14:45-15:10

Venue: Delta Building B1 B08

## Symposium C. Semiconductor and Microelectronic Packaging Materials

**Date & Time: November 17 (Fri.)**

**Venue: Delta Building B1 B05**

Chair: Chien-Neng Liao, National Tsing Hua University,  
Taiwan Co-Chair: Yu-Lun Chueh, National Tsing Hua  
University, Taiwan

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building B1 B05**

Chair: Yi-Hsien Lee, National Tsing Hua University, Taiwan

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building B1 B05**

Chair: Chang-Hong Shen, Taiwan Semiconductor Research Institute,  
Taiwan Co-Chair: Daisuke Kiriya, The University of Tokyo, Japan

### Keynote Speech

**“Research on Nano/Micro-Device Science and Its Applications”**

Lecturer: Jun Mizuno, National Cheng Kung University, Taiwan

Date & Time: November 17 (Fri.) 13:30-14:05

Venue: Delta Building B1 B05

### Invited Talk

**“Mechanism of Cu/Sio<sub>2</sub> Hybrid Bonding in 3D IC Packaging”**

Lecturer: Chih Chen, National Yang Ming Chiao Tung University, Taiwan

Date & Time: November 17 (Fri.) 14:05-14:30

Venue: Delta Building B1 B05

### Invited Talk

**“Pressureless Low-Temperature Cu Bonding Technique”**

Lecturer: Albert T. Wu, National Central University,

Taiwan Date & Time: November 17 (Fri.) 14:30-14:55

Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Inhibition of Thermomigration in Solder Joints with Feconimn Alloy”**

Lecturer: Yu-An Shen, Feng Chia University,  
Taiwan Date & Time: November 17 (Fri.) 14:55-  
15:20 Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Spin-Orbit Torque Switching Materials for Nonvolatile Embedded Memory”**

Lecturer: Young Keun Kim, Korea University,  
Korea Date & Time: November 17 (Fri.) 15:40-  
16:15 Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Multimodal Wearable Sensor Sheets”**

Lecturer: Kuniharu Takei, Hokkaido University,  
Japan Date & Time: November 17 (Fri.) 16:15-  
16:50 Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Bio-Inspired Electronic Skin Sensors for Wearable Devices”**

Lecturer: Hyunhyub Ko, Ulsan National Institute of Science and Technology. Korea  
Date & Time: November 17 (Fri.) 16:50-17:15  
Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Novel Semiconductor Devices/Materials Through 3D Photolithography”**

Lecturer: Seokwoo Jeon, Korea University, Korea  
Date & Time: November 17(Fri.) 17:15-17:40  
Venue: Delta Building B1 B05

### **Keynote Speech**

#### **“Enhancing Mechanical Properties of Full Intermetallic Microbump by Alloying Substrate in Thermocompression Bonding”**

Lecturer: Jeng-Gong Duh, National Tsing Hua University,  
Taiwan Date & Time: November 18(Sat.) 13:30-14:05  
Venue: Delta Building B1 B05

**Invited Talk****“Molecular Dynamics Simulation of Cu–Cu Solid-State Bonding Behavior”**

Lecturer: Hiroaki Tatsumi, Osaka University, Japan

Date & Time: November 18(Sat.) 14:05-14:30

Venue: Delta Building B1 B05

**Invited Talk****“Flexible LOWLP-Based 3D Heterogeneous Integration for Biomedical/Healthcare Fhe Application”**

Lecturer: Takafumi Fukushima, Tohoku University, Japan

Date & Time: November 18(Sat.) 14:30-14:55

Venue: Delta Building B1 B05

**Invited Talk****“Selective Amide Molecular Sensor With 2D Semiconductor Mosfet”**

Lecturer: Daisuke Kiriya, The University of Tokyo,

Japan Date & Time: November 18(Sat.) 14:55-15:20

Venue: Delta Building B1 B05

**Invited Talk****“Multi-Valued Logic Electronics Enabled By 1d Gaassb/2D Mos2 Anti-Ambipolar Heterotransistors”**

Lecturer: Johnny C Ho, City University of Hong Kong, Hong

Kong Date & Time: November 18(Sat.) 15:20-15:45

Venue: Delta Building B1 B05

**Keynote Speech****“Oriented Lateral Growth of Two-Dimensional Semiconductors On C-Plane Sapphire”**

Lecturer: Vincent Tung, University of Tokyo, Japan

Date & Time: November 19(Sun.) 13:30-14:05

Venue: Delta Building B1 B05

**Invited Talk****“Redefining Possibilities: The Promising Applications of Ambipolar 2D Electronics”**

Lecturer: Yen-Fu Lin, National Chung-Hsing University, Taiwan

Date & Time: November 19(Sun.) 14:05-14:30

Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Novel Mid-Infrared Optoelectronics Using Black Phosphorus-Based Van Der Waals Heterostructures”**

Lecturer: Chang-Hua Liu, National Tsing Hua University, Taiwan

Date & Time: November 19(Sun.) 14:30-14:55

Venue: Delta Building B1 B05

### **Invited Talk**

#### **“High-Resolution 3D Printing of Stretchable Interconnections for Wearable Electronics”**

Lecturer: Jang-Ung Park, Yonsei University,

Korea Date & Time: November 19(Sun.)

14:55-15:20 Venue: Delta Building B1 B05

### **Keynote Speech**

#### **“Epitaxial Growth of Two-Dimensional Materials for Electronic Applications”**

Lecturer: Lain-Jong (Lance) Li, University of Hong Kong, Hong Kong

Date & Time: November 19(Sun.) 15:40-16:15

Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Monolithic 3D Integration of 2D FET and Si FINFET”**

Lecturer: Chang-Hong Shen, Taiwan Semiconductor Research Institute

Date & Time: November 19(Sun.) 16:15-16:50

Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Can 2D Materials Be Future Electronics?”**

Lecturer: Yann-Wen Lan, National Taiwan Normal University, Taiwan

Date & Time: November 19(Sun.) 16:50-17:15

Venue: Delta Building B1 B05

### **Invited Talk**

#### **“Crystal Growth and Excitonic Optics Study in Chalcogenides 2D Semiconductors”**

Lecturer: Ching-Hwa Ho, National Taiwan University of Science and Technology,  
Taiwan

Date & Time: November 19(Sun.) 17:15-17:40

Venue: Delta Building B1 B05



**Invited Talk**

**“Ultrafast Graphene Photodetectors With 2D Superstructures”**

Lecturer: Po-Wen Chiu, National Tsing Hua University, Taiwan

Date & Time: November 19(Sun.) 17:40-18:05

Venue: Delta Building B1 B05

## **Symposium D. High-Entropy Materials Symposium**

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building 107**

Chair: An-Chou Yeh, National Tsing Hua University, Taiwan

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building 107**

Chair: Ming-Hung Tsai, National Chung Hsing University, Taiwan

Co-Chair: Che-Wei Tsai, National Tsing Hua University, Taiwan

**Date & Time: November 20 (Mon.)**

**Venue: Materials Science Building 511**

Chair: Che-Wei Tsai, National Tsing Hua University, Taiwan

Co-Chair: An-Chou Yeh, National Tsing Hua University, Taiwan

### **Keynote Speech**

**“High Entropy Alloys and Sustainable Development: A Data-Driven Approach”**

Lecturer: Stéphane Gorsse, University of Bordeaux, France

Date & Time: November 18(Sat.) 13:30-14:05

Venue: Delta Building 107

### **Invited Talk**

**“The Investigation of Annealing Twins and Deformation Twins in FCC High-Entropy and Medium-Entropy Alloys”**

Lecturer: Jer-Ren Yang, National Taiwan University, Taiwan

Date & Time: November 18(Sat.) 14:05-14:30

Venue: Delta Building 107

### **Invited Talk**

**“Mechanical Response to Hydrogen in High/Medium-Entropy Alloys”**

Lecturer: Hung-Wei Yen, National Taiwan University, Taiwan

Date & Time: November 18(Sat.) 14:30-14:55

Venue: Delta Building 107

**Invited Talk****“High-Temperature Deformation of HEAs”**

Lecturer: Yoko Yamabe-Mitarai, The University of Tokyo, Japan

Date & Time: November 18(Sat.) 14:55-15:20

Venue: Delta Building 107

**Keynote Speech****“Development of High Entropy Alloys for High Temperature Applications”**

Lecturer: Hideyuki Murakami, National Institute of Materials Science, Japan

Date & Time: November 19(Sun.) 13:30-14:05

Venue: Delta Building 107

**Invited Talk****“Piezocatalysis and Piezo-Photocatalysts Based on A Ferroelectric High-Entropy Oxide”**

Lecturer: Jyh-Ming Wu, National Tsing Hua University, Taiwan

Date & Time: November 19(Sun.) 14:05-14:30

Venue: Delta Building 107

**Invited Talk****“Conductivity Model and Potential Application of Refractory Hea Thin Films”**

Lecturer: Chuan-Feng Shih, National Cheng Kung University, Taiwan

Date & Time: November 19(Sun.) 14:30-14:55

Venue: Delta Building 107

**Invited Talk****“Advanced High Entropy Oxides for Seawater Splitting”**

Lecturer: Wei-Hsuan Hung, National Central University, Taiwan

Date & Time: November 19(Sun.) 14:55-15:20

Venue: Delta Building 107

**Invited Talk****“Development Of Novel Lightweight Ti-Rich Medium Entropy Alloys with Superior Synergy of Mechanical Properties and Ductility”**

Lecturer: Shian-Ching Jang, National Central University, Taiwan

Date & Time: November 19(Sun.) 15:40-16:05

Venue: Delta Building 107

### **Invited Talk**

#### **“Exploring Material Property Attribution from Compositions in High Entropy Alloys Through Deep Learning”**

Lecturer: Wen-Jay Lee, National Center for High-Performance Computing, Taiwan

Date & Time: November 19(Sun.) 16:05-16:30

Venue: Delta Building 107

### **Invited Talk**

#### **“Air-Oxidation Behavior of FeCoNi-Based Medium-And High-Entropy Alloys with Cr and Al Additions”**

Lecturer: Wu Kai, National Taiwan Ocean University, Taiwan

Date & Time: November 19(Sun.) 16:30-16:55

Venue: Delta Building 107

### **Invited Talk**

#### **“Can Lattice Distortion Be Tuned in FCC High Entropy Alloys to Obtain High Strength with Optimum Ductility?”**

Lecturer: Krishanu Biswas, Indian Institute of Technology Kanpur, India

Date & Time: November 19(Sun.) 16:55-17:20

Venue: Delta Building 107

### **Invited Talk**

#### **“Corrosion In the Co-Cr-Fe-Ni High Entropy Alloy Family”**

Lecturer: Anna Manzoni, Bundesanstalt Für Materialforschung Und -Prüfung (Bam), Germany

Date & Time: November 20(Mon.) 09:30-09:55

Venue: Materials Science Building 511

### **Invited Talk**

#### **“Construction And Catalytic Application of a Nanocrystal Library of High-Entropy Alloys”**

Lecturer: Tung-Han Yang, National Tsing Hua University, Taiwan

Date & Time: November 20(Mon.) 09:55-10:20

Venue: Materials Science Building 511

### **Invited Talk**

#### **“Element-Dependent-Diffusion-Induced Shape Memory Effects in High Entropy Alloys for Phase Transformation”**

Lecturer: E-Wen Huang, National Yang Ming Chiao Tung University, Taiwan

Date & Time: November 20(Mon.) 10:40-11:05

Venue: Materials Science Building 511

**Invited Talk**

**“High-Entropy Alloy Powders and Their Phase-Adjustable Coatings Prepared Via Thermal Spray Process”**

Lecturer: Shih-Hsun Chen, National Yang Ming Chiao Tung University, Taiwan

Date & Time: November 20(Mon.) 11:05-11:30

Venue: Materials Science Building 511

**Invited Talk**

**“High Entropy Materials for Lithium and Sodium-Ion Batteries”**

Lecturer: Han-Yi Chen, National Tsing Hua University, Taiwan

Date & Time: November 20(Mon.) 11:30-11:55

Venue: Materials Science Building 511

## Symposium E. Computation and Artificial Intelligence for Materials

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building B1 B09**

Chair: Shih-Kang Lin, National Cheng Kung University, Taiwan

Co-Chair: Yu-Chieh Lo, National Yang Ming Chiao Tung University, Taiwan

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building B1 B09**

**13:25-15:25**

Chair: Yu-Chieh Lo, National Yang Ming Chiao Tung University, Taiwan

Co-Chair: Shu-Wei Chang, National Taiwan University, Taiwan

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building B1 B09**

**15:40-17:05**

Chair: Hsin-Yi Chen, National Tsing Hua University, Taiwan

Co-Chair: Yu-Chieh Lo, National Yang Ming Chiao Tung University, Taiwan

### Keynote Speech

**“Phase Diagrams in The Modern Age: Changed and Unchanged”**

Lecturer: Sinn-Wen Chen, National Tsing Hua University, Taiwan

Date & Time: November 18(Sat.) 13:25-14:00

Venue: Delta Building B1 B09

### Keynote Speech

**“Investigating The Mechanical, Electrical, And Optical Properties of High-Entropy Alloys Through First Principles Calculations”**

Lecturer: Wen-Dung Hsu, National Cheng Kung University, Taiwan

Date & Time: November 18(Sat.) 14:00-14:35

Venue: Delta Building B1 B09

### Invited Talk

**“Theoretical Playground of Carbon-Geometric and Topological Effects on the Electronic Properties of Low-Dimensional Carbon-Based Materials”**

Lecturer: Elise Li, National Taiwan Normal University, Taiwan

Date & Time: November 18(Sat.) 14:35-15:00

Venue: Delta Building B1 B09

**Invited Talk****“Application of CFD-DEM Coupling on Rheological Analysis for Next-Generation Blast Furnace and Advanced Casting Processes”**

Lecturer: Te-Cheng Su, National Taiwan University, Taiwan

Date &amp; Time: November 18(Sat.) 15:00-15:25

Venue: Delta Building B1 B09

**Keynote Speech****“Accelerating Materials Innovation with Artificial Intelligence”**

Lecturer: Chuin-Shan Chen, National Taiwan University, Taiwan

Date &amp; Time: November 19(Sun.) 13:25-14:00

Venue: Delta Building B1 B09

**Keynote Speech****“Machine Learning-Based Design Methods Considering Data Characteristics and Design Space Size”**

Lecturer: Seunghwa Ryu, Korea Advanced Institute of Science and Technology, Korea

Date &amp; Time: November 19(Sun.) 14:00-14:35

Venue: Delta Building B1 B09

**Invited Talk****“Microstructure Identification in Shape Memory Alloys by Using Graph Neural Network”**

Lecturer: Nien-Ti Tsou, National Yang Ming Chiao Tung University, Taiwan

Date &amp; Time: November 19(Sun.) 14:35-15:00

Venue: Delta Building B1 B09

**Invited Talk****“Deep Generative Approach for Bioinspired Structural Materials”**

Lecturer: Chi-Hua Yu, National Cheng Kung University, Taiwan

Date &amp; Time: November 19(Sun.) 15:00-15:25

Venue: Delta Building B1 B09

**Keynote Speech****“Atomistic Study on the Origins of The Anisotropic Lithiation Behaviors of the Silicon Anode Using the Reactive Force Field Based Molecular Dynamics Simulations”**

Lecturer: Chin-Lung Kuo, National Taiwan University, Taiwan

Date &amp; Time: November 19(Sun.) 15:40-16:15

Venue: Delta Building B1 B09



**MRS-T**

**Invited Talk**

**“Combined Density Functional Theory Calculation and Non-Equilibrium Green's Function Approach to Predict the Sensitivity of Nitrogen-Containing Gasses Over PtTeNS<sub>2</sub>-N Monolayers (N =0-2)”**

Lecturer: Chen-Hao Yeh, Feng Chia University, Taiwan

Date & Time: November 19(Sun.) 16:15-16:40

Venue: Delta Building B1 B09

**Invited Talk**

**“First-Principles-Based KMC Study on The Migration and Clustering of Catalytic Relevant Defect Sites on MoS<sub>2</sub>”**

Lecturer: Cheng-Chau Chiu, National Sun Yat-Sen University,

Taiwan Date & Time: November 19(Sun.) 16:40-17:05

Venue: Delta Building B1 B09



## Other Sessions

### **Women In Science: Leadership and Work-life Balance**

**Date & Time: November 18 (Sat.)**

**Venue: Delta Building 106**

Chair: Pei Yuin Keng, National Tsing Hua University, Taiwan

#### **Invited Talk**

**“Nurturing gender inclusivity: The key to a sustainable future”**

Lecturer: Huey-Jen Su, National Cheng Kung University, Taiwan

Date & Time: November 19(Sat.) 13:30-13:55

Venue: Delta Building 106

#### **Invited Talk**

**“Supporting System for Female Researchers in Japan”** Lecturer: Yoko-Yamabe-Mitarai, The University of Tokyo, Japan Date & Time: November 19(Sat.) 13:55-14:20

Venue: Delta Building 106

#### **Forum**

Moderator: Tri-Rung Yew, National Tsing Hua University, Taiwan

Discussant: Jen-Sue Chen, National Cheng Kung University, Taiwan

Discussant: Julia Lu, Applied Materials Taiwan

Discussant: Hsin-Jay Wu, National Yang Ming Chiao Tung University, Taiwan

Discussant: Han-Yi Chen, National Tsing Hua University, Taiwan

Date & Time: November 19(Sat.) 14:20-15:20

Venue: Delta Building 106

# Synchrotron X-Ray & Neutron Science and Applications

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building 106**

Chair: Yan-Gu Lin, National Synchrotron Radiation Research Center, Taiwan

Chair: Chia-Hao Chen, National Synchrotron Radiation Research Center, Taiwan

## **Invited Talk**

### **“Illuminating Biosystem Interfacial Interactions and Structure Dynamics in Aqueous via SWAXS and SWANS”**

Lecturer: Hsiao-Ching Yang, Fu Jen Catholic University, Taiwan

Date & Time: November 19 (Sun.) 13:15-13:40

Venue: Delta Building 106

## **Invited Talk**

### **“Probing Block Copolymer/Homopolymer Blend Films by Grazing-Incidence Small Neutron Scattering and Neutron Scattering”**

Lecturer: Ya-Sen Sun, National Cheng Kung University, Taiwan

Date & Time: November 19 (Sun.) 13:40-14:05

Venue: Delta Building 106

## **Invited Talk**

### **“Neutron Powder Diffraction and Small-Angle Scattering Technique for Lithium Ion Battery”**

Lecturer: Chia-Chin Chang, National University of Tainan, Taiwan

Date & Time: November 19 (Sun.) 14:05-14:30

Venue: Delta Building 106

## **Invited Talk**

### **“Investigation of the Complex Magnetic Behavior of the Spinel Material $\text{Fe}_3\text{V}_3\text{O}_8$ ”**

Lecturer: Chun-Chuen Yang, National Central University, Taiwan

Date & Time: November 19 (Sun.) 14:30-14:55

Venue: Delta Building 106

**Invited Talk**

**“The Complementary Tools of Synchrotron X-Ray Scattering and Neutron Scattering”**

Lecturer: Chih-Hao Lee, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 14:55-15:20

Venue: Delta Building 106

**Invited Talk**

**“NiFeP<sub>x</sub> Electrocatalyst: Electrosynthesis, Electro-Activation, And Applications in Photo-Electrocatalysis”**

Lecturer: Chia-Yu Lin, National Cheng Kung University, Taiwan

Date & Time: November 19 (Sun.) 15:40-16:05

Venue: Delta Building 106

**Invited Talk**

**“Origin of Facet-Dependent Behaviors of Semiconductor Crystals”**

Lecturer: Michael H. Huang, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 16:05-16:30

Venue: Delta Building 106

**Invited Talk**

**“Hard X-Ray Photoelectron Spectroscopy at TPS 47A Beamline”**

Lecturer: Yen-Fa Liao, National Synchrotron Radiation Research Center, Taiwan

Date & Time: November 19 (Sun.) 16:30-16:55

Venue: Delta Building 106

**Invited Talk**

**“Relating Electrode Structure with Electrochemical Performance via Synchrotron X-Ray Characterization”**

Lecturer: Yan-Gu Lin, National Synchrotron Radiation Research Center, Taiwan

Date & Time: November 19 (Sun.) 16:55-17:20

Venue: Delta Building 106

# **Trends And Developments of Local Characteristic Industries**

**Date & Time: November 20 (Mon.)**

**Venue: Delta Building B1 ACX Auditorium**

Chair: Chih-Huang Lai, National Tsing Hua University, Taiwan

Chair: Jian-Long Horng, Industrial Technology Research Institute, Taiwan

## **Invited Talk**

**“可寧衛企業在 ESG 的佈局及業務發展”**

Lecturer: Jack Chen, Chase Sustainability Technology

Date & Time: November 20 (Mon.) 09:30-10:00

Venue: Delta Building B1 ACX Auditorium

## **Invited Talk**

**“Challenges And Business Opportunities Faced by China Steel Under the Trend of Carbon Neutrality.”**

Lecturer: Horng-Yih Liou, China Steel Corporation

Date & Time: November 20 (Mon.) 10:00-10:30

Venue: Delta Building B1 ACX Auditorium

## **Invited Talk**

**“從風場到風葉，零廢風機力拼國際“**

Lecturer: Robert Tsai, Swancor Holding Co., Ltd

Date & Time: November 20 (Mon.) 10:50-11:20

Venue: Delta Building B1 ACX Auditorium

## **Invited Talk**

**“推動車用陶瓷電容低碳轉型之實務分享“**

Lecturer: Eric Yeh, Holy Stone

Date & Time: November 20 (Mon.) 11:20-11:50

Venue: Delta Building B1 ACX Auditorium

# Green Sustainability and ESG Startup Forum

**Date & Time: November 20 (Mon.)**

**Venue: Delta Building B09**

Chair: Chih-Huang Lai, National Tsing Hua University, Taiwan

9:45 A.M. – 10:25 A.M. **(Invited Talk)**

Ray Chen, B Current Impact Investment

10:25 A.M. – 11:05 A.M. **(Invited Talk)**

Emily Wu, Darwin Venture Management

11:05 A.M. – 11:35 A.M. **(Invited Talk)**

Steven Chen, Transcene Corp.

## **Honorary Symposia: Wang Group Taiwan Alumni Workshop**

**Date & Time: November 19 (Sun.)**

**Venue: Delta Building 105**

14:30-15:20

Chair: Jyh-Ming Wu, National Tsing Hua University, Taiwan

Co-Chair: Ying-Chih Lai, National Chung Hsing University, Taiwan

15:40-16:30

Chair: Chuan-Pu Liu, National Tsing Hua University, Taiwan

Co-Chair: Ming-Yen Lu, National Tsing Hua University, Taiwan

16:40-17:20

Chair: Jyh-Ming Wu, National Tsing Hua University, Taiwan

Co-Chair: Zong-Hong Lin, National Taiwan University, Taiwan

### **Invited Talk**

#### **“Development of Piezo-Gated Thin Film Transistor for Dual-Mode Strain Sensor and Thermoelectric Nanogenerator”**

Lecturer: Chuan-Pu Liu, National Cheng Kung University, Taiwan

Date & Time: November 19 (Sun.) 14:30-14:40

Venue: Delta Building 105

### **Invited Talk**

#### **“Phase/Structure-Modulated 2D Materials by Plasma-Assisted Selenization Process Toward Innovative Nanoelectronics”**

Lecturer: Yu-Lun Chueh, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 14:40-14:50

Venue: Delta Building 105

### **Invited Talk**

#### **“Our Recent Progress in Materials Reliability, Optoelectronics, and Thermoelectric Materials”**

Lecturer: Cheng-Lun Hsin, National Central University, Taiwan

Date & Time: November 19 (Sun.) 14:50-15:00

Venue: Delta Building 105

**Invited Talk****“Defect-Rich SnO<sub>2</sub> Nanofiber as Oxygen-Defect-Driven Photoenergy Shield Against UV Light Cell Damage”**

Lecturer: Ping-Hung Yeh, Tamkang University, Taiwan

Date & Time: November 19 (Sun.) 15:00-15:10

Venue: Delta Building 105

**Invited Talk****“In-Situ TEM Study of MoS<sub>2</sub> as Diffusion Barriers in Ru Interconnects”**

Lecturer: Ming-Yen Lu, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 15:10-15:20

Venue: Delta Building 105

**Invited Talk****“Progress on Piezocatalysis”**

Lecturer: Jyh Ming Wu, National Tsing Hua University, Taiwan

Date & Time: November 19 (Sun.) 15:40-15:50

Venue: Delta Building 105

**Invited Talk****“Research Progress and Application of Piezoelectric Nanogenerators in Dr. Wang's Lab”**

Lecturer: Chih-Yen Chen, National Yang Ming Chiao Tung University, Taiwan

Date & Time: November 19 (Sun.) 15:50-16:00

Venue: Delta Building 105

**Invited Talk****“Non-Toxic/Earth-Abundant Thin-Film Solar Cells”**

Lecturer: Cheng-Ying Chen, National Taiwan Ocean University, Department of Optoelectronics and Materials Technology, Taiwan

Date & Time: November 19 (Sun.) 16:00-16:10

Venue: Delta Building 105

**Invited Talk****“Self-Powered Nano Sensors Based on Contact Electrification.”**

Lecturer: Zong-Hong Lin, National Taiwan University, Taiwan

Date & Time: November 19 (Sun.) 16:10-16:20

Venue: Delta Building 105

**Invited Talk****“Progress In 2D and Quasi-2D Semiconductors”**

Lecturer: Der-Hsien Lien, National Yang Ming Chiao Tung University, Taiwan

Date & Time: November 19 (Sun.) 16:20-16:30

Venue: Delta Building 105

**Invited Talk****“Functional Nanogenerators Toward Biomedical Application”**

Lecturer: Po-Kang Yang, National Central University, Taiwan

Date & Time: November 19 (Sun.) 16:40-16:50

Venue: Delta Building 105

**Invited Talk****“Self-Powered Molecular Imprinted Polymers-Based Triboelectric Sensor for Noninvasive Monitoring Lactate Levels in Human Sweat”**

Lecturer: Min-Hsin Yeh, National Taiwan University of Science and Technology, Taiwan

Date & Time: November 19 (Sun.) 16:50-17:00

Venue: Delta Building 105

**Invited Talk****“From Triboelectric Nanogenerators to Autonomous Wearable Electronics and Perceiving Soft Robots.”**

Lecturer: Ying-Chih Lai, National Chung Hsing University, Taiwan

Date & Time: November 19 (Sun.) 17:00-17:10

Venue: Delta Building 105

**Invited Talk****“Recent Process of Teng in Environmental Science and Photonics”**

Lecturer: Vincent K. S. Hsiao, National Chi Nan University, Taiwan

Date & Time: November 19 (Sun.) 17:10-17:20

Venue: Delta Building 105