



# TACT 2023

## STUDENT AWARDS



**Student Award**

**Poster Competition**



# Best Poster Award

## Zhi-Ting Liu

*Temperature effects on sodium-ion storage behaviors and electrochemical performance of hard carbon microspheres derived from phenolic resin as potential anode materials for sodium ion batteries*

*Chung Yuan Christian University*

Prize :US\$150 and an honored certificate



# Best Poster Award

## I-Sheng Ting

*Control of Tribological Behavior of a Hard Coating by Adjusting Working Pressure during Deposition - Using TiN Coatings on D2 Steel as a Model System*

*National Tsing Hua University*

Prize :US\$150 and an honored certificate



# Best Poster Award

**Ai-Wei Liu**

*The study of silkworm-excrement-derived carbon quantum dots for feeding silkworms to produce brightly fluorescent silk.*

*Ming Chi University of Technology*

Prize :US\$150 and an honored certificate



# Best Poster Award

## Yuto Masuda

*Fabrication of graphene quantum dots and their emission properties in microcavities*

*Kitami Institute of Technology*

Prize :US\$150 and an honored certificate



# Best Poster Award

## Tadrios TesfayeMamo

*Mechanistic study of Photocatalytic CO<sub>2</sub> conversion to CH<sub>4</sub> by P-doped SnS<sub>2</sub> thin film*

*Academia Sinica National Taiwan University*

Prize :US\$150 and an honored certificate



# Best Poster Award

## Ruo-Syuan Chen

*Influence of Nitrogen Flow Rate on Elevated Temperature  
Tribological Properties and Oxidation Behavior of Molybdenum  
Nitride Coatings*

*National Tsing Hwa university*

Prize :US\$150 and an honored certificate





# Best Poster Award

**Li CHANG**

*Evaluation of Osteogenic Properties of Bioactive Porous Titanium  
for Orthodontic Applications*

*Tohoku University*

Prize :US\$150 and an honored certificate



# Best Poster Award

## Yi-Ying Fang

*RuAl Intermetallic Compound with Low Interface Scattering as  
Potential Low-Resistance Interconnect Metallization*

*National Tsing Hua university*

Prize :US\$150 and an honored certificate



# Best Poster Award

## Xin-Xian Yang

*Crystal Structures and Optical Bandgaps of N-doped TiO<sub>x</sub> Coatings:  
Experiments and First-principles Calculations*

*National Chung Hsing University*

Prize :US\$150 and an honored certificate



# Best Poster Popularity

## Yun-Yang Sun

*Role of Mo metal Interlayer in  $\gamma$ -Mo<sub>2</sub>N/Mo Bilayer Coatings on D2 Steel Deposited by High Power Pulsed Magnetron Sputtering  
(B-P-242)*

National Tsing Hua University

Prize : Certificate of Excellence



# Best Poster Popularity

## Yu-Cian Huang

*Surface Engineering of 2D material-Ir nanosheet for Energy  
Photocatalysis and Electrocatalysis reaction (B-P-426)*

*National Taipei University of Technology*

Prize : Certificate of Excellence



# Best Poster Popularity

**Ai-Wei Liu**

*The study of silkworm-excrement-derived carbon quantum dots for feeding silkworms to produce brightly fluorescent silk.*

*(B-P-526)*

*Ming Chi University of Technology*

**Prize : Certificate of Excellence**



# Best Poster Popularity

## Hsing-Wen Wu

*Graphene/Si heterojunction as catalytic photocathode for photovoltaic-assisted ammonia production (C-P-355)*

*National Taipei University of Technology*

Prize : Certificate of Excellence



# Best Poster Popularity

## Tse-Wei Chen

*Microstructure and Mechanical Property Study of  
AlCrNbSiTiN/TiBN High Entropy Alloy Nitride Multilayer Thin  
Films (F-P-455)*

*Ming Chi University of Technology*

Prize : Certificate of Excellence





# Best Poster Popularity

## Wan-Rou Liu

*Conductive polymer film modified carbon felt used as negative electrode in all-vanadium redox flow battery (A-P-274)*

*Ming Chi University of Technology*

Prize : Certificate of Excellence



# Best Poster Popularity

## Yohsun Liu

*Direct growth of molybdenum disulfide on graphene via transfer supporting layer for CO<sub>2</sub> photoreduction (A-P-248)*

*National Taiwan University*

Prize : Certificate of Excellence



# Best Poster Popularity

## Yu-Teng Wu

*Carbon Capture and Storage Enabled by Cu<sub>2</sub>O Thin Film  
Deposition Using DMSO Solvent (A-P-339)*

*National Cheng Kung University*

Prize : Certificate of Excellence



# Best Poster Popularity

## Pin-Yuan Lai

*Wetting enhancement in solder joint process via Ar / H<sub>2</sub> atmospheric pressure plasma (C-P-125)*

*National Tsing Hua University*

Prize : Certificate of Excellence



# Best Poster Popularity

## Szu-Han Chao

*Preparation of Ag-Decorated Graphene by Laser Scribing and its application in surface-enhanced Raman spectroscopy (B-P-393)*

*Tamkang University*

Prize : Certificate of Excellence



# Excellence

## Rasu Muruganantham

*Improving Electrochemical Stability via Mixed Phase of  
 $\text{Li}_6\text{PS}_5\text{ClLi}_{6.4}\text{La}_3\text{Zr}_{1.4}\text{Ta}_{0.6}\text{O}_{12}$  Composite Solid Electrolytes for  
All-Solid-State Lithium Battery Applications*

*Chung Yuan Christian University*

Prize : Certificate of Excellence



# Excellence

## Yu-Jie Lin

*Preparation of MoS<sub>2</sub>/Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> Composite Material for Supercapacitors by High Pressure Hydrothermal Method*

*National Changhua University of Education*

Prize : Certificate of Excellence



# Excellence

## Ting-Jui Chang

*Lead-free Cs<sub>2</sub>AgBiBr<sub>6</sub> double perovskite solar cells with high open-circuit voltage by spray coating*

*National Tsing Hua University*

Prize : Certificate of Excellence





# Excellence

## Ling Lin

*Study on Enhancing Houttuynia Cordata Thunb. Extract Attachment and Achieving Antibacterial Effects through Plasma Polymerization Grafting on Modified Polydimethylsiloxane using Atmospheric Pressure Plasma Treatment*

*National Taiwan University of Science and Technology*

Prize : Certificate of Excellence



# Excellence

## Yu-Wei Lin

*An Electrochemical Impedance Study on High Entropy Oxide  
Electrodes for Water Oxidation*

*National Yang Ming Chiao Tung University*

Prize : Certificate of Excellence



# Excellence

## Yoshida Shohei

*Catalytic Activity of Heterogeneous Atomic Metal Clusters  
Decorated Polyaniline for Electrochemical Oxidation of 1-Propano*

*Tokyo Institute of Technology*

Prize : Certificate of Excellence



# Excellence

## Chia-Hsien Lin

*Flexible Negative Pyramid Microarrays Coated with Silver Nano-islands for SERS Detection*

*Ming Chi University of Technology*

Prize : Certificate of Excellence



# Excellence

## Yiqun Feng

*The effect of duty cycle and nitrogen flow rate on the mechanical properties of (V,Mo)N coatings deposited by high-power pulsed magnetron sputtering*

*National Tsing Hua University*

Prize : Certificate of Excellence



# Excellence

## Yun-Yang Sun

*Role of Mo metal Interlayer in  $\gamma$ -Mo<sub>2</sub>N/Mo Bilayer Coatings on D2 Steel Deposited by High Power Pulsed Magnetron Sputtering*

*National Tsing Hua University*

Prize : Certificate of Excellence



# Excellence

## Yo-Li Yeh

*Preparation of PCN/Ni-Fe LDH DSNCs/TiO<sub>2</sub> nanocomposite for photoelectrochemical immunosensor of human chorionic gonadotropin*

*National Taipei University of Technology*

Prize : Certificate of Excellence



# Excellence

## Ching-Cheng Chen

*Effect of substrate bias voltage on the residual stress and wear resistance of TiN coating on the Ti6Al4V alloy deposited with UBMS and HCD-IP system*

*National Tsing Hua University*

Prize : Certificate of Excellence





# Excellence

## Yu-Cian Huang

*Surface Engineering of 2D material-Ir nanosheet for Energy  
Photocatalysis and Electrocatalysis reaction*

*National Taipei University of Technology*

Prize : Certificate of Excellence



# Excellence

## Masaki Tanaka

*The Influence of Ar-N<sub>2</sub>/O<sub>2</sub> Flow Ratio on the Types of Electrical Conductivity in Cu and N co-doped ZnO Films formed by RF Magnetron Co-Sputtering*

*Meiji University*

Prize : Certificate of Excellence



# Excellence

## Keisuke Asano

*Evaluation of the Effects of Structural Parameters on External Quantum Efficiency of Si/Mg<sub>2</sub>Si Heterojunction Photodiodes Using Device Simulation*

*Meiji University*

Prize : Certificate of Excellence



# Excellence

## Homg-Ming Su

*Preparation of CuCrO<sub>2</sub> Thin Films via Spin-Coating Method with Varying PVP Concentrations*

*National Taipei University of Technology*

Prize : Certificate of Excellence



# Excellence

## Zih-Ting Chen

*Bifacial illumination of semi-transparent organic photovoltaic*

*National Taipei University of Technology*

Prize : Certificate of Excellence



# Excellence

## Chia-Feng Li

*Intense pulsed light annealed electron transparent layer for indoor organic photovoltaics with large area process*

*National Taiwan University*

Prize : Certificate of Excellence



# Excellence

## I-Hsi Chen

*Photodetector Having Ultra-Broadband High Entropy Oxide  
Absorber Layer*

*National Cheng Kung University*

Prize : Certificate of Excellence



# Excellence

## Pei-Fen Peng

*The Oxidation Behavior of VMoN Thin Films Deposited by High Power Pulsed Magnetron Sputtering*

*National Tsing Hua University*

Prize : Certificate of Excellence





# Excellence

## Zhi-Yuan Zheng

*Study of Heating Assisted Atmospheric Pressure Plasma Jet  
Nitriding of Tool Steel of Combat Wear and Corrosion*

*National Taiwan University of Science and Technology*

Prize : Certificate of Excellence



# Excellence

## Yu-Tse Sung

*Stress corrosion cracking and biocompatibility of plasma electrolytic oxidation coatings on AZ31B magnesium alloy: Effect of silver acetate additive*

*Ming Chi University of Technology*

Prize : Certificate of Excellence



# Excellence

## Yu Qi Huang

*Study on Electrospinning of Polyethylene Glycol Containing  
Lanthanum Chloride Antibacterial Applications*

*Da-Yeh University*

Prize : Certificate of Excellence



# Excellence

## Tzu-Chieh Huang

*Silver-Containing MAO Ceramic Coatings on Zirconium and multiple surface treatments for biomedical Properties*

*Da-Yeh University*

Prize : Certificate of Excellence



# Excellence

## Sidra Sadaf Nisar

*Mechanical Alloyed Surface with Hydroxyapatite Particles on the PEO-coated Ti6Al-4V Alloy for Dental Implant Use*

*Chosun University*

Prize : Certificate of Excellence



# Excellence

## Yu-Lin Chen

*Surface Sulfurization for Reducing Interface Scattering of Ruthenium Metallization for Low-Resistance Interconnect*

*National Tsing Hua university*

Prize : Certificate of Excellence



# Excellence

## Tse-Wei Chen

*Microstructure and Mechanical Property Study of  
AlCrNbSiTiN/TiBN High Entropy Alloy Nitride Multilayer Thin  
Films*

*Ming Chi University of Technology*

Prize : Certificate of Excellence