CURRICULUM VITAE

Prof. Fu-Ming Wang

Taipei –Taiwan
Phone: +886-2-27303755
Fax: +886-2-27303733
Email : mccabe@mail.ntust.edu.tw

RESEARCH INTERESTS

My experience and research activities cover six areas: (1) Additives and polymer electrolyte designs for Energy Storage (LIB and RFB), (2) Advanced Electrochemical analysis (including in-situ/ operando Synchrotron), (3) Thin film manufacturing (including plasma-treated), (4) Formation process design for LIB (including pulse and constant current), (5) SOC/ SOH evaluation and prediction of LIB, and (6) Three-electrode or multi-electrode design for LIB.

ACADEMIC QUALIFICATIONS

DEGREE	YEAR	UNIVERISTY	SPECIALIZATION
Ph. D. (Chemical Engineering)	2005 – 2009	National Tsing Hua University, Taiwan	Electrochemical Engineering, Energy Resource (including electrolyte development and battery design)
M. Sc. (Chemical Engineering)	2002 – 2004	National Taiwan University of Science and Technology, Taiwan	Polymer Science (including polymer synthesis and physical analysis), Specific Polymer Design for Electronics Application
B. Sc. (Chemical Engineering)	2000 – 2002	National Taipei University of Technology, Taiwan	Instruments Analysis (UV, CV)

CURRENT POSITION

- Guest Editor, Electrochimica Acta (SCI, IF:5.5-2024): Switzerland Sep'26 ~ Apr'27
- President, The Electrochemical Society of Taiwan: Taiwan Jan'26 ~ present
- Regional Representative of Taiwan Section of International Society of Electrochemistry: Swiss Jan'26 ~ present
- Director of Key Project Office, Center for Sustainability Development and Institution Research, National Taiwan University of Science and Technology: Taiwan Oct'25 ~ present
- Co-appointed Professor, Department of Chemical Engineering, Chung Yuan Christian University: Taiwan Aug'24 ~ present
- Distinguished Professor, Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology: Taiwan Jan'24 ~ present
- Co-appointed Professor, Graduated Institute of Energy and Sustainability Technology, National Taiwan University of Science and Technology: Taiwan Aug'22 ~ present
- Member representatives, National Tsing Hua University Alumni Association: Dec' 24 ~ present
- Editorial Board, Sustainable Chemical Engineering: Singapore Aug'19 ~ present

EXPERIENCE

- Executive Director, The Electrochemical Society of Taiwan: Taiwan Nov'21 ~ Dec'25
- Guest Editor, Electrochimica Acta (SCI, IF:6.6-2023): Switzerland Sep'24 ~ Apr'25
- Executive Director, Ming Chi University of Science and Technology Alumni Association: July'22 ~ Dec' 24
- Guest Editor, Electrochimica Acta (SCI, IF:7.336-2021): Switzerland Sep'23 ~ Apr'24
- Guest Editor, Process (SCI, IF:3.352-2021): Switzerland Mar'23 ~ Apr'24
- Adjunct Professor, Department of Chemical Engineering, Chung Yuan Christian University: Taiwan Aug'19 ~ July'24
- Head, Taipei Philharmonic Chorus: Taiwan Jan'19 ~ Mar'23
- Director, The Electrochemical Society of Taiwan: Taiwan Nov'15 ~ Nov'21
- Guest Editor, Electrochimica Acta (SCI, IF:6.901-2020): Switzerland Nov'21 ~ May'22
- Guest Editor, Polymer (SCI, IF:6.901-2020): Switzerland Nov'20 ~ May'22
- Executive Guest Editor, Current Physical Chemistry: UAE Sep'19 ~ May'22
- Executive Guest Editor, Current Organic Chemistry (SCI, IF:2.029-2018): UAE Aug'19 ~ May'22
- Guest Editor, Polymer (SCI, IF:4.430-2020): Switzerland Aug'19 ~ Nov'20
- Visiting Scholar, Institute of Physics, Chinese Academy of Science: China July'19 ~ Dec'19

- Professor, Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology: Taiwan Feb'18 ~ Jan'24
- Consultant, Hon Hai/ Foxconn Technology Group: Taiwan Nov'16 ~ May'17
- Vice Dean, Office of International Affairs, National Taiwan University of Science and Technology: Taiwan Aug'15 ~ Jan'17
- Director of Asia Affairs/ Mainland Affairs Center, Office of International Affairs, National Taiwan University of Science and Technology: Taiwan Aug'14 ~ Jan'17
- Associate Professor, Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology: Taiwan Feb'14 ~ Jan'18
- Guest Editor, Thin Solid Films (SCI, IF:1.939-2018): America Sep'13 ~ Nov'13
- Assistant Professor, Graduate Institute of Applied Science and Technology, National Taiwan University of Science and Technology: Taiwan Aug'11 ~Jan'14
- Consultant/ Distinguished Researcher, Industrial Technology Research Institute (ITRI): Taiwan Mar'10 ~ Dec'25
- Assistant Professor, Graduate Institute of Engineering, National Taiwan University of Science and Technology: Taiwan Feb'10 ~ July'11
- Electrochemistry Laboratory, National Tsing Hua University: Taiwan Aug'05 ~ July'09: Doctoral Research
- Researcher, Materials and Chemical Laboratories, Industrial Technology Research Institute (ITRI): Taiwan Aug'04 ~ Jan'10

Research Skills

- ❖ Polymer electrolytes design – low T_g, organic-inorganic composite, hyper-banch structure membrane (including gel and solid electrolyte for lithium battery
- ❖ Functional additive development – reduction and safe additive for improving lithium battery performance
- ❖ Thin film battery design – R2R manufacturing, Sputtering electrode and Ink-jet printing techniques
- ❖ Ionic transfer mechanism investigation (including lithium-ion battery, lithium polymer battery and solar cell)
- ❖ The HEV, EV application (polymer electrolyte and additive in power application, including calendar, self-life research)
- ❖ Electrochemistry (including three and four electrodes application in impedance, CV, QCM, Pulse)
- ❖ Worked and Experience in Dry box, different experimental techniques UV, Mass, NMR, FT-IR, DSC, DMA, TGA, CV, GPC, SEM, TEM, XPS, AFM, EDS, XRD, PALS, EIS, Synchrotron and *in-situ* technique in order to characterize the material to optimize the performance of membranes for its applications in various electrochemical devices.
- ❖ Polymer electrolytes design - organic hydrophilic-hydrophobic membrane (including gel and solid electrolyte for lithium battery and solar cell)
- ❖ The ionic transfer mechanism investigation of lithium battery and solar cell (using impedance, EIS, PALS, pulse-gradient NMR to identify)
- ❖ The hybrid application of flexible lithium battery and soft solar cell
- ❖ Develop pulse and temperature dependence of formation technique of lithium battery

SELECTED PUBLICATIONS

- Rio Akbar Yuwono, Laurien Merinda, Surya Prakash, **Fu-Ming Wang***, Changlin Allen Zheng, Han-Pin Hsieh, Chih-Wen Pao, Jeng-Lung Chen, Nae-Lih Wu*, Interfacial reactions in boron-modified $LiNi_{0.83}Co_{0.12}Mn_{0.05}O_2$ cathodes", *J. Energy Storage* (2026) accepted
  Afif Thufail, **Fu-Ming Wang***, Rio Akbar Yuwono, Jeng-Kuei Chang, Chusnul Khotimah, Bai-Tai Liu, Yu-Ming Liu, Cai-Fang Wu, Salva Salsabila, Ervina Nur Azizah, Michelle Elaine, Chun-Chieh Wang, Yi-Feng Huang, "Lithiated Organic Coverages on SiO_x Anodes: Promoting Li_2O Formation and Suppressing Lithium Silicate Growth for Stable Lithium-Ion Batteries", *Small Structure* (2026) accepted
- Laurien Merinda, Rio Akbar Yuwono, **Fu-Ming Wang***, Nae-Lih Wu*, Citra Deliana Dewi, Chusnul Khotimah, Han-Pin Hsieh, Jeng-Kuei Chang, Chih-Chih Haw, Chih-Wen Pao, Jeng-Lung Chen, Qunjie Xu, Yunwen Wu, Chi-Liang Chen, Ting-Shan Chan, "An investigation of localized entropy driven cathode electrolyte interphase to a one-step complete deprotonation of ethylene carbonate on Ni-rich layered material of lithium-ion battery", *Chem. J. Eng.* **525** (2025) 170703 (Corresponding author)
- Alagar Ramar, Ruben Foeng, Jeyaraman Divyavalli, Pei-Yun Kao, Ching-Kai Chang, Laurien Merinda, Bai-Tai Liu, **Fu-Ming Wang***, "Redox State-Driven Synthesis of Mesoporous and Microsphere Poly(phenylenediamine) for Transition Metal-Free and All-Polymer Dual-Ion Battery", *Small Methods* **9** (2025) 2401298
- Chusnul Khotimah, Rio Akbar Yuwono, **Fu-Ming Wang***, Nae-Lih Wu*, Chun-Chen Yang, Nae-Lih Wu, Citra Deliana Dewi Sundari, Arif Cahyo Imawan, Ching-Kai Chang, Ping-Hsuan Hsu, Pin-Cheng Huang, Guan-Yi Liu, Yi-De Tsai, Shu-Chih Haw, Ferry Iskandar, "Investigation of Space Group Effects of High-Voltage Spinel $LiNi_{0.5}Mn_{1.5}O_4$: Unveiling the Influences of Fluorinate Benzimidazole Salt Additive", *Chem. Eng. J.* **494** (2024) 152988
- Alagar Ramar, Kidiyoor Sanjana and **Fu-Ming Wang***, "Carbides and Nitrides: Advanced Materials for Engineering the Electrochemistry of Silicon Anodes for High Energy Density Lithium-Ion Battery", *Chem. Eng. J.* **491** (2024) 151921

Duty in International Academic:

- **Co-Chair** of *The 2026 International Conference on Green Electrochemical Technologies (2026-ICGET*)
- **Organizing Committee Member** of *The 2024 International Conference on Green Electrochemical Technologies (2024-ICGET*)
- **Chair** of *The 2023 International Conference on Green Electrochemical Technologies (2023-ICGET*)
- **Chair** of *30th ISE Topic Meeting (2021), Taipei, Taiwan*
- **International Organizing Committee Member** of *71th Annual ISE Meeting - Electrochemical synthesis symposium (2020), Belgrade, Serbia*
- **Local Organizing Committee Member** of *27th ISE Topic Meeting (2020), Tainan, Taiwan*
- **Local Organizing Committee Member** of *10th Asian Conference on Electrochemical Power Sources (ACEPS-10) (2019), Kaohsiung, Taiwan*