

**Wu, Nae-Lih** (吳乃立)

Professor

B.S. in Chemical Engineering  
National Taiwan University, 1980  
Ph.D. in Chemical Engineering  
Pennsylvania State University, 1987

**Research and Professional Interests**  
Materials processing and characterization  
Materials for Electrochemical Energy  
Storage (Li-ion batteries, Supercapacitors)

### Journal Papers

1. Chek-Hai Lim, Tzu-Yang Huang, Pei-Sian Shao, Jen-Hao Chien, Yu-Ting Weng, Hsin-Fu Huang, Bing Joe Hwang and **Nae-Lih Wu**,\* “Experimental Study on Sodiation of Amorphous Silicon for Use as Sodium-Ion Battery Anode,” *Electrochimica Acta* 211, 265 – 272 (2016). (SCI, EI)
2. Tzu-Yang Huang, Baskar Selvaraj, Hung-Yu Lin, Hwo-Shuenn Sheu, Yen-Fang Song, Chun-Chieh Wang, Bing Joe Hwang, **Nae-Lih Wu**,\* “Exploring an Interesting Si Source from Photovoltaic Industry Waste and Engineering It as a Li-Ion Battery High-Capacity Anode,” *ACS Sustainable Chemistry & Engineering* 4, 5769–5775 (2016). (SCI, EI)
3. Che-Tseng Lin, Tzu-Yang Huang, Jau-Jiun Huang, **Nae-Lih Wu**\* Man-Kit Leung,\* “Multifunctional co-poly(amic acid): a new binder for Si-based micro-composite anode of lithium-ion battery,” *J. Power Sources* 330, 246-252 (2016). (SCI, EI)
4. Jing Luo, Rung-Chuan Lee, Jian-Ting Jin, Yu-Ting Weng, and Chia-Chen Fang, **Nae-Lih Wu**,\* “Dual-Functional Polymer Coating on Lithium Anode for Suppressing Dendrite Growth and Polysulfide Shuttling in Li-S Batteries,” *Chem. Comm.*, 53, 963-966 (2017) (2016). (SCI, EI)
5. Weifeng Zhang, Tongbin Lan, Tianli Ding, **Nae-Lih Wu**, Mingdeng Wei, “Carbon coated anatase TiO<sub>2</sub> mesocrystals enabling ultrastable and robust sodium storage,” *J. Power Sources* 359, 64-70 (2017).
6. Tongbin Lan, Tao Wang, Weifeng Zhang, **Nae-Lih Wu**, Mingdeng Wei, “Rutile TiO<sub>2</sub> mesocrystals with tunable subunits as a long-term cycling performance anode for sodium-ion batteries,” *J. Alloys and Compounds* 699, 455-462 (2017).
7. Tongbin Lan, Weifeng Zhang, **Nae-Lih Wu**, and Mingdeng Wei, “Nb-Doped Rutile TiO<sub>2</sub> Mesocrystals with Enhanced Lithium Storage Properties for Lithium Ion Battery,” *Chem. Eur. J.* 23, 5059 – 5065 (2017).
8. Jing Luo, Chia-Chen Fang, **Nae-Lih Wu**\*, “High Polarity Poly(Vinylidene Difluoride) Thin Coating for Dendrite-Free and High-Performance Lithium Metal Anodes,” *Advanced Energy Materials*, 7, 1701482 (2017).
9. Chek-Hai Lim, Baskar Selvaraj, Yen-Fang Song, Chun-Chieh Wang, Jian-Ting Jin, Sheng-Siang Huang, Chung-Hsien Chuang, Hwo-Shuenn Sheu, Yen-Fa Liao and **Nae-Lih Wu**\*, “Insight into microstructural and phase transformations in sodiation–desodiation of a bismuth particulate anode,” *J. Mater. Chem. A* 5, 21536 - 21541 (2017).

10. Yonas Beyene Yohannes, Shawn D. Lin\* and **Nae-Lih Wu**, "In Situ DRIFTS Analysis of Solid Electrolyte Interphase of Si-Based Anode with and without Fluoroethylene Carbonate Additive," *J. Electrochem. Soc.* 164, A3641-A3648 (2017).
11. Jing Luo, Chia-Chen Fang, **Nae-Lih Wu**\*, "High Polarity Poly(Vinylidene Difluoride) Thin Coating for Dendrite-Free and High-Performance Lithium Metal Anodes," *Advanced Energy Materials*, 8, 1701482 (2018).
12. Chih-Jung Chen, Tatsuhiro Mori, Anirudha Jena, Hung Yu Lin, Nai Hsuan Yang, **Nae-Lih Wu**, Ho Chang, Shu-Fen Hu, Ru-Shi Liu\*, "Optimizing the Lithium Phosphorus Oxynitride Protective Layer Thickness on Low-Grade Composite Si-Based Anodes for Lithium-Ion Batteries," *ChemistrySelect* 3, 729-735 (2018)
13. Yu-Cheng, **Nae-Lih Wu**, Wei-Ren Liu\*, "Electrochemical Properties of Al<sup>3+</sup>/Cl<sup>-</sup>-Doped-0.2Li<sub>2</sub>MnO<sub>3</sub>·0.8LiNiO<sub>2</sub> Cathode Materials for Lithium-Ion Batteries," *Journal of Nanoscience and Nanotechnology* 18, 68-74 (2018).
14. Mozaffar Abdollahifar, Sheng-Siang Huang, Yu-Hsiang Lin, Yan-Cheng Lin, Bing-Yi Shih, Hwo-Shuenn Sheu, Yen-Fa Liao, **Nae-Lih Wu**\*, "High-Performance Carbon-Coated ZnMn<sub>2</sub>O<sub>4</sub> Nanocrystallite Supercapacitors with Tailored Microstructures Enabled by a Novel Solution Combustion Method," *J. Power Sources* 378, 90–97 (2018).
15. Sheng-Siang Huang, Yu-Hsiang Lin, Wesley Chuang, Pei-Sian Shao, Chung-Hsien Chuang, Jyh-Fu Lee, Meng-Lin Lu, Yu-Ting Weng,\* and **Nae-Lih Wu**\*, "Synthesis of High-Performance Titanium Sub-Oxides for Electrochemical Applications Using Combination of Sol–Gel and Vacuum-Carbothermic Processes," *ACS Sustainable Chem. Eng.* 6, 3162–3168 (2018).
16. Baskar Selvaraj, Sheng-Siang Huang, Chang-En Wu, Yu-Hsiang Lin, Chun-Chieh Wang, Yen-Fang Song, Meng-Lin Lu, Hwo-Shuenn Sheu, and **Nae-Lih Wu**\*, "Micrometer-Sized Nanoporous Sb/C Anode with High Volumetric Capacity and Fast Charging Performance for Sodium-Ion Batteries," *ACS Appl. Energy Mater.* 1, 2317–2325 (2018) (DOI: 10.1021/acsaem.8b00416)
17. Jing Luo, Chang-En Wu, Lin-Ya Su, Sheng-Siang Huang, Chia-Chen Fang, Yu-Shiang Wu, Jackey Choue, **Nae-Lih Wu**\*, "A proof-of-concept graphite anode with a lithium dendrite suppressing polymer coating," *J. Power Sources* 406 (2018) 63–69 (DOI:10.1016/j.jpowsour.2018.10.002).
18. Mozaffar Abdollahifar, Sheng-Siang Huang, Yu-Hsiang Lin, Hwo-Shuenn Sheu, Jyh-Fu Lee, Meng-Lin Lu, Yen-Fa Liao, **Nae-Lih Wu**\*, "Tetragonal LiMn<sub>2</sub>O<sub>4</sub> as dual-functional pseudocapacitor-battery electrode in aqueous Li-ion electrolytes," *J. Power Sources* 412, 545 – 551 (2019).
19. Kun-Lin Liu, Chung-Hsiang Chao, Hsin-Chieh Lee, Cheng-Si Tsao, Jason Fang, **Nae-Lih Wu**, Chi-Yang Chao\*, "A novel non-porous separator based on single-ion conducting triblock copolymer for stable lithium electrodeposition," *J. Power Sources* 419, 58–64 (2019).
20. Sheng-Siang Huang, Mai Thanh Tung, Huynh Dang Chinh, Bing-Joe Hwang, Peter Maria Bieker, Chia-Chen Fang, and **Nae-Lih Wu**\*, "Engineering Rice Husk into a High-Performance Electrode Material through an Eco-Friendly Process and Assessing Its Application for Lithium-Ion Sulfur Batteries," *ACS Sustainable Chem. Eng.* 7, 7851–7861 (2019).
21. Chien-Chung Shih, Yan-Cheng Lin, Mengyao Gao, Mercedes Wu, Hui-Ching Hsieh, **Nae-Lih Wu**, Wen-Chang Chen\*, "A rapid and green method for the fabrication of conductive hydrogels and their applications in stretchable supercapacitors," *J. Power Sources* 426, 205-215 (2019).

22. Yonas Beyene Yohannes, Shawn D. Lin\*, **Nae-Lih Wu** and Bing-Joe Hwang, "SEI Grown on MCMB-Electrode with Fluoroethylene Carbonate and Vinylene Carbonate Additives as Probed by In Situ DRIFTS," *J. Electrochem. Soc.* 166, A2741-A2748 (2019).
23. Yu-Ting Weng, Hao-Wen Liu, Allen Pei, FeiFei Shi, Hansen Wang, Chih-Yuan Lin, Sheng-Siang Huang, Lin-Ya Su, Jyh-Ping Hsu, Chia-Chen Fang, Yi Cui\*, and **Nae-Lih Wu\***, "An Ultrathin Ionomer Interphase for High-Efficiency Li Anode in Carbonate-Based Electrolyte," *Nature Communications* 10, 5824 (2019).
24. Yu-Ting Weng, Hansen Wang, Rung-Chuan Lee, Ching-Yu Huang, Sheng-Siang Huang, Mozaffar Abdollahifar, Li-Ming Kuo, Bing-Joe Hwang, Chin-Lung Kuo, Yi Cui, **Nae-Lih Wu\***, "Efficient Synthesis of High-Sulfur-Content Cathodes for High-Performance Li-S Batteries Based on Solvothermal Polysulfide Chemistry," *Journal of Power Sources*, 450, 227676 (2020).
25. Mozaffar Abdollahifar, Pierre Lannelongue, Hao-Wen Liu, Hsi Chen, Cheng-Hung Liao, Hwo-Shuenn Sheu, Jyh-Fu Lee, Yen-Fa Liao, **Nae-Lih Wu** "Room-Temperature Synthesis of LiMn<sub>2</sub>O<sub>4</sub> by Electrochemical Ion Exchange in an Aqueous Medium," *ACS Sustainable Chemistry & Engineering*, 9, 13717-13725 (2021).
26. Chen-Jui Huang, Ju-Hsiang Cheng, Wei-Nien Su, Pouya Partovi-Azar, Liang-Yin Kuo, Meng-Che Tsai, Ming-Hsien Lin, Sara Panahian Jand, Ting-Shan Chan, **Nae-Lih Wu** "Origin of shuttle-free sulfurized polyacrylonitrile in lithium-sulfur batteries," *Journal of Power Sources*, 492, 229508 (2021).
27. Jen-Yu Lee, Tsung-Yu Yu, Pei-Hsuan Chung, Wen-Ya Lee, Shih-Chieh Yeh, Nae-Lih Wu, Ru-Jong Jeng "Semi-interpenetrating polymer network electrolytes based on a spiro-twisted benzoxazine for all-solid-state lithium-ion batteries," *ACS Applied Energy Materials*, 4, 2663-2671 (2021).
28. Jannes Müller, Mozaffar Abdollahifar, Andrey Vinograd, Markus Nöske, Christine Nowak, Shu-Jui Chang, Tobias Placke, Wolfgang Haselrieder, Martin Winter, Arno Kwade "Si-on-Graphite fabricated by fluidized bed process for high-capacity anodes of Li-ion batteries," *Chemical Engineering Journal*, 407, 126603 (2021).
29. Tsung-Yu Yu, Shih-Chieh Yeh, Jen-Yu Lee, Nae-Lih Wu, Ru-Jong Jeng "Epoxy-Based Interlocking Membranes for All Solid-State Lithium Ion Batteries: The Effects of Amine Curing Agents on Electrochemical Properties," *Polymers*, 13, 3244 (2021).
30. Chia-Hsin Lin, P. Senthil Kumara\*, Satish Bollojua, Mozaffar Abdollahifar, Yu-Ting Weng, **Nae-Lih Wu\***, "Synthesis of Micron-Sized LiNi<sub>0.8</sub>Co<sub>0.1</sub>Mn<sub>0.1</sub>O<sub>2</sub> and Its Application in Bimodal Distributed High Energy Density Li-Ion Battery Cathodes," *Energies* 15, 8129 (2022).
31. Mozaffar Abdollahifar\*, P. Molaiyan, U. Lassi, **Nae-Lih Wu**, Arno Kwade, "Multifunctional Behaviour of Graphite in Lithium-Sulfur Batteries," *Renewable and Sustainable Energy Reviews* 169, 112948 (2022). (IF: 16.799)
32. Jannes Müller\*, Mozaffar Abdollahifar, Stefan Doose, Peter Michalowski, **Nae-Lih Wu**, and Arno Kwade, "Effects of Carbon Coating on Calendered Nano-silicon Graphite Composite Anodes of Li-ion Batteries," *Journal of Power Sources* 548, 232000 (2022).
33. Junxiu Wu, Hao-Wen Liu, Anwen Tang, Weifeng Zhang, Hwo-Shuenn Sheu, Jyh-Fu Lee, Yen-Fa Liao, Shuping Huang,\* Mingdeng Wei\*, **Nae-Lih Wu\***, "Unexpected Reversible Crystalline/Amorphous (de)Lithiation Transformations Enabling Fast (dis)Charge of High-Capacity Anatase Mesocrystal Anode," *Nano Energy* 102, 107715 (2022).

34. Mozaffar Abdollahifar, Andrey Vinograd, Chia-Yang Lu, Shu-Jui Chang, Jannes Müller, Lars Frankenstein, Tobias Placke, Arno Kwade, Martin Winter, Chi-Yang Chao, and **Nae-Lih Wu\***, “Enabling Long-Cycling Life of Si-on-Graphite Composite Anodes via Fabrication of a Multifunctional Polymeric Artificial Solid-Electrolyte-Interphase Protective Layer,” *ACS Applied Materials & Interfaces* 14, 38824–38834 (2022).
35. Hao-Wen Liu, Chu-Chun Lin, Po-Ya Chang, Shu-Chih Haw, Hwo-Shuenn Sheu, Jin-Ming Chen, Chia-Chin Chen, Ru-Jong Jeng, and **Nae-Lih Wu\***, “Reducing oxy-contaminations for enhanced Li-ion conductivity of halide-based solid electrolyte in water-mediated synthesis,” *Journal of Solid State Electrochemistry*, 26, 2089–2096 (2022).
36. Alem Gebrelibanos Hailu, Alagar Ramar, Fu-Ming Wang, **Nae-Lih Wu**, Nan-Hung Yeh, Chun-Chuan Hsu, Yung-Jen Chang, Pei-Wan Lester Tiong, Rio Akbar Yuwono, Chusnul Khotimah, Chun-Chieh Wang, “Investigations of Intramolecular Hydrogen Bonding Effect of a Polymer Brush Modified Silicon in Lithium-Ion Batteries,” *Advanced Materials Interfaces* 9, 2102007 (2022).

### Conference Papers

1. **Nae-Lih Wu**, The 8<sup>th</sup> Asian Conference of Electrochemical Power Sources, “Dimensionally Stable and High Rate Graphite-Silicon Composite Li-ion Battery Anodes,” August 21-25, Kumin, China (International Organizing committee; Keynote)
2. **Nae-Lih Wu**, International Battery Association 2016 Meeting, “High-Rate Capability Enabled by Polysulfide Chemistry for Li-S Batteries,” Nantes, France, 3 20-25, 2016 (Keynote Speaker).
3. **Nae-Lih Wu**, 5th International Conference on Advanced Capacitors, “Research Toward High Energy Pseudocapacitive Oxides,” Otsu, Japan, 5 23-27, 2016 (Plenary Lecture).
4. **Nae-Lih Wu**, 18<sup>th</sup> International Meeting on Li Batteries, “Polymeric Electrode Modification for Enhanced Performances of Li-Ion Batteries,” Chicago, IL, U.S.A., 6 19-24, 2016 (Invited Speaker).
5. **Nae-Lih Wu**, 4th International Conference on the Advancement of Materials and Nanotechnology, “Progress Toward High Energy Nanocrystalline Oxide Supercapacitors,” Langkawi, Malaysia, 11 9-11, 2016 (Keynote Speaker).
6. **Nae-Lih Wu**, Materials Challenges in Alternate and Renewable Energy, “Magnéli Phase Titanium Oxides as A New Class of Supercapacitor Materials,” Jeju island, South Korea, 2 20-24, 2017 (invited speaker).
7. **Nae-Lih Wu**, International Battery Association Annual Meeting, “High-Capacity and Cycle-Stable Graphite Based Anodes Enabled by Polymeric Coatings,” Nara, Japan, 3 5-10, 2017 (invited speaker)
8. **Nae-Lih Wu**, International Symposium of Enhanced Electrochemical Capacitors, “A New Pseudocapacitive SpinelOxide: ZnMn<sub>2</sub>O<sub>4</sub>,” Jena, Germany, 7 10-14, 2017 (International advisory committee; invited speaker)
9. **Nae-Lih Wu**, The 5<sup>th</sup> International Conference on Nanomaterials and Advanced Energy

- Storage Systems, “Novel Polymeric Artificial Solid Electrolyte Interphases for Enhancing Performance of Li-Ion Battery Cathodes,” Astana, Kazakhstan, 8 9-11, 2017 (invited speaker)
10. **Nae-Lih Wu**, The 9th Asian Conference of Electrochemical Power Sources, “A New Type of Supercapacitor Oxide  $ZnMn_2O_4$  Showing Combined Pseudocapacitance and Battery Behaviors,” Gyeongju, South Korea, 8 20-23, 2017 (International advisory committee; invited speaker)
  11. **Nae-Lih Wu**, International Battery Association Annual Meeting, “Suppressing dendrite formation with polymeric coatings on Li anodes,” Jeju Island, South Korea, 3 11-16, 2018 (Invited speaker).
  12. **Nae-Lih Wu**, The 19<sup>th</sup> International Meeting of Lithium Batteries, “Suppressing Li Dendrite Formation with Soft Coatings on Li-Ion Battery Anodes,” Kyoto, Japan, 6 17-22, 2017 (Invited speaker).
  13. **Nae-Lih Wu**, Advanced Automobile Battery Conference-Europe, “Surface Modifications of Li-Ion Battery Active Materials with Polymers for Improved Performance,” Mainz, Germany, 129-30, 2018 (Invited speaker).
  14. **Nae-Lih Wu**, International Battery Association 2018 Meeting, “Suppressing dendrite formation with polymeric coatings on Li anodes,” Jeju Island, Korea, 3 11-16, 2018 (Invited speaker).
  15. **Nae-Lih Wu**, CIMTIC The 8<sup>th</sup> Forum on New Materials, “Cost-Effective and High-Capacity Spinel Pseudocapacitive Oxides,” Perugia, Italy, 6 10-14, 2018 (Invited Speaker).
  16. **Nae-Lih Wu**, International Battery Association 2019 Meeting, “Understanding Microstructural Deformation of Alloying Anodes for Li- and Na-Ion Batteries,” San Diego, California, 3 3-8, 2019 (Invited speaker).
  17. **Nae-Lih Wu**, 2019 Korea Electrochemical Society (KECS) spring meeting, “Transmission X-ray Microscopy Studies on Li-ion Batteries-understanding by seeing,” Jeju island, Korea, 4 4-5, 2019 (Plenary talk).
  18. **Nae-Lih Wu**, 6th International Symposium on Enhanced Electrochemical Capacitors (ISEECap), “On the high-rate performance of oxide pseudocapacitors,” Nantes, France, 5 6-10 (2019) (Keynote speaker).
  19. **Nae-Lih Wu**, 7th International Conference on Nanomaterials and Advanced Energy Storage Systems, “Synthesis and Operation of High-Sulfur-Content Cathodes for Li-Sulfur Batteries,” Almaty at Kazakhstan, 8 7-9, 2019 (Invited speaker).
  20. **Nae-Lih Wu**, The 6th International Conference on Advanced Capacitors, “Strategies to Enhance Rate Performance of Oxide Pseudocapacitors,” Ueda, Japan, 9 8- 2, 2019 (Invited speaker).
  21. **Nae-Lih Wu**, The 12th International Conference on Advanced Lithium Batteries for Automobile Applications (ABAA 12), “Facile Synthesis and Enhanced Performance of High-Sulfur-Content Cathodes for Li-Sulfur Batteries,” Ulm, Germany, 10 6-9, 2019 (Invited speaker).
  22. **Nae-Lih Wu**, The 60th Battery Symposium in Japan, “Modifying Electrode-Electrolyte

- Interfaces with Soft Materials,” Kyoto, Japan, 11 13-15, 2019 (Invited speaker).
23. **Nae-Lih Wu**, The 10th Asian Conference on Electrochemical Power Sources (ACEPS10-2019), Kaohsiung, Taiwan, 11 24-27, 2019 (Conference Chairman).
  24. **Nae-Lih Wu**, The Asian Conference on Electrochemical Power Sources 11 (ACEPS11), “ Interfaces Modification with Functional Polymers for Enhanced Performance and Safety of Li-ion Batteries,” December 11-14, 2022, Singapore (Plenary speaker).
  25. **Nae-Lih Wu**, CIMTEC 2022 - 15th International Conference on Modern Materials and Technologies, “Synthesis of Micron-sized Ni-rich Li(Ni,Co,Mn)O<sub>2</sub> and Assessment of Bimodal Distributed Li-ion Battery Cathodes,” June 20-24, 2022 Perugia, Italy. (Invited speaker)
  26. 2022 International Battery Materials Association Annual Meeting, “Engineering Graphite Interface for Enhancing Safety of Li-Ion Batteries,” Oct 2-7, 2022, Bled, Slovenia (Invited speaker).

### Patents

1. **吳乃立**、**趙崧傑**·“POROUS TIN PARTICLES AND THE PREPARATION FOR THE SAME”·美國專利第 8,343,668 號。( 2013/1/1-2031/5/3 )
2. **吳乃立**、**吳憲昌**·“高性能電流收集裝置”·中華民國專利第 I462381 號。( 2014/11/21 ~ 2029/11/25 )
3. **李富生**；**吳乃立**；**周憲聰**；**吳玉祥**；**陳伯坤**·“具複數層自組裝修飾膜之碳基材料電池負極結構及其製備方法”·中華民國專利第 II511357 號 ( 2015/12/1 ~ 2034/2/20 )
4. **李富生**；**吳乃立**；**周憲聰**；**吳玉祥**；**陳伯坤**·“碳矽複合電極材料及其製備方法”·中華民國專利第 II511358 號 ( 2015/12/1 ~ 2034/2/20 )
5. **吳弘俊**；**陳語婷**；**吳乃立**；**陳文勤**；**廖世傑**；**吳亦晴**·“Ni-Mn composite oxalate powder, lithium transition metal composite oxide powder and lithium ion secondary battery,” US9,590,244 (2017/03/07 ~ 2035/02/22)
6. **吳弘俊**；**陳語婷**；**吳乃立**；**陳文勤**；**廖世傑**；**吳亦晴**·“ 鎳錳複合草酸鹽粉體、鋰鎳錳複合氧化物粉體及鋰離子二次電池,” 中國大陸 ZL201310603002.5 (2017/03/08 ~ 2033/11/21)
7. **吳弘俊**；**陳語婷**；**吳乃立**；**陳文勤**；**廖世傑**；**吳亦晴**·“ 鎳錳複合草酸鹽粉體、鋰鎳錳複合氧化物粉體及鋰離子二次電池,” 中華民國專利第 I499580 號 ( 2015/9/11 ~ 2033/10/14 )

## Technology Transfer

1. 技術轉移：「高容量矽基複合電極材料合成」；榮炭科技股份有限公司；30 萬元；2016/12~2017/05

## Honors and Others (2015-2022)

1. 臺灣大學特聘教授(University Distinguished Professor)
2. 黃聖翔同學/指導教授吳乃立教授台灣化學工程學會 63(2016)週年年會壁報論文競賽電化學組優勝
3. 黃聖翔同學/指導教授吳乃立教授獲得科技部 104 年度大專學生研究計畫研究創作獎
4. 2016 第十四屆有庠科技論文獎綠色科技類(Outstanding Paper Award of Green Technology, Far Eastern Y.Z. Hsu Science and Technology Memorial Foundation)
5. 2016 工業技術研究院最佳論文獎(Best Paper Award, Industrial Technology Research Institute)
6. 林彥丞同學/指導教授吳乃立教授獲得科技部 105 年度大專學生研究計畫研究創作獎
7. 林彥丞同學/指導教授吳乃立教授台灣化學工程學會 64(2017)週年年會口頭論文競賽傑出論文獎
8. 莊少儀同學/指導教授吳乃立教授台灣化學工程學會 64(2017)週年年會壁報論文競賽傑出論文獎
9. 博士班 Mozaffar 同學獲得 24th 同步輻射中心用戶會議，最佳壁報論文獎
10. 2018(合著人:羅婧) 發表論文獲選為 Advanced Energy Materials 期刊內封面
11. 劉浩汶同學/指導教授吳乃立教授台灣化學工程學會 66(2019)週年年會壁報論文競賽優勝
12. 魏詩涵同學/指導教授吳乃立教授台灣化學工程學會 66(2019)週年年會壁報論文競賽優勝
13. 林佳歆同學/指導教授吳乃立教授台灣化學工程學會 66(2019)週年年會壁報論文競賽優勝

14. 翁廷璋同學/指導教授吳乃立教授台灣化學工程學會 66(2019)週年年會壁報論文競賽優勝
15. 科技部特約研究員 2018-2021
16. 十八屆有庠科技講座獎綠色科技類 2020
17. 科技部傑出特約研究員獎 2021
18. 未來科技獎 2022

**International Cooperation Projects or Hosting international conference**

1. Lithium-ion Battery with High Electrochemical Performance and Safety Technologies (LiBEST2) (3/3)  
臺德(DE)國合計畫 - 高能量密度、高功率及高安全鋰電池研發(3/3)  
Sponsored by Ministry of Science and Technology Council  
NT\$5,000,000; 2022/10/1-2023/9/30
2. DEVELOPING ALL-SOLID-STATE HIGH-VOLTAGE AND HIGH-ENERGY-DENSITY RECHARGEABLE LITHIUM BATTERIES  
臺以(IL)雙邊協議型擴充加值(add-on) 國際合作研究計畫 - 開發全固態高電壓高能量鋰離子二次電池  
Sponsored by Ministry of Science and Technology Council  
NT\$1,080,000; 2019/12/1-2021/11/30