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■ Distinguished Professor

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■ Education

✓ **Ph.D.** (June. 2000)

Institute of Aeronautics & Astronautics

National Cheng Kung University, Taiwan

✓ **M.A.** (June. 1996)

Institute of Aeronautics & Astronautics

National Cheng Kung University, Taiwan

✓ **B.S.** (June. 1994)

Institute of Aeronautics & Astronautics

National Cheng Kung University, Taiwan

■ **Academic Experience**

✓ **Distinguished Professor** (August. 2011-Pesent)

National I-Lan University, Taiwan

✓ **Visiting Professor** (2016 and 2019)

Department of Mechanical Engineering

University of Malaya, Malaysia

✓ **Visiting Professor** (2013)

Department of Biological & Ecological Engineering

Oregon State University, USA

✓ **Associate Professor** (2007-2011)

Department of Mechanical and Electro-Mechanical Engineering

National I-Lan University, Taiwan

✓ **Assistant Professor** (2005-2007)

Department of Mechanical and Electro-Mechanical Engineering

National I-Lan University, Taiwan

✓ **Assistant Professor** (2002-2005)

Department of Electronic Engineering
Kao Yuan University, Taiwan

■ Professional and Research Interest

A. Energy - Bio Energy

- Mechanism of Microbial-chip in cube-satellite
- Coupling effect on the microbial fuel cell with algae
- Solid waste microbial fuel cells
- Waste water microbial fuel cells
- Optimal design and technological study to Bio-Electro-Fenton Microbial fuel cell applied to synchronous treating food organic wastewater and oily wastewater
- Flow skills applied in Microbial fuel cells
- Numerical simulation of continuous microbial fuel cells
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B. Fuel cell

- Biometric flow slab design in PEMFCs
- Commercialized PEMFC with optimal biometric flow slab design

C. MEMS (Microelectromechanical Systems) technology-micro fluidic device

- Micro-heater design
- No moving valve of micro-pumping device
- Biometric micro-mixer design

■ Teaching course

- Fuel Cell
- Microbial fuel cells
- Micro Thermal fluidic devices
- Fluid Mechanics
- Incompressible flow
- Viscous flow
- Boundary layer theorem
- Aerodynamic
- Compressible flow
- Thermodynamics
- Heat Transfer

■ Research Contribution

- Biometric concept first applied in the flow slab design of fuel cells and microbial fuel cells
- Mechanism of double electric charging layers with 4 folds of power of microbial fuel cells was first found.
- The skill of bio-power generation on giving polishing the performance of microbial fuel cells (MFCs) first addressed could be seen as a driving force of MFCs.
- First applied B12 into the compost microbial fuel cells with 10 times of power generation of MFCs.
- First development of MFCs numerical simulation on prediction.
- Self-design with a large scale of multi-function of wastewater treatment with bio-power.

■ Honors and awards

1. 2020 Asia-Pacific Awards: Student-Driven Sustainability Project of the Year. Top 5, Kochi, India, 2020.
2. Asia-Pacific Awards: Student-Driven Sustainability Project of the Year. 2nd Runner-Up, Kochi, India, 2020.
3. Subsidy research awards for colleges and universities by Ministry of Science and Technology, Taiwan on academic year 2018 from National I-Lan University.
4. International Inventor Prize by International Fellow of Chinese Innovation and Invention Society, 2019.
5. Y. Z. Hsu Science Paper Award in Green Science & Technology, 2019.
6. BEST PAPER AWARD presented to 『Microbial Fuel Cell : a flow approach for energy power generation and wastewater treatment』 , SEGT, Kuala Lumpur, Malaysia, 2018.
7. Distinguish professor of National I-Lan University since 2011.
8. Research Grants for Rewarding Outstanding Talent and Recruiting of Outstanding talent project by Ministry of Science and Technology since 2011.
9. Merit award of Industrial-Science project performance, Taiwan MOST 2016.
10. Golden Award by The International conference and exposition on inventions by institutions of Higher Learning on 2015- 『Eco-Green energy TM Self-sustained Outdoor Lighting with Mosquito Trap and

Flood Emergency Warning Transmission System.

11. Distinguish Youth Researcher Program from 2014 to 2017.
12. International Inventor Prize by Taiwan International Invention Award Winners Association on 2012.
13. Honorary Member of PHITAUPHI on 2000.

■ Publications (2015-2020)

✓ Books

1. **Chin-Tsan Wang***, Book: Biometrics (ISBN: 978-953-307-219-7). Chapter title: Biometric application in fuel cells and micromixer (2011). -**chapter author**.
2. **Chin-Tsan Wang***, C-M Yang and Y-C Yang, Book: Microbial Biotechnology-Energy and Environment (publisher: CABI/ISBN: 978-1-84593-956-4). Chapter title: Rumen microbial fuel cell (chapter author), pp.78-96 (2012). -**chapter author**.
3. **Chin-Tsan Wang**, Book: Technology and Application of Microbial fuel cells, **Chapter author & Book editor**. (2014) (publisher: INTECH/ ISBN 978-953-51-1627-1).
4. **Chin-Tsan Wang**, Thangavel Sangeetha, Book: Advances in Sustainable polymers: processing and Applications (publisher: Springer Nature Singapore Pte Ltd/ISBN: 978-981-32-9803-3). Chapter title: Microbial Fuel Cell: A synergistic Flow Approach for Energy Generation and Wastewater Treatment. (2019)-**chapter author** (DOI 978-981-32-9804-0_14, © 2019).

✓ **Journals publication (*Corresponding Author: 2015-2020)**

➤ **YEAR 2020**

1. Tzu-Hsuan Lan, Thangavel Sangeetha, **Chin-Tsan Wang***, Yung-Chin Yang, Jer-Huan Jang, Mathematical Nanowire conductive transfer model for Shewanella sps in batch type microbial fuel cells, Molecule (SCI, IF: 3.06, submitted).
2. Wei-Shyang Wang, Aristotle T. Ubando, **Ching-Tsan Wang***, Alvin B. Culaba, Chung-Hsin Juan, Fuh-Sheng Shieu, Chung-Hsin Juan, energy power generating and wastewater treatment for energy-nutrients-water nexus, Process Biochemistry (SCI, IF=2.883, Submitted).
3. Kha Lil Dinh, **Chin-Tsan Wang,***, Hue Ngan Dai, Van Man Tran, My Loan Phung Le, Imee A. Saladaga, Yu-An Lin, Effects of lactate and acetate in dual-chamber microbial fuel cells with domestic wastewater, International Journal of Hydrogen Energy (SCI, IF=4.229, submitted).
4. Thangavel Sangeetha, **Chin-Tsan Wang***, I-Ting Li, Yan-Ming Chen, Tzu-Hsuan Lan, Wei-Mon Yan*, A fluid dynamics perspective on flow dependent performance of honey comb microbial fuel cells, Journal of Power Sources (SCI, IF=7.467, submitted).
5. Song-Jeng Huang, Aristotle T. Ubando, Chuan-Yun Wang, Bo-Kay Xu, Alvin B. Culaba, **Chin-Tsan Wang***, Multi-mixer on polishing the power performance of micro-microbial fuel cells, Energy Reports(SCI, IF=3.83, submitted).
6. Kavya Dwivedi, **Chin-Tsan Wang***, Song Jeng Huang, Challenges, Implementations and Technologies which can be integrated with

Microbial Fuel Cell: A review, Journal of Cleaner Production (SCI, IF=7.246).

7. Bhanupriya Das, Jer-Huan Jang, **Chin Tsan Wang ***, Vimal Katiyar, Yu-An Lin, Fabrication of novel Electrospun PANI decorated PLA bio-based polymeric composite electrode for High Performance Dual Chambered Microbial Fuel Cells, International Journal of Hydrogen Energy(SCI, IF=4.229).
8. Song-Jeng Huang, Aristotle T. Ubando, Chuan-Yun Wang, Yi-Xun Su, Alvin B. Culaba , Yu-An Lin, **Chin-Tsan Wang*** Modification of carbon based cathode electrode in a batch-type microbial fuel cell, Biomass & Bioenergy (SCI, IF=3.573).
9. **Chin-Tsan Wang***, Aristotle T. Ubando, Vimal Katiyar, I-Ting Li, Yu-An Lin, Alvin B. Culaba, Jer-Huan Jang, Feasibility study on the mini-autonomous biosensor based on microbial fuel cell for monitoring hexavalent chromium in wastewater, Internatioanl Journal of Energy Research (SCI, IF=3.343).
10. **Chin-Tsan Wang ***, Raymond Chong Ong Tang, Men-Wei Wu, Akhil Garg, Aristotle T. Ubando, Alvin Culaba, Hwai-Chyuan Ong, Wen-Tong Chong, Flow Shear Stress applied in Self-Buffered Microbial Fuel Cells, Process Biochemistry (SCI, IF=2.883).
11. **Chin-Tsan Wang***, Yan-Ming Chen, Raymond Chong Ong Tang, , Akhil Garg, Hwai-Chyuan Ong, Yung-Chin Yang, Dominated flow parameters applied in a recirculation microbial fuel cells, Process Biochemistry (SCI, IF=2.883).
12. Padavala, Sri Krishna; Goyal, Ankit; **Chin-Tsan Wang** ; Rajasekar, Natarajan; Pareek, Kapil, Predictive modeling and Surface analysis for

Optimization of Production of Biofuel as a Renewable Energy Resource: Proposition of Artificial Neural Networks Search, Energy Storage (EI).

13. Ankit Goyal, Akhil Garg, Wei Li, **Chin-Tsan Wang**, Liang Gao, Evaluation of Batteries Residual Energy for Battery Pack Recycling in Hybrid Renewable Energy Systems: Proposition of Stack stress-coupled-AI approach, Renewable Energy (SCI, IF=4.9).
14. Bernard Saw, Weng Cheong, Farazila Yusof, Yew Ming Chian, **Chin-Tsan Wang**, Application of inhomogeneous aluminum foam properties on the solar cell thermal management system, Renewable Energy (SCI, IF= 4.9).
15. Farazila Yusof, Ming Chian Yew, **Chin-Tsan Wang**, Weng Cheong, Bernard Saw, Tan Effect of inhomogeneous aluminum foam properties on the thermal management system performance, International Journal of Thermal Sciences (SCI, IF= 3.361).
16. Ming Chian Yew, Farazila Yusof, **Chin-Tsan Wang**, Weng Cheong Tan, Bernard Saw, Investigation of novel functionally graded heat sink for solar cell thermal management system, Journal of Energy Engineering (SCI, IF=1.346).
17. Liu Yun, Su Shaosen, Ankit Goyal, Liang Gao, Akhil Garg, Xu Meijuan, **Chin-Tsan Wang**, Biranchi Panda, Recyclability Evaluation of Lithium-Ion Battery Pack: A Comprehensive Framework combining Experimental and Numerical coupled approaches for Residual Energy Determination, Resources, Journal of Cleaner Production (SCI, IF=5.651).
18. **Chin-Tsan Wang**, Maximization of Copper Recovery from Recycling of Electronic Boards: Comprehensive Predictive modelling

with Validation for coupled effects of concentration of Copper sulfate and currently density on Copper recovery, Journal of Chemometrics (SCI, IF=1.5).

19. Chaitanya. Ruhatiya, Akhil Garg, XuJian Cai, **Chin-Tsan Wang**, XiaoDong Niu, Yogesh Bhalerao, Multi-objective optimization for enhancing thermal performance of Battery Module based on Finite Element Modeling and Predictive modeling approach, Applied Thermal Engineering.(SCI, IF=3.771).
20. Hwai chyuan ong, Jassinnee Milano, Masjuki Haji Hassan, Arridina Susan Silitonga, Fitranto Kusumo, Surya Dharma, Abdi Hanra Sebayang, Mei Yee Cheah, **Chin-Tsan Wang**, Physicochemical property enhancement of biodiesel synthesis from hybrid feedstocks of waste cooking vegetable oil and Beauty leaf oil through optimized alkaline-catalysed transesterification, Waste Management. (SCI, IF=4.723).
21. C. Ruhatiya, Liu Yun, Akhil Garg, Liang Gao, **Chin-Tsan Wang**, Enhancement of Thermal Management of Li-ion Battery Module for Electric vehicles by Finite Element Modelling based Automated Neural Network Search Approach, Journal of Thermal Science and Engineering Application (SCI, IF=0.993).
22. Arridina Susan Silitonga, T. M. Indra Mahlia, Fitranto Kusumo, Hwai Chyuan Ong, H. H. Masjuki, Joko Siswanto, A.H. Shamsuddin, **Chin-Tsan Wang**, Biodiesel Synthesis from Ceiba pentandra Oil by Microwave Irradiation-Assisted Transesterification: ELM Modelling and Optimization, Renewable Energy (SCI, IF=4.357).
23. Hwai chyuan ong, Brandon Goh; **Chin-Tsan Wang**, Ultrasonic

- Assisted Oil Extraction of Spent Coffee Ground for Biodiesel Production, Fuel Processing Technology (SCI, IF=3.956, Submitted)
24. Akhil Garg, Sri Krishna Murthy Padavala, Dezhi Chen, **Chin-Tsan Wang**, Saeed Asghari, Production of biodiesel from the transesterification of soybean oil and ethanol: Predictive modelling and Surface analysis with Experimental Validation for Improving glycerol and ethyl ester yields, Renewable Energy (SCI, IF=4.357).
 25. Akhil Garg, Vikas Pratap Singh, Liu Yun, Xiaodong Niu, **Chin-Tsan Wang**, Efficient Copper Recovery from Recycling of Electronic Boards via suspension electrolysis process: Predictive modelling and Optimization of coupled effects of concentration of sulfuric acid, concentration of Copper sulfate and current density on Copper recovery, Journal of the Taiwan Institute of Chemical Engineers (SCI, IF=4.217).
 26. Akhil Garg, Liu Yun, P. Biranchi, Dezhi Chen and **Chin-Tsan Wang**, A Coupled Mechanical-Electrochemical behaviour for derivation of relationship of Capacity of Energy Storage System: Application of Genetic programming, Mathematical Problems in Engineering (SCI, IF=0.802).
 27. Akhil Garg, **Chin-Tsan Wang**, Liu Yun, Xiaodong Niu, iongbin Pend, Robust Evaluation of States for Performance Optimization of Energy Storage Systems: Experimental integrated Genetic Programming Approach, International Journal of Electrical Power and Energy Systems (SCI, IF= 3.289).
 28. Akhil Garg, Li Shui; Yuhao Huang; Jian Zhang; Nengsheng Bao; **Chin-Tsan Wang**, Experimental and Numerical Investigation for

- Coupled Mechanical-Electrochemical behaviour of Lithium-ion Batteries for Electric Vehicle, Journal of Power Sources. (SCI, IF=6.395).
29. Ngan Hue Dai, Tam-Anh D. Nguyen, Loan-Phung My LE, Man Van TRAN, Tzu-Hsuan Lan, **Chin-Tsan Wang***, Power Generation of *Shewanella oneidensis* MR-1 Microbial Fuel Cell in Bamboo Fermentation Effluent, International Journal of Hydrogen Energy (SCI, IF: 4.229, revised).
 30. **Chin-Tsan Wang***, I-Ting Li, Jer-Huan Jang, Effect of electrode spacing on the performance of microbial fuel cells with a honeycomb flow straightener, International Journal of Energy Research (SCI, IF:3.52)
 31. Hwai Chyuan Ong, Mei Yee Chech, Gumilang D., M. Shahabuddin, **Chin-Tsan Wang**, H.V. Lee, T.M.I. Mahlia, Production of biodiesel from Grape seed, Philippine tung and Kesambi and the effect of fuel blending, Energy Sources, Part A: Recovery, Utilization, and Environmental Effect (SCI, IF=0.527, Submitted).
 32. Hwai Chyuan Ong, T.M.I Mahlia, Fitranto Kusumo, Jassinnee Milano, Joko Siswantoro, Abdi Hanra Sebayang, Surya Dharma, **Chin-Tsan Wang**, Syamsul Rizal, T.M.I Riayatsyah, Arridina Susan Silitonga, Optimization of the Transesterification Process Variables for *Calophyllum inophyllum*-*Ceiba pentandra* Oil Mixture using Artificial Neural Network Integrated with Ant Colony, Journal of Cleaner Production (SCI, IF=5.715).
 33. 33. Wen Tong Chong, Izdihar Zahirah Ibrahim, Yung-Jeh Chu, Kok-Hoe Wong, Xiao-Hang Wang, Sumiani Yusoff, **Chin-Tsan**

- Wang**, Experimental study of living green wall as ecological air cleaning and cooling system on indoor environmental quality, Building and Environment (SCI, IF=4.053).
34. Shuhua Wang, Lixiang Chen, Xiuli Zhou, Weifu Yan, Rui Ding, Bilian Chen, **Chin-Tsan Wang**, Feng Zhao, Recovery of copper from printed circuit boards by an economical and environment-friendly bioleaching method, Bioresource Technology (SCI, IF=5.651).
35. Shuhug Wang, Lixiang Chen, Xiuli Zhou, Weifu Yan, Rui Ding, Bilian Chen, **Chin-Tsan Wang**, Feng Zhao. Synergistic effect of Iron-oxidizing bacteria and Sulphur-oxidizing bacteria on bioleaching of copper from printed circuit boards. Chemical Engineering Journal (SCI, IF=6.216).
36. Song-Jeng Huang, Aristotle T. Ubando, Yan-Ting Lin, Chuan-Yun Wang, Alvin B. Culaba, **Chin-Tsan Wang***, B 12/ CNT Anodic Nano Catalysis applied on polishing the performance of microbial fuel cells, International Journal of Hydrogen Energy (SCI, IF: 4.229).
37. Raymond Chong Ong Tang, Jer-Huan Jang, Wei-Mon Yan, Thangavel Sangeetha, Tzu-Hsuan Lan, Jung-Chen Wu, Wen-TongChong, **Chin-Tsan Wang***, Hwai-Chyuan Ong*, Review on design factors of microbial fuel cell using Buckingham's Pi Theorem, Renewable and Sustainable Energy Reviews (SCI, IF: 10.556).
38. Surinder Singh, Wei Li, Liang Gao, Xujian Cui , **Chin-Tsan Wang**, Xiongbin Peng , N. Rajasekar, Akhil Garg*, Illustration of Experimental, Machine Learning and Characterization methods for study of performance of Li-ion batteries, International Journal of

Energy Research (SCI, IF=3.009).

39. Tzu-Hsuan Lan, Aristotle T. Ubando, Chuan-Yun Wang, Alvin Culaba, and **Chin-Tsan Wang***, Porosity and biofilm attachment on carbon anode materials for honeycomb microbial fuel cell, Journal of the Chinese Society of Mechanical Engineers (SCI, IF=0.241).
40. **Chin- Tsan Wang***, Tzu-Hsuan Lan, Wen-Tong Chong, Hwai Chyuan Ong, Shi-Xun Chen, An Optimal Inlet Flow Angle Design of Vascular-type Micromixer, Journal of the Chinese Society of Mechanical Engineers (SCI, IF=0.241).
41. Ruhatiya, Chaitanya; Shaosen, Su ; **Chin-Tsan Wang** ; Jishnu, A.K; Bhalerao, Yogesh, Optimization of process conditions for maximum metal recovery from spent Zinc-Manganese Batteries: Illustration of Statistical based Automated Neural Network approach, Energy Storage (EI, Energy Storage. 2020;2:e111).
42. Xujian; Chin, Biranchi, P; Cui, C.M.M; Sakundarini, Novita Novita ; **Chin-Tsan Wang**; Pareek, Kapil, An application of Evolutionary Computation Algorithm in Multidisciplinary Design Optimization of Battery Packs for Electric Vehicle, Energy Storage (EI, Energy Storage. 2020;2:e158).
43. **Chin- Tsan Wang***, Jung-Chen Wu, Akhil Garg, Wen-Tong Chong, Hwai-Chyuan Ong, Bing-Xue Wu, Jer-Huan Jang, Effective Convergent-Type Flow Slab in Proton Exchange Membrane Fuel Cells, Journal of the Chinese Society of Mechanical Engineers, Vol. 41 (1), pp. 85-90 (SCI, IF=0.241; 2020).
44. Izdihar Zahirah Ibrahim, Wen Tong Chong, Sumiani Yusoff, **Chin-Tsan Wang**, Xianbo Xiang, Wan Khairul Muzammil,

Evaluation of common indoor air pollutant reduction by an air biofilter system, *Indoor and Built Environment* (SCI, IF=1.716, In Press) DOI: 10.1177/ 1420326X19882080.

➤ **Year 2019**

45. Yihui Zhang, Siqi Chen, M.E. Shahin, , Xiaodong Niu, Liang Gao, C.M. M. Chin, Nengsheng Bao, **Chin-Tsan Wang**, Akhil Garg, Ankit Goyal, Multi-objective optimization of lithium-ion battery pack casing for electric vehicles: Key role of materials design and their influence, *International Journal of Energy Research* (SCI, IF=3.009, published).
46. Natalina Damanik, Hwai Chyuan Ong, Wen Tong Chong, Arridina Susan Silitonga *, Abd Halim Shamsuddin, Abdi Hanra Sebayang, Teuku Meurah Indra Mahlia, **Chin-Tsan Wang**, Jer-Huan Jang, The performance and exhaust emissions of a diesel engine fuelled with *Calophyllum inophyllum*–palm biodiesel, *Processes* (SCI, IF=1.963) *Processes* 2019, 7(9), 597).
47. Jung-Chen Wu, Wei-Mon Yan, Wei-Huang Chiang, Sangeetha Thangavel, Chen-Hao Wang, **Chin-Tsan Wang***, Wei-Hung Chiang, Innovative Multi-processed N doped carbon and Fe₃O₄ on modifying the performance of cathode in bio-electro Fenton microbial fuel cells, *International Journal of Energy Research* (SCI, IF=3.009, published at 7/25, 2019).
48. Xiaohang Wang , Wentong Chong , Kokhoe Wong , Saihin Lai ,Liphuat Saw, Xianbo Xiang, **Chin-Tsan Wang**, Preliminary Techno-Environment–Economic Evaluation of an Innovative Hybrid

- Renewable Energy Harvester System for Residential Application, *Energies* 2018, 11(10), 2846 (SCI, IF= 2.676).
49. Hwai Chyuan Ong, Jassinnee Milano, Arridina Susan Silitonga, Masjuki Haji Hassan, Abd Halim Shamsuddin, **Chin-Tsan Wang**, Teuku Meurah Indra Mahlia, Joko Siswantoro, Fitranto Kusumo, Joko Sutrisno, Biodiesel production from *Calophyllum inophyllum*-*Ceiba pentandra* oil mixture : Optimization and characterization, *Journal of Cleaner Production* (SCI, IF=5.715, In Press, 2/2019).
 50. Liu Yun; Ankit Goyal; Vikas Pratap Singh; Liang Gao; Xiongbin Peng; Xiaodong Niu; **Chin-Tsan Wang**, Akhil Garg, Expeimental coupled predictive modelling based recycling of waste printed circuit boards for maximum extraxction of copper, *Journal of cleaner production*, Vol. 218, PP. 763-771 (SCI, IF=5.715, 2/2019).
 51. Chen, Dezhi; Singh, Surinder; Gao, Liang; Garg, Akhil ; Fan, Zhun; **Chin-Tsan Wang**, A Coupled and Interactive Influence of operational parameters for optimizing power output of cleaner energy production systems under uncertain condition, *International Journal of Energy Research* (SCI, IF=3.009, Accepted 2019/1/9).
 52. Liu Yun, Wei Li, Akhil Garg,, Sivasriprasanna Maddila, Liang Gao, Zhun Fan, P. Buragohain, **Chin-Tsan Wang**, Maximization of Extraction of Cadmium and Zinc during recycling of spent battery mix: An Application of combined Genetic Programming and Simulated Annealing approach, *Journal of cleaner production*, Vol. 218, PP.130-140 (SCI, IF=5.715, 1/2019).
 53. Dezhi Chen, Surinder Singh, Saeed Asghari, Liang Gao, Akhil Garg, **Chin-Tsan Wang**, A Coupled and Interactive Influence of

Operational Parameters for Optimizing Power Output of Cleaner Energy Production Systems under Uncertain Conditions, International Journal of Energy Research(SCI, IF=3.009).

54. **Chin-Tsan Wang***, Thangavel Sangeetha, Wei-Mon Yan, Wen-Tong Chong, Lip-Huat Saw, Feng Zhao, Chung-Ta Chang , Chen-Hao Wang, Application of interface material and effects of oxygen gradient on the performance of single-chamber sediment microbial fuel cells (SSMFCs), Journal of Environmental Sciences, Vol. 75, pp.163-168. (SCI, IF=3.12, 2019).

➤ **Year 2018**

55. Feng Zhao, Bilian Chen, **Chin-Tsan Wang**, Lixiang Chen, Rui Ding, Shuhua Wang, Weifu Yan, Xiuli Zhou, Enhanced bioleaching efficiency of copper from printed circuit boards without iron loss, Hydrometallurgy (SCI, IF=2.605) (Vol. 180, pp.67-71, 9/2018).
56. Feng Zhao, Shuhua Wang, Yanling Xie, Weifu Yan, Xuee Wu, **Chin-Tsan Wang**, Leaching of vanadium from waste V₂O₅-WO₃/TiO₂ catalyzed by functional microorganisms, Science of The Total Environment, (SCI, IF=4.610) 2018, Vol. 639, pp.497-503.
57. Xiao Hang Wang, Wen Tong Chong, Kok Hoe Wong, Lip Huat Saw, Sin Chew Poh, Sai Hin Lai, **Chin-Tsan Wang**, Preliminary Performance Test and Simulation of A V-shape Roof Guide Vane Mounted on An Eco-Roof System, Energies Vol.11(10), pp.2846-33. (SCI, IF= 2.676, 2018).
58. Liu Yun, P. Biranchi, Dezhi Chen, Akhil Gard, Liang Gao, Xu

- Meijuan, **Chin-Tsan Wang**. Experimental combined numerical approach for evaluation of battery capacity based on the initial applied stress, the real-time stress, charging open circuit voltage and discharging circuit voltage, *Mathematical Problem in Engineering*, Volume 2018, Article ID 8165164, 16 pages (SCI, IF=1.145).
59. **Chin-Tsan Wang**, Thangavel Sangeetha, De-Quan Ding, Wen-Tong Chong, Wei-Mon Yan, Implementation of surface modified carbon cloth electrodes with Biochar particles in Microbial fuel cells, *International Journal of Green Energy*, Vol. 15(13), pp.789-794. (SCI, IF=1.454).
60. Hwai chyuan ong, Yong Yang Gan; Tau Chuan Ling; N.W.M. Zulkifli; **Chin-Tsan Wang**; Yung-Chin Yang, Thermal Conductivity Optimization and Entropy Generation Analysis of Titanium Dioxide Nanofluids in Evacuated Tube Solar Collector, *Applied Thermal Engineering*, Vol. 145, pp.155-164 (SCI, IF=3.771, 9/2018).
61. Yan-Ming Chen, **Chin-Tsan Wang***, Young-Chin Yang, Effects of wall boundary layer thickness on power performance of a recirculation microbial fuel cells, *Energies* (SCI, IF=2.262) 2018, Vol. 11(4).
62. Xiao Hang Wang, Wen Tong Chong, Kok Hoe Wong, **Chin-Tsan Wang**, Lip Huat Saw, Sin Chew Poh, Sai Hin Lai, Preliminary Assessment of Optimized Accessorial Roof Shape for Performance of Wind Turbine Mounted on Eco-Roof System, *International Journal of Precision Engineering and Manufacturing-Green Technology* (SCI, IF=3.494,8/130) (Volume 5, Issue 3, pp 375–385, 2018).
63. Jassinnee Milano, Hwai Chyuan Ong, H. H. Masjuki, A.S. Silitonga, F. Kusumo, S. Dharma, A. H. Sebayang, Mei Yee Cheah,

Chin-TsanWang, " Physicochemical property enhancement of biodiesel synthesis from hybrid feedstocks of waste cooking vegetable oil and Beauty leaf oil through optimized alkaline-catalysed transesterification, Waste Management, Vol. 80, pp.436-449 (SCI, IF= 4.357, 10/2018).

64. Tzu-Hsuan Lan, **Chin-Tsan Wang***, Yung-Chin Yang, Thangavel Sangeetha, Akhil Garg, Constructed mathematical model of nanowire electron transfer in microbial fuel cells, Journal of Power Sources, Vol.402. pp. 483-488(SCI, IF=6.395, 10/2018).
65. Shuhua Wang, Lixiang Chen, Xiuli Zhou, Weifu Yan, Rui Ding, Bilian Chen, **Chin-Tsan Wang**, Feng Zhao*, Enhanced bioleaching efficiency of copper from printed circuit boards without iron loss, Hydrometallurgy, Volume 180, 2018, Pages 65-71 (SCI, IF=3.30)
66. Kok Hoe Wong, Sin Chew Poh, Yui-Chuin Shiah, Nazatul Liana Sukiman, **Chin-Tsan Wang**, Wen Tong Chong, 3D CFD Simulation and Parametric Study of a Flat Plate Deflector for Vertical Axis Wind Turbine, Renewable Energy. (Volume 129, Part A, December 2018, Pages 32-55) (SCI, IF=4.357, 5/2018).
67. Shuhua Wang, Yaling Xie, Weifu Yan, Xuee Wu, **Chin-Tsan Wang**, Feng Zhao, Leaching of vanadium from waste V₂O₅-WO₃/TiO₂ catalyst catalyzed by functional microorganisms, Science of the Total Environment, Volume 639, 15 October 2018, Pages 497-503 (SCI, IF=4.9, 2018/ 6).
68. Jung-Chen Wu, Wei-Mon Yang, Chen-Hao Wang*, **Chin- Tsan Wang ***, Yi-Hao Pai, Kai-Chin Wang, Sangeetha Thangavel, Treatment of oil wastewater by the optimizing of Fe₂O₃ calcination

temperature in innovation Bio-Electron-Fenton Microbial Fuel Cells, Energies 2018, (Vol. 11(3), PP.565)(SCI, IF=2.262).

69. Chong Wen Tong, Izdihar Zahirah, Chu Yung Jeh, Wong Kok Hoe, Wang Xiao Hang, Masjuki Hassan, Sumiani Yusoff, **Wang Chin-Tsan**, The design and Investigation of a novel ecological air cleaning and cooling system using the concept of a living green wall, UNIVERSITY OF MALAYA LIVING LABS-Trsanforming Research into Action, Vol. 2, sustainability Science Research Cluster, University of Malaya, Kuala Lumpour, 2018.
70. **Chin-Tsan Wang**, Yan-Sian Huang, Sangeetha Thangavel, Yen-Ming Chen, Wen-Tong Chong, Hwai-Chyuan Ong, Feng Zhao, Wei-Mon Yan, Novel bufferless Photosynthetic Microbial Fuel Cell (PMFCs) for enhanced electrochemical performance, Bioresource Technology, Vol. 255, pp.93-87 (SCI, IF=5.651, 2018/ 5).
71. Hoor Mazaheri, Hwai Chyuan Ong, H. H. Masjuki, Zeynab Amini, Mark D. Harrison, **Chin-Tsan Wang**, Fitranto Kusumo, Azham Alwi, Rice bran oil based biodiesel production using calcium oxide catalyst derived from Chicoreus brunneus shell, Energy, Vol. 144(1), PP. 10-19(SCI, IF=4.520, 2018/2).

➤ **Year 2017**

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73. **Chin-Tsan Wang***, Yan-Sian Huang, Sageetha Thangavel, Wei-Mon

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74. W.K.Muzammil, K.H.Wong, W.T.Chong, M.Gwani, **Chin-Tsan Wang**, S.C.Poh, X.H. Wang, Design and Early Development of a Novel Cross Axis Wind Turbine, *Energy Procedia*, Vol.105, PP.668-674.
75. Tzu-Hsuan Lan, Wei-Mon Yan, Yun-Ting, Ou, Sangeetha Thangavel, **Chin-Tsan Wang***, Yung-Chin Yang, 2D Numerical Physical Model Setting for Three Kinds of Electron Transferring Pathway in Microbial Fuel Cells, *Sensors and Materials*, Vol.29 (7), pp.1055-1060, 2017. (SIC, IF=0.519).
76. **Chin-Tsan Wang***, Yao-Cheng Lee, Yun-Ting Ou, Yung-Chin Yang, Wen-Tong Chong, Sangeetha Thangavel, Wei-Mon Yan, Exposing effect of comb-type cathode electrode on the performance of sediment microbial fuel cells, *Applied Energy*, Vol. 204(15), PP.620-625 (SCI, IF=7.182).
77. Wen-Tong Chong, Kok-Hoe Wong, **Chin-Tsan Wang**, Mohammed Gwani, Yung-Jeh Chu, Wei-Chin Chia, Sin-Chew Poh, Cross-Axis-Wind-Turbine: A Complementary Design to Push the Limit of Wind Turbine Technology, *Energy Procedia*, Vol. 105, PP.973-979 (EI).
78. Wen-Tong Chong, Kok-Hoe Wong, **Chin-Tsan Wang**, Mohammed Gwani, Yung-Jeh Chu, Wei-Chin Chia, Sin-Chew Poh, Cross Axis Wind Turbine: Pushing the Limit of Wind Turbine Technology with Complementary Design, *Applied Energy*, Vol. 207, PP. 78-95. (SCI,

IF=7.182).

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80. **Chin-Tsan Wang***, Tsung-Huang Lin, Yu-Jen Chen, Wen-Tong Chong, Using Xanthan 80 (SF) on enhancing the performance of Solid Microbial Fuel Cell, Energy Procedia, Vol.105, PP.1160-1165, EGYPRO29309, EI.
81. Chung-Ta Chang, **Chin-Tsan Wang***, Chen-Hao Wang, Wen-Tong Chong, Effect of oxygen gradient on the organic degradation and power performance of single sediment microbial fuel cells, Energy Procedia, Vol. 105, PP.654-661, EGYPRO29233, EI.
82. **Chin-Tsan Wang***, Yan-Ming Chen, Zi-Yang Hu, Wen-Tong Chong, 2017, Dynamic Power response of microbial fuel cells under external electrical exciting, International Journal of Hydrogen Energy, Vol. 42(34), pp.22208-22213(SCI, IF=3.582).
83. Wen-Tong Chong, Raymond Wong, Nazatul, Pohsc, Ycshiah, **Chin-Tsan Wang**, Performance Enhancements on Vertical Axis Wind Turbines Using Flow Augmentation Systems: A Review, Renewable & Sustainable Energy Reviews, Vol.73, PP.904-921 (SCI, IF=8.050).
84. **Chin-Tsan Wang ***, Tsung-Hung Lin, Yu-Jen Chen, Wen-Tong Chong, A highly effective thickener and stabilizer of Xanthan 80 (SF) applied to strengthen the performance of Solid Microbial Fuel Cells, Journal of Biobased Materials and Bioenergy, Vol.11, pp. 456-460

(SCI, IF=0.975).

85. Yung-Chin Yang, Chien-Chung Chen, Chih-Song Huang, **Chin-Tsan Wang**, Hwai-Chyuan Ong, Developments of metallic anodes with various compositions and surfaces for microbial fuel cells, International Journal of Hydrogen Energy, Vol. 42, PP.22235-22242 (SCI, IF=3.852).

➤ **Year 2016**

86. Yao-Cheng Lee, **Chin-Tsan Wang***, Yung-Chin Yang, Wen-Tong Chong, 2016/7, Effects of chaotic acclimation applied on performance of microbial fuel cells, International Journal of Green energy, Vol. 13(14), pp. 1501-1506. <IF=1.188>.
87. Tzu-Hsuan Lan, **Chin-Tsan Wang***, Yung-Chin Yang, Wen-Tong Chong, 2016/6, Multi-effects of gravity and geometric flow channel on the performance of continuous microbial fuel cells, International Journal of Green energy, Vol. 13(14), PP. 1483-1489. <IF=1.188>.
88. W. T. Chong, W. K. Muzammil, M. Gwani, K. H. Wong, A. Fazlizan, **Chin-Tsan Wang**, S. C. Poh, The development and testing of novel cross axis wind turbine, AIP Conf. Proc. 1737, 030003, 2016/6 (EI).
89. **Chin-Tsan Wang***, Yan-Ming Chen¹ and Shih-Syun Chen, Hear-like micro-flow mixer, International Journal of Chemical Reactor Engineering, Vol. 14(1), PP.343-349. January 2016 (SCI, IF=0.881).
90. **Chin-Tsan Wang***, Y. C. Lee, C. M. J. Yang, Z. S. Chen and Y.C. Yang, Effect of Fermentation on the Acetate- dominated Rumen Microbial Fuel Cells, 2016, International Journal of Smart Grid and Clean Energy, 5(2), pp100-105.

➤ **Year 2015**

91. **Chin-Tsan Wang***, Wei-Jung Chen and Ruei-Yao Huang, 2015, Effect of culture time on the growth curve and power performance in microbial fuel cell at a fixed amount of liquid culture, International Journal of Green energy (SCI) <IF=1.188> DOI:10.1080/15435075.2015.1088442.
92. **王金燦***、高仕瑋, 「從廢棄物能資源化探討學生跨科技思考與執行能力的重要性」, 登載於《海水漫上島嶼 跨科際教育先行者紀實之路》一書, 頁 300-321/ISBN 978-986-04-7687-3 (Chinese BOOK).
93. **Chin-Tsan Wang*** , Yao-Cheng Lee and Liao Fan-Ying, Effect of Composting Parameters on the Power Performance of Solid Microbial Fuel Cells, 2015, Sustainability-special issue “Renewable Electricity” Vol. 7, pp.12634-12643, (SCI)<IF=1.077>.
94. Shih-Wei Kao, Rong-Chen Wu, **Chin-Tsan Wang***, Yi-Ta Wang, Effect of Fe²⁺, Mn²⁺ Catalyst on the performance of Bio-electro-Fenton Microbial Fuel Cells, Journal of Biometrics and Its Applications, Vol. 1(1), pp.1-6.
95. **Chin-Tsan Wang,***, Hong-Chang Zhou, 2015/5, Improvement in Converged-types of micromixers by the use of plates, Journal of marine science and technology, Vol. 23(1), pp8-12. (SCI)
96. Wu Rong-Chen, Wang Chen-Hao, **Chin-Tsan Wang*** and Wang Yi-Ta 2015 , Effect of FeSO₄ on Bio-elelctro-Fenton Microbial Fuel Cell with different exchange membrane, Materials Research

Innovations, Vol. 19, Suppl 2, S2-1~S2-4 <IF=0.473>.

97. Tzong-Shyng Leu, **Chin-Tsan Wang*** and Nan-Jia Huang, 2015, Effects of micro-channel geometry and surface modification on heat transfer within an evaporator, Journal of applied Science and Engineering, Vol.18 (1), pp.25-32. (EI)
98. **Chin-Tsan Wang*** and K. Y. Wu, Investigation of the Cognition and Attitudes of Junior High School Students on Energy Resources: The Case of Kai-Syuan Junior High School, I-Lan, Taiwan, International Journal of Information and Education Technology, Vol.5, No.12, December 2015. (EI).

■ Professional affiliations and memberships

1. Director of Ministry of Science and Technology, TECC in India.
2. Reviewer of Process Biochemistry.
3. The Guest editor in International Journal of Hydrogen Energy. (2019-2020).
4. Conference Chair of Sustainable Energy and Green Technology (SEGT 2020).
5. Editor of Journal of the Chinese Society of Mechanical Engineers (CSME).
6. Supervisor of Taiwan energy association (2017-nowadays).
7. Member of Taiwan Association for Hydrogen Energy and Fuel Cell on 2019-nowadays. (THEFC)
8. Evaluation Committee of Energy club in Taiwan MOST (2019 - 2020).
9. Screening committee in Bureau of Energy, Ministry of Economic

Affairs (2016-20).

10. Chief Executive Officer of Inter-Integration center (2017-Nowadays)
11. Organizer of Bio-energy of Energy Program in Taiwan MOST (2015-2019).
12. Editor of Journal of the Chinese Society of Mechanical Engineers.
13. The Screening committee of Industry-academia project of Thermo-fluid program in Taiwan MOST.
14. Screening committee in Ministry of Economic Affairs, Taiwan for Advance Technology project.
15. Organizer of flow control in waste water key skill of Thermo-fluid program in Taiwan MOST. (2015-2019).
16. Vice Executive Secretary of the 12th National Conference on Hydrogen Energy and Fuel Cell, the 4th Taiwan Energy Association Annual Meeting in 2017.
17. The 11th National Conference on Hydrogen Energy and Fuel Cell, The 3rd Taiwan Energy Association Annual Meeting in 2016.
18. Member of Taiwan Bio-energy Technology Development Association
19. Consultant of Taiwan good food and clean land cultural promotion association (2016-2020).
20. Guest editor of International Journal of Electrochemistry, Special Issue on Electrochemical Technology for Environmental Remediation.
21. The Technical Committee of International Conference on Future Environment and Energy (ICFEE) in 2015, Taipei, Taiwan.
22. 2015 CEEPE-II, a member of International Technical Committees.
23. Permanent member of Society of Theoretical and Applied Mechanics

of the Republic of China.

24. Permanent member of Chinese Society of Mechanical Engineering.
25. Member of Global Energy Summit Organizing Committee in 2015.

■ **Patent (Patent type; Number; Confirmed year)**

1. Detective mosquito trapping robot (processing; 2020).
2. A Kind of Microbial Fuel Cell Manufacturing Method (Invention Patent; I-629826; 2018).
3. Long-term water degradation biological discharge ecological fish tank (Invention Patent; I-597014; 2017).
4. Microbial fuel cell with flawed zinc oxide photo-catalyst (Invention Patent; I-520427; 2016).
5. Cell structure of biofuel cell (Invention Patent; I-513088; 2015).
6. Insect replenisher with biofuel cell structure (Invention Patent; I-455687; 2014).
7. Microbial fuel cell powered insect replenisher with counterweight device (Invention Patent; I- 440432; 2014).
8. Structure of micro valve without moving parts (Invention Patent; I-403655; 2013).
9. Low temperature bonding method of wafer and its wafer (Invention Patent; I-348965; 2011).
10. Bionic micro flow channel for mixed fluid (Invention Patent; I-342232; 2011).
11. Mini capillary suction loop cooling system (Invention Patent; I 292693; 2008).
12. Micro-flow Velocity Meter (Invention Patent; I-289205; 2007).

13. Micro motor without moving parts valve structure (Invention Patent; I-266015; 2006).

■ Professional experience

A. Industry-academia cooperation Project

1. 「 Using bio-electricity technology to strengthen the symbiosis of sewage microorganisms and algae to accelerate sewage degradation and production of electrical efficiency (2/3) (JIEHAN TECHNOLOGY CORPORATION/ June.2017-May. 2018).
2. 「 Analysis of the electrical effects of hybrid bio-catalysis on microbial fuel cells 」 (JIEHAN TECHNOLOGY CORPORATION / June. 2018-May. 2019).
3. 「 Analyze the wind field of solar photovoltaic facilities with fluid mechanics technology and propose wind loss improvement strategies 」 (MORNING WONDER CO., LTD / June, 2017- November, 2017).
4. 「 Using bio-electricity technology to strengthen the symbiosis of sewage microorganisms and algae to accelerate sewage degradation and production Electrical efficiency (1/3) 」(JIEHAN TECHNOLOGY CORPORATION/ June.2017-May. 2018) .
5. Use external chaotic domestication stimulation technology to enhance wastewater degradation and productivity efficiency 」 (JIEHAN TECHNOLOGY CORPORATION / June. 2015-May. 2016).

B. International Collaboration Project

1. Bio-enhanced leaching technology of valuable metals in electronic waste (Collaboration with Xiamen Science and Technology Bureau, China, January 2017 to December 2017).
2. Experimental discussion on the interaction between fluid and plate material in wastewater bioenergy reactor system (Collaboration with IIT-Gauwahati, India, July 2017-June 2020).
3. Automobile Fuel Economy Standards and Label: Implementation Possibilities in Malaysia (Co-PI, Malaysia, January 2011- December 2015).
4. Design Optimization, Fabrication and Testing of a Biomimetic Wind Turbine Inspired by *Dryobalanops Aromatica* Seed. (SATU, Co-PI/ Malaysia, August 2017-July 2018).
5. Enhanced strategies to improve biomass & lipid yields of *Chlorella sorokiniana* in wastewater. (SATU, Co-PI, August 2017-July 2018).
6. Thermal Characteristic and Entropy Efficiency of Nanofluids in Solar Collector System. (SATU, Co-PI/ Malaysia, August 2017-July 2018).
7. Design, Fabrication and Testing of the Novel Cross Axis Wind Turbine.

C. Professional Experience in international journal

1. The organizer of 2018 and 2019 International Sustainable Energy and Green Technology conference.
2. The co-organizer of ASP 17—Advances in Sustainable Energy from Wastewater and Role of Sustainable Polymers in Energy in 2018.

3. Editorial Manager of Chemical Data Collections in 2019.
4. The Guest editor of 2019 International Journal of Hydrogen Energy
5. The reviewer of RSC Advances in 2018.
6. The editorial Board Membership of The Open Fuels and Energy Science Journal in 2017.
7. The chairman of The ICAE Applied energy conference session in 2017.
8. The reviewer of Royal Society Open Science in 2017.
9. A member of the research group pending for application of the PRGS grant issued by the Ministry of Higher Education, Malaysia (MOHE).
10. The editorial Board of the World Journal of Methodology from 2016 to 2019.

D. Reviewer of following SCI Journal.

1. ASME Experimental Thermal and Fluid Science.
2. Journal of the Electrochemical Society.
3. Journal Microfluidics and Nano fluidics.
4. Sensors and Actuators: A Physical.
5. International Journal of Hydrogen Energy.
6. Journal of Mechanics.
7. Electrochemistry
8. Journal of the Chinese Society of Mechanical Engineering.
9. Biomass & Bioenergy.
10. Water Research.
11. Biofuels
12. Energy Technology

13. *Electrochimica Acta*
14. *Energies*
15. *Journal of the Taiwan Institute of Chemical Engineering*
16. *Royal Society Open Science*

E. Executed Project

1. Taiwan Philippine Sandwich Project 2019.
2. Microbial fuel cell as a biological detector-hexavalent chromium ion and biochemical oxygen demand detection.
3. Strengthen the symbiosis of sewage microorganisms and algae with biological power generation technology to accelerate sewage degradation and power generation efficiency.
4. Research on the use of non-precious metal catalysts in enhancing the degradation rate of microbial fuel power in wastewater and the added value of the plate performance of the electricity generation system.
5. Developed a multifunctional intelligent solar tracking solar lighting biological self-cleaning system with disaster monitoring and mosquito replenishment.
6. Development of intelligent lighting monitoring biodegradation system.
7. Integrated fluid mixing technology and microbial fuel cell system design, miniaturized multi-channel environmental toxicity sewage sensor series application research.
8. Integrate microbial fuel cell technology and flow control technology to strengthen large-scale sewage treatment and power generation application research.

9. Analysis of the electrical effects of hybrid bio-catalysis on microbial fuel cells.
10. The Ministry of Education's Clean Energy System Integration and Application Talent Cultivation Project of Donghua East District Education Promotion Center.
11. 107 ASP 17 – Advances in Sustainable Energy from Wastewater and Role of Sustainable Polymers in Energy Harvesting.
12. Bio-enhanced leaching technology of valuable metals in electronic waste.
13. Analyze the wind field of solar photovoltaic facilities with fluid mechanics technology and propose wind loss improvement strategies.
14. Design of autonomous microbial fuel cell micro-biological sensor.
15. Strengthen the symbiosis of sewage microorganisms and algae with biological power generation technology to accelerate sewage degradation and power generation efficiency.
16. Experimental discussion on the interaction between fluid and plate material in wastewater bioenergy reactor system.
17. Using system flow field design and photo-catalyst burning technology to strengthen the efficiency analysis of organic wastewater energy conversion.
18. Integrate microbial fuel cells in wind/light energy system applications.
19. Use external chaotic domestication stimulation technology to enhance wastewater degradation and productivity efficiency.
20. Green Energy Resource Integration System.
21. Application of flow control and electro-spinning technology in the

design of enhanced sewage and wastewater metabolism and electricity generation system.

22. Automobile Fuel Economy Standards and Label: Implementation Possibilities in Malaysia.
23. Analysis of modularization technology for sewage treatment microbial fuel cell system.
24. University Interdisciplinary Problem Solving Oriented Course (Type B) Project-Talking about Environmental Energy Resources from Waste Treatment Sourced reuse.

■ Professional Service

A. Student Advisor

1. Best Paper Award- Bhanupriya Das (IIT Gauwahati), India. 2019 Theory and Technique Taiwan Forum on Sustainable Environment-Aademic Exchange and Job Fair. (2019 T& T TFOSE)
2. The Honorable Mention Award of oral presentation- Rong Chen, Wu, Taiwan. 2019 The 14th National Conference on Hydrogen Energy and Fuel Cells.
3. The Champion of poster in group of institutes-Yi-Ting, Lee, Taiwan 2018 Green Energy Conference.
4. The Honorable Mention Award of poster- Zi-Xuan, Lan, Taiwan.2018 Green Energy Conference.
5. The Champion of oral paper- Rong Chen, Wu, Taiwan. The 13th National conference on Hydrogen Energy and Fuel Cells.
6. Gold Award- With Prof. Wen-Tong, Zhang, Malaysia PECIPTA 2017
7. The best design- Rui-Sen, Lu, Taiwan. 2017 National College Cup

Fuel Cell Energy-saving Vehicle Competition.

8. Champion in group of Renewable energy or cross-field green energy integration application group - Rong Chen, Wu, Taiwan.
9. 2017 The 12th National Hydrogen Energy and Fuel Cell Academic Conference and the 4th National Energy Society Annual Meeting9. The Honorable Mention Award-Jing, Xu, Taiwan.
10. 2017 Functional Materials Seminar and the Ministry of Science and Technology Special Research Project Results Presentation.
11. 2nd place- Zi-Xuan, Lan and other 5 students, Taiwan.2017 National Biomass Energy Technology Innovation Competition
12. Champion- Chun-Yuan, Huang and other 5 students, Taiwan. 2016 The 8th National Student Cup Hydrogen Vehicle Competition.
13. 2nd place- Ming-Yan, Cheng, Taiwan. 2016 Golden Hand Award, National Taipei University of Technology Engineering College.
14. 3rd place- Zi-Xuan, Lan, Taiwan. 2016 Golden Hand Award, National Taipei University of Technology Engineering College
15. GOLD & BEST AWARD- With Prof. Wen-Tong, Zhang, Malaysia, PECIPTA 2015.
16. The Honorable Mention Award- Bing-Xue, Wu and other 3 students, Taiwan 2015 Energy storage technology creative poster contest.
17. The Honorable Mention Award- Bo-Yu, Huang, Taiwan. 2015 National Yilan University College of Engineering Special Research Achievement Competition.