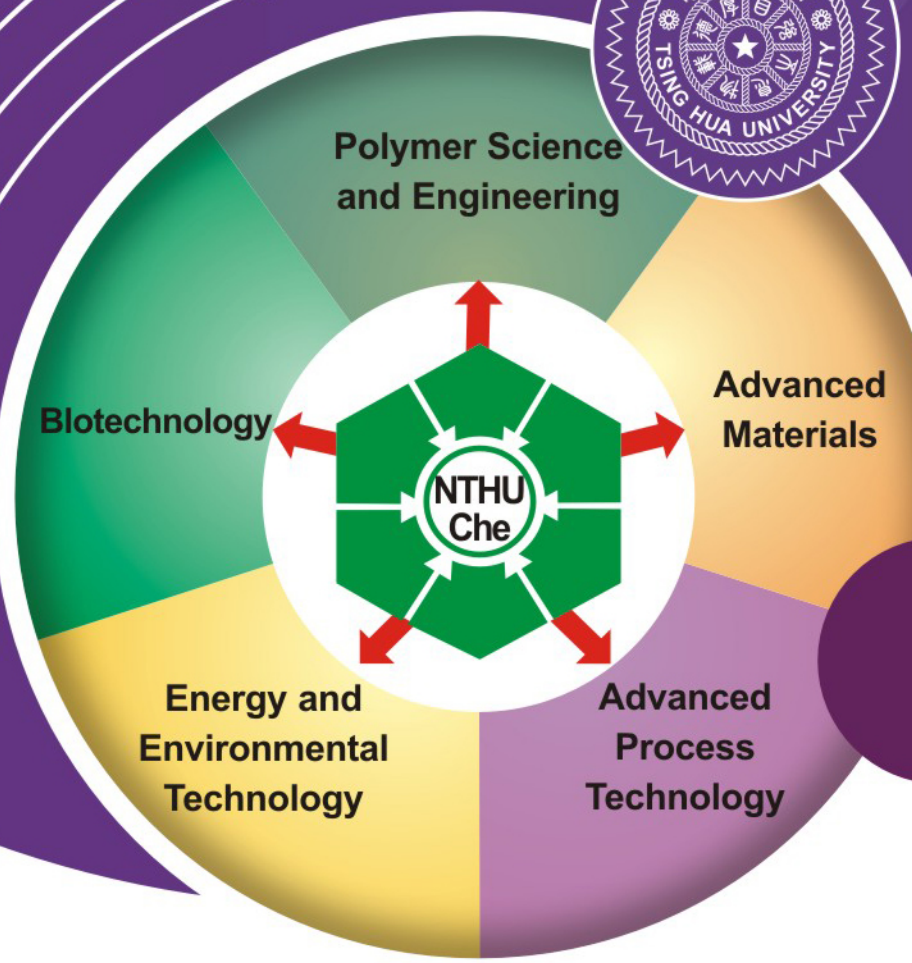
National Tsing Hua University

Department of Chemical Engineering

國立清華大學化學工程學系



清大化工

教授著作目錄 (2017～2021)

Publication List of Faculty Members

April, 2022

Faculty Members

Publications of Hsin-Lung Chen (陳信龍)

A. Journal Papers (* Corresponding author)

2021

1. Young, C.-M.; Chang, C.-L.; Chen, Y.-H.; Chen, C.-Y.; Chang, Y.-F.; **Chen, H.-L.*** Dendrimer-mediated Columnar Mesophase of Surfactant. *Soft Matter*, 2021, 17, 397.

2. Mansel, B.W.; **Chen, H.-L.*** Structure of DNA-PAMAM Dendrimer Complexes Studied Using Small-angle Scattering Techniques. *Current Medicinal Chemistry*, 2021, 28, 7529.

3. Chiu, Y.-L.; Chen, S.-C.; Su, C.-J.; Hsiao, C.-W.; Chen, Y.-M.; **Chen, H.-L.**; Sung, H.-W. pH-triggered injectable hydrogels prepared from aqueous N-palmitoyl chitosan: In vitro characteristics and in vivo biocompatibility. *BIOMATERIALS*, 2021, 30, 4877.

4. Mansel, B.W.; Su, C.-J.; Chen, C.-Y.; Young, C.-M.; Huang, Y.-C.; Yang, C.-C.; **Chen, H.-L.*** Superhelical DNA liquid crystals from dendrimer-induced DNA compaction. *Soft Matter*, 2021, 17, 7287.

5. Lin, Y.-H.; Shiu, C.-C.; Chen, T.-L.; **Chen, H.-L.***; Tsai, J.-C. Solubilization Behavior of Homopolymer in Its Blend with the Block Copolymer Displaying the Feature of Lower Critical Ordering Transition. *Polymers*, 2021, 13, 3415.

6. Chen, L.-T.; Huang, Y.-T.; Chen, C.-Y.; Chen, M.-Z.; **Chen, H.-L.*** Thermodynamically Originated Stacking Fault in the Close-Packed Structure of Block Copolymer Micelles. *Macromolecules*, 2021, 54, 8936.

7. Nouri, B.; Chen, C.-Y.; Huang, Y.-S.; Mansel, B.W. Chen; **Chen, H.-L.*** Emergence of a Metastable Laves C14 Phase of Block Copolymer Micelle Bearing a Glassy Core. *Macromolecules*, 2021, 54, 9195.

8. Bolouki, N.; Hsu, Y.-N.; Hsiao, Y.-C.; Jheng, P.-R.; Hsieh, J.-H.; **Chen, H.-L.**; Mansel, B.W.; Yeh, Y.-Y.; Chen, Y.-H.; Lu, C.-X.; Lee,J.-W.; Chuang, E.-Y. Cold atmospheric plasma physically reinforced substances of platelets-laden photothermal-responsive methylcellulose complex restores burn wounds. *International Journal of Biological Macromolecules*, 2021, 192, 506.

9. Chen, Y.-H.; Chuang, E.-Y.; Jheng, P.-R.; Hao, P.-C.; Hsieh, J.-H.; **Chen, H.-L.**; Mansel, B.W.; Yeh, Y.-Y.; Lu, C.-X.; Lee, J.-W.; Hsiao, Y.-C.; Bolouki, N. Cold-atmospheric plasma augments functionalities of hybrid polymeric carriers regenerating chronic wounds: In vivo experiments. *Materials Science and Engineering: C*, 2021, 131, 112488.

10. Chu, C.-Y.; Chen, M.-Z.; Li, W.-H.; Tsai, J.-C.; **Chen, H.-L.*** Confined crystallization in the binary blends of diblock copolymers bearing stereoisomeric isotactic and syndiotactic polypropylene. *Polymer Crystallization*, 2021, 4, 10213.

2020

11. Hsu, N.-W.; Nouri, B.; Chen, L.-T.; **Chen, H.-L.*** Hexagonal Close-Packed Sphere Phase of Conformationally Symmetric Block Copolymer. *Macromolecules*, 2020, 52, 9665.

12. Mansel, B.W.*; Ryan, T.M.; **Chen, H.-L**; Williams, M.A.K. Polysaccharide conformations measured by solution state x-ray scattering. *Chemical Physics Letters*, 2020, 739, 136951.

13. Mansel, B.W.; **Chen, H.-L***; Structure of DNA-PAMAM Dendrimer Complexes Studied Using Small-angle Scattering Techniques. *Current Medicinal Chemistry*, 2020, 28, 7529.

14. Young, C.-M.; Chang, C.-L.; Chen, Y.-H.; Chen, C.-Y.;Chang, Y.-F.; **Chen, H.-L.*** Dendrimer-mediated Columnar Mesophase of Surfactant. *Soft Matter*, 2020, 17, 397.

15. Lin, Y.-J.; Chen, C.-C.; Nguyen, D.; Su, H.-R.; Lin, J.-J.; **Chen, H.-L**.; Hu, Y.-J.; Lai, P.-L.; Sung, H.-W.* Biomimetic Engineering of a Scavenger-Free Nitric Oxide-Generating/Delivering System to Enhance Radiation Therapy. *Small*, 2020, 16, 2000655.

16. Nhien, P.Q.; Cuc, T.T.K.; Khang, T.M.; Wu, C.H.; Hue, B.T.B.; Wu, J.I.; Mansel, B.W.; **Chen, H.-L**.; Lin, C.-H.* Highly Efficient Förster Resonance Energy Transfer Modulations of Dual-AIEgens between a Tetraphenylethylene Donor and a Merocyanine Acceptor in Photo-Switchable [2]Rotaxanes and Reversible Photo-Patterning Applications. *ACS Applied Materials & Interfaces*, 2020, 12, 47921.

2019

17. Mansel, B.W.; Ryan, T.M.; **Chen, H.-L.**; Williams, M.A.K. Polysaccharide conformations measured by solution state x-ray scattering. *Chemical Physics Letters*, 2019, 792, 136951.

18. Mansel, B.W.; Chen, C.-Y.; Lin, J.-M.; Huang, Y.-S.; Lin, Y.-C.; **Chen, H.-L.*** Hierarchical Structure and Dynamics of a Polymer/Nanoparticle Hybrid Displaying Attractive Polymer–Particle Interaction. *Macromolecules*, 2019, 52, 8741.

19. Chen, M.-H.; Lai, C.-C.; **Chen, H.-L.**; Lin, C.-H.; Hsiao, H.-T.; Liu, L.-C.; Chen, C.-M. Preparation of long-chain branched polyethylene terephthalates (PETs), and crystallization behaviors, thermal characteristics, and hydrolysis resistance of their biaxially stretching films. *Journal of Physics and Chemistry of Solids*, 2019, 129, 354.

20. Chen, L.-T.; Chen, C.-Y.; **Chen, H.-L.*** FCC or HCP: The stable close-packed lattice of crystallographically equivalent spherical micelles in block copolymer/homopolymer blend. *Polymer*, 2019, 169, 131.

21. Lin, P.-Y.; Chen, K.-H.; Miao, Y.-B.; **Chen, H.-L.**; Lin, K.-J.; Chen, C.-T.; Yeh, C.-N.; Chang, Y.; Sung, H.-W. Phase-Changeable Nanoemulsions for Oral Delivery of a Therapeutic Peptide: Toward Targeting the Pancreas for Antidiabetic Treatments Using Lymphatic Transport. *Advanced Functional Materials*, 2019, 29, 1809015

22. Mansel, B.W.; Irani, A.H.; Ryan,T.M.; McGillivray, D.J.; **Chen, H.-L**.; Williams, M.A.K. Resolving solution conformations of the model semi-flexible polyelectrolyte homogalacturonan using molecular dynamics simulations and small-angle x-ray scattering. *The European Physical Journal E*, 2019, 42, 19.

23. Lai, C.-C.; Chen, S.-Y.; Chen, M.-H.; **Chen, H.-L**.; Hsiao, H.-T.; Liu, L.-C.; Chen, C.-M. Preparation and characterization of heterocyclic polyamide 6 (PA 6) with high transparencies and low hygroscopicities. *Journal of Molecular Structure*, 2019, 1175, 836.

24. Young, C.-M.; Chang, Y.-F.; Chen, Y.-H.; Chen, C.-Y.; **Chen, H.-L.*** Ribbon Phase of Dendrimer−Surfactant Complexes. *Macromolecules*, 2019, 52, 9177.

2018

25. Lai, C.-C.; Yu, C.-T.; Chen, M.-H.; **Chen, H.-L.**; Wang, F.-M.; Lin, C.-H.; Liu, L.-C.; Chen, C.-M. Design of long-chain branched copolyesters and manufacture as well as physical properties of their extrusion films. *React. Funct. Polym.*, 2018, 122, 98.

26. Jeng, H.-Y.; Yang, T.-C.; Yang, L.; Grote, J. G.; **Chen, H.-L.**; Hung, Y.-C. Non-volatile resistive memory devices based on solution-processed natural DNA biomaterial. *Org. Electron*., 2018, 54, 216.

27. Zhang, Y.; Mansel, B. W.; Naffa, R.; Cheong, S.; Yao, Y.; Holmes, G.; **Chen, H.-L.**; Prabakar, S. Revealing Molecular Level Indicators of Collagen Stability: Minimizing Chrome Usage in Leather Processing. *ACS Sustainable Chemistry & Engineering*, 2018, 6, 7096.

28. Jeng, K. S.; Chu, C. W.; Liu, C. L.; Jean, W. M.; **Chen, H. L.***; Chen, J. T.* Orientation Preferences of Interchain Stackings for Poly(3-hexylthiophene) Nanowires Prepared Using Template-Based Wetting Methods. *Macromol. Chem. Phys*., 2018, 219, 1800078.

29. Lin, C.-H.; Higuchi, T.; **Chen, H.-L.***; Tsai, J.-C.; Jinnai, H.*; Hashimoto, T.* Stabilizing the Ordered Bicontinuous Double Diamond Structure of Diblock Copolymer by Configurational Regularity. *Macromolecules*, 2018, 51, 4049.

30. Chuang, E.-Y.; Lin, K.-J.; Huang, T.-Y.; **Chen, H.-L.**; Miao, Y.-B.; Lin, P.-Y.; Chen, C.-T.; Juang, J.-H.; Sung, H.-W. An Intestinal "Transformers"-Like Nanocarrier System for Enhancing the Oral Bioavailability of Poorly Water-Soluble Drugs. *ACS Nano.*, 2018, 12, 6389.

31. Liu, C.-L.; **Chen, H.-L.*** Crystal Orientation of Poly(ethylene oxide) Confined Within the Nanorod Templated by Anodic Aluminum Oxide Nanochannels. *Soft Matter*, 2018, 14, 5461.

32. Chen, M.-H.; Lai, C.-C.; **Chen, H.-L.***.; Lin, Y.-H.; Huang, K.-Y.; Lin, C.-H.; Hsiao, H.-T.; Liu, L.-C.; Chen, C.-M. Preparation of photosensitive polyimides (PSPIs) and their feasible evaluation for lithographic insulation patterns (LIPs) of integrated circuits (ICs) without negative photoresists. *Materials Science in Semiconductor Processing*, 2018, 88, 132.

33. Zhu, B.*; Zhang, J.; Lin, C.-H.; **Chen, H.-L.***.; Wang, J. Nonisothermal Crystallization Kinetics of Ethylene Vinyl Alcohol Copolymer with Poly (oxypropylene) diamine Intercalated Montmorrilonite. *J. Macromol. Sci. Part B. Physics*, 2018, 57, 333.

34. Huang, Y.-C.; Su, C.-J.; Korolev, N.; Berezhnoy, N.V.; Wang, S.; Soman, A.; Chen, C.-Y.; **Chen, H.-L.**; Jeng, U-S.; Nordenskiöld, L. The effect of linker DNA on the structure and interaction of nucleosome core particles. *Soft Matter,* 2018, 14. 9096.

35. Chu, C.-Y.*; Pei, R.-Y.; **Chen, H.-L.*** Order-Order Transition from Ordered Bicontinuous Double Diamond to Hexagonally Packed Cylinders in Stereoregular Diblock Copolymer/Homopolymer Blends. *Macromolecules*, 2018, 51, 8493.

2017

36. Wang, F.-S.; Wang, T.-F.; Lu, H.-H.; Ao-Ieong, W.-S.; Wang, J.; **Chen, H.-L.***; Peng, C.-H.* Highly Stretchable Free-Standing Poly(acrylic acid)-block-poly(vinyl alcohol) Films Obtained from Cobalt-Mediated Radical Polymerization. *Macromolecules*, 2017, 50, 6054.

37. Wan, W.-L.; Lin, Y.-J.; **Chen, H.-L.**; Huang, C.-C.; Shih, P.-C.; Bow, Y.-R.; Chia, W.-T.; Sung, H.-W. In Situ Nanoreactor for Photosynthesizing H2 Gas To Mitigate Oxidative Stress in Tissue Inflammation. *J. Am. Chem. Soc.*, 2017, 139, 12923.

38. Tsai, C.-Y.; Zhang, Q.; Wang, Y.-Z.; Shyong, J.; **Chen, H.-L.**; Liaw, D.-J. Enhancing the emission of hexa-peri-hexabenzocoronene-containing polynorbornene via electron donating, unsymmetric constitution and solvent effects. *Polymer Chemistry*, 2017, 8, 3327.

39. Singh, S.; Samanta, P.; Srivastava, R.; Horechyy, A.; Reuter, U.; Stamm, M.; **Chen, H.-L.**; Nandan, B. Ligand displacement induced morphologies in block copolymer/quantum dot hybrids and formation of core-shell hybrid nanoobjects. *Phys. Chem. Chem. Phys.*, 2017, 19, 27651.

40. Samanta, P.;Srivastava, R.; Nandan, B.*; **Chen, H.-L.*** Crystallization Behavior of Crystalline/Crystalline Polymer Blends Under Confinement in Electrospun Nanofibers of Polystyrene/Poly(ethylene oxide)/Poly(ε-caprolactone) Ternary Mixtures. *Soft Matter,* 2017, 13, 1569.

41. Liu, C.-Y.; **Chen, H.-L.*** Undulating the Lamellar Interface of Polymer–Surfactant Complex by Dendrimer. *Macromolecules*, 2017, 50, 6501.

42. Lin, Y.-H.; **Chen, H.-L.***; Goseki, R.; Hirao, A. Phase Structure of the Exact Graft Copolymer Synthesized by Iterative Methodology Based on Living Anionic Polymerization. *Macromol. Chem. Phys.*, 2017, 218, 1700150.

43. Lin, P.-Y.; Chuang, E.-Y.; Chiu, Y.-H.; **Chen, H.-L.**; Lin, K.-J.; Juang, J.-H.; Chiang, C.-H.; Mi, F.-L.; Sung, H.-W. Safety and efficacy of self-assembling bubble carriers stabilized with sodium dodecyl sulfate for oral delivery of therapeutic proteins. *J. Controlled Release*, 2017, 259, 168.

44. Liu, C.-L.; **Chen, H.-L.*** Variable Crystal Orientation of Poly(ethylene oxide) Confined within the Tubular Space Templated by Anodic Aluminum Oxide Nanochannels. *Macromolecules*, 2017, 50, 631.

Publications of Show-An Chen (陳壽安)

A. Journal Papers (* Corresponding author)

2021

1. Shuo En Wu, Sunil Sharma, Hsin-Lung Chen, **Show-An Chen***, Pavel V. Komarov, Viktor A. Ivanov, and Alexei R. Khokhlov, "Effective Hole Injection to Core-Shell Quantum Dot for Electroluminescence Across Large Barrier 1.4 eV Through Single Conjugated Polymer with Four Stepwise HOMO Levels in Inverted QLED", *Advanced Optical Materials*, accepted 2022, 02 (adom.202102508R1)

2. Miao-Ken Hung, Kuen-Wei Tsai, Sunil Sharma, Jun-Yi Wu, and **Show-An Chen***, Poly(Acridan Grafted Biphenyl Germanium) as Universal Host for High-Efficiency Thermally Activated Delayed Fluorescence Full-Color and their Hybrid with Phosphor for White Light Electroluminescence, *ACS Appl. Mater. Interfaces*, under revision 2022, 02, 10.

3. Dang-Trung Nguyen, Sunil Sharma, **Show-An Chen***, Pavel V. Komarov, Viktor A. Ivanov, and Alexei R. Khokhlov, "Polymer-quantum dot composite hybrid solar cells with bi-continuous network morphology by using the block copolymer Poly(3-hexylthiophene)-b-polystyrene or its blend with Poly(3-hexylthiophene) as donor", *Materials Advances,2021, 2, 1016-1023*.

2020

4. Pavel V. Komarov,* Pavel O. Baburkin, Viktor A. Ivanov, Yi-Lun Li, **Show-An Chen**, and Alexei R. Khokhlov, "Mesoscale Simulations on Morphology Design in Conjugated Polymers and Inorganic Nanoparticles Composite for Bulk Heterojunction Solar Cells", *Solar Rapid Research Letter, 2020, 2000352*

2019

5. Phu Si Ngo, Miao-Ken Hung, Kuen-Wei Tsai, Sunil Sharma, and **Show-An Chen***, Highly Efficient Solution-Processed TADF Sky-Blue and Hybrid White Organic Light-Emitting Diodes Using Novel Bipolar Host Materials, *ACS Appl. Mater. Interfaces, 11, 49, 45939-45948 (2019)*

6. Miao-Ken Hung, Kuen-Wei Tsai, Sunil Sharma, Jun-Yi Wu, and **Show-An Chen***, Optoelectronic Properties of High Triplet σ–π Conjugated Poly[(biphenyl Group-IVA-atom (C, Si, Ge, Sn)] Backbones, *ACS Appl. Mater. Interfaces,* 11, 40, 36895-36904 (2019).
7. Miao-Ken Hung, Kuen-Wei Tsai, Sunil Sharma, Jun-Yi Wu, and **Show-An Chen***, Acridan Grafted Poly(biphenyl germanium) with High Triplet Energy, Low Polarizability and External Heavy-Atom Effect for Highly Efficient Sky-Blue TADF Electroluminescence, *Angew. Chem. Int. Ed.*, 58,11317-11323 (2019).
8. Pavel V. Komarov*, Pave O. Baburkin, Viktor Ivanov, **Show-An Chen** and Alexei R. Khokhlov, Controlling Morphology of the Polymer Photoactive Layer in Photovoltaic Elements: Mesoscopic Simulation, *Doklady Physical Chemistry*, 2019, Vol. 485, Part 1, pp. 39–42 (2019).
9. Pavel V. Komarov*, Pave O. Baburkin, Viktor Ivanov, **Show-An Chen** and Alexei R. Khokhlov, Controlling the morphology of hybrid polymer/nanoparticles active layer of solar cell: mesoscopic simulation, *Mol. Syst. Des. Eng.*, 4, 390-395 (2019)
10. Kuen-Wei Tsai, Miao-Ken Hung, and **Show-An Chen***, "Solution Processed Thermally Activated Delayed Fluorescent OLED with High EQE as 31% Using High Triplet Energy Crosslinkable Hole Transport Materials", *Adv. Funct. Mater. 1901025 (2019)*

2018

11. Kuen-Wei Tsai, Yun-Chung Wu, Tzu-Hao Jen and **Show-An Chen***,"Electric-Field-Induced Excimer Formation at Interface of Deep-Blue Emission Poly(9,9-dioctyl-2,7-fluorene) with Polyelectrolyte or Its Precursor as Electron Injection Layer in Polymer Light Emitting Diode and Its Prevention for Stable Emission and Higher Performance", *ACS Appl. Mater. Interfaces*, 10, 26422−26433 (2018)
12. Hong-Jyun Jhuo, Sunil Sharma, Hsin-Lung Chen, and **Show-An Chen***, Nonvolatile Morphology Regulator for Enhancing Molecular Order in Active Layer and therefore Power Conversion Efficiency of Polymer Solar Cells, *Journal of Materials Chemistry A*, 6, 8874–8879 (2018)
13. Kai Lin Woon*, Azhar Ariffin,* Kar Wei Ho and **Show-An Chen**, "Effect of conjugation and aromaticity of 3,6 disubstituted carbazoles on triplet energy and the implication of triplet energy in multiple-cyclic aromatic compounds, *RSC Adv.*, 8, 9850 (2018).

14. Jiuan-Yih Wu and **Show-An Chen***, "Highly Efficient Thermally Activated Delay Fluorescent White Organic Light-Emitting Diodes with Single Emission Layer by Solution-Process", *ACS Appl. Mater. Interfaces, **10**, 4851−4859 (2018)*

2017

15. Jiuan-Yih Wu and **Show-An Chen***, "Highly Efficient Thermally Activated Delay Fluorescent White Organic Light-Emitting Diodes with Single Emission Layer by Solution-Process", *ACS Applied Materials & Interfaces*, accepted December 29, 2017

16. Yi-Lun Li, Po-Nan Yeh, Sunil Sharma and **Show-An Chen***, "Promotion of power conversion efficiency of quantum dot solar cell and its tandem solar cell with low bandgap polymer:$PC_{71}BM$ by water vapor treatment on quantum dot layer surface", *J. Matter. Chem.-A,* **5**, 21528–21535 (2017).

17. Tzu-Hao Jen and **Show-An Chen***, "Singlet Exciton Fraction in Electroluminescence from Conjugated Polymer", *Scientific Reports,* **7:** *2889* | DOI:10.1038/s41598-017-02115-2 (2017).

18. Hong-Ren Syue, Miao-Ken Hung, Yao-Tang Chang, Ge-Wei Lin, Yu-Hsuan Lee and **Show-An Chen***, "High Brightness Fluorescent White Polymer Light-Emitting Diodes by Promoted Hole Injection via Reduced Barrier by Interfacial Dipole Imparted from Chlorinated Indium Tin Oxide to Hole Injection Layer", *ACS Applied Materials & Interfaces*, **9,** 3824−3830 (2017)

19. Zainal AbidinHasan, KaiLinWoon*, WahSengWong, AzharAriffin, **Show-An Chen**, "Solution processed multilayered green and blue phosphorescent organic light emitting diodes using carbazole dendrimer as a host, *J. Luminescence,* 183, 150–158 (2017)

B. Conference Presentations

2020

1. **Show-An Chen***, "Conjugated polymer/nanoparticle hybrid systems for opto-electronic interconversion: experiment, theory and computer simulation", 2020 MOST Science and Technology International Cooperation Research Symposium, North America - Asia Pacific – Europe, 2020-10-20~21, Taipei **(Invited Speaker)**

2019

2. **Show-An Chen***, "Semiconductive Polymers for Opto-Electronic Interconversion", Tsing Hua University, Chemical Engineerign Department, Beijing, China, March 27, 2019 and Fudan University, Department of Macromolecular Science, Shanghai, March 29, 2019 **(Invited Speaker)**

3. **Show-An Chen***, "Semiconductive Polymers for Opto-Electronics", the 3rd BILATERAL WORKSHOP between Chemical Engineering Dept., National Tsing Hua University – Taiwan and Faculty of Chemistry, University of Science – Vietnam National University HCMC, March 13, 2019 at VNU, HCMC **(Invited Speaker)**

4. **Show-An Chen***, "Semiconductive Polymers for Electroluminescence: Progress and Perspective", Nano Science & Technology 2019, Suzhou, China, Oct. 20~22, 2019 **(Invited Speaker)**

5. **Show-An Chen***, "高分子半導体之光電互換: 進展與展望 (Semiconductive Polymers for Opto-Electronic Interconversion: Progress and Perspective)", 成功大學化工系「百瀨五十教授紀念講座演講」, 2019-11-13, Tainan, Taiwan **(Plenary Speaker)**

6. **Show-An Chen***, "對高分子半導體及水溶性導體之貢獻 Contributions on Semiconductive Polymers and water soluble conductive polymers", 台湾石化合成公司學術貢獻獎, 於台大積學館松柏講堂, 2019-12-21 **(Plenary Speaker)**

2018

7. **Show-An Chen***, "Synthesis of Electrically Conductive Polymers", 2018 Kingdom of Saudi Arabia's "First International Collaboration Conference" hosted by the Ministry of Education, Kingdom of Saudi Arabi, the Ministry of Education, RIYADH, Kingdom of Saudi Arabia, April 23~24 (2018) **(Invited Speaker)**

2017

8. **Show-An Chen***, "Molecular Design and Morphological Control on Polymer Solar Cell for High Performance", EMN- Polymer and Thin Film Photovoltaic Cells" workshop, Siem Reap, Cambodia, 2017-03-07~8. **(Keynote speaker).**

9. **Show-An Chen***, “Hybrid of Quantum Dot and Conjugated Polymer for Opto-Electronics”, 2017 第十三屆海峽兩岸奈米科學與技術研討會，江陰，江蘇省, 2017-04-19~21.**(Invited speaker).**

10. **Show-An Chen***, “Progress of Semiconductive Polymers for Opto-Electronic Interconversion”, Japan-Taiwan Bilateral Polymer Symposium 2017: JTBPS 2017, Yonezawa, Japan, September 5-8 (2017). **(Plenary Speaker)**

11. **Show-An Chen***, “Semiconductive Polymers for Opto-Electronic Interconversion”, IUPAC-FAPS 2017 Polymer Congress, Smart Polymers for Emerging Technologies : Commemorating the 10th Anniversary of Federation of Asian Polymer Societies, October 11 ~13, 2017, Jeju, Korea. **(Invited Speaker).**

12. **Show-An Chen***, “Semiconductive Polymers for Opto-Electronic Interconversion”, 2017 Taiwan-Russia Bilateral Conference on Laser Optics, Photonics and Quantum Information, National Taiwan University of Science and Technology, Taipei, Taiwan, November 5~7, 2017. **(Invited Speaker)**

C. Patents

1. 可加工的異硫口塞系高分子製備方法

(Method for Preparing Processable Poly(isothianaphene))

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 李進昌

(中華民國發明專利(ROC Patent), 第 074154 號 (1995.10.11.~2014.2.17))

(U.S. Patent, 5,510,457 (1996.4.23))

(U.S. Patent, 5,696,206 (1997.12.9~2016.1.11))

(Japanese Patent,2,561,804 (1996.9.19))

2. 適合作為二次電池的導電高分子複合體之正極活性物質

(Electroconductive Polymer Composites as Positive Electrode Active Materials in Secondary Batteries)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 林良昌

(中華民國發明專利(ROC Patent)，第 083651 (1996.12.21~2014.3.24))

(U.S. Patent, 5,667,913 (1997.9.16~2015.3.23))

(U.S. Patent, 5,849,045 (1998.12.15~2017.3.27))

3. 水可溶性自身摻雜聚苯胺衍生物及其摻合體之製造方法

(Water-Soluble Self-Acid-Doped Polyaniline, Method of Preparation Thereof, and Polymer Blends Made Therefrom)

發明人(inventors)：**陳壽安 (Show-An Chen)**, 黃桂武

(中華民國發明專利(ROC Patent),第 283711 號 (1996.8.21~2015.2.15))

(U.S. Patent, 5,641,859 (1997.6.24~2015.7.12))

(U.S. Patent, 5,804,649 (1998.9.8~2017.7.21))

4. 可溶於低沸點有機溶劑且具高分子量之聚氮-烷基(或醚基)苯胺及其摻合體之製造方法

(Process for Preparation of N-alkylated or N-alkoxyalkylated Polyanilines Soluble in Organic Solvents Having Low Boiling Points)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 吳冠瑩, 林志雄, 黃桂武

(中華民國發明專(ROC Patent),第 094968 號 (1998.6.21~2016.10.15))

(U.S. Patent, 5,756,601 (1998.5.26~2017.1.28))

5. 水可溶性自身摻雜聚苯胺衍生物及其摻合體之製造方法追加一

(Preparation of Self-Acid-doped Sulfonic Acid Ring-Substituted Polyaniline in its Aqueous Form, and Polymer Blends Made Therefrom)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 黃桂武

(中華民國發明專利(ROC Patent),第 374776 號 (1996.8.21-2015.2.15))

(U.S. Patent, 5,821,344 (1998.10.13~2017.1.22))

6. 一種可溶性自身酸摻雜聚苯胺衍生物之結構及其製法

(A water Soluble Self-Doped Polyaniline Derivatives and process for preparing the same)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 林顯光

(中華民國發明專利(ROC Patent),第 472069 號 (2002.1.11-2018.3.10)

(U.S. Patent, 5,891,970 (1998.7.2~2018.7.1))

7. 可發射近白光寬頻光譜之高分子發光二極體之製作方法

(Fabrication of Polymer Light-Emitting Diodes with Broad Emission Spectra Near White Light)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 張恩崇, 莊坤儒

(中華民國專利(ROC Patent),第 115288 號 (2000.6.1-2018.3.10))

(日本發明專利(Japanese Patent) 審查中，1997 年)

(US. Patent 6, 127, 693 (1995.6.8-2015.6.7))

8. 高陰電性雜環基團改質之電致發光共軛高分子製備方法及其在高分子發光二極體上之應用

(Electroluminescent Conjugated Polymers Modified with High Electronegative Heterocyclic Moieties and Their Applications in Polymeric Light Emitting Diodes)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 李裕正

(中華民國專利(ROC Patent),第 143285 號 (2001.10.21-2019.5.12))

(US Patent 6,495,644 B1 (2002.10.15-2020.12.29))

9. 非水溶液之有機二次電池

(Non-aqueous organic secondary battery)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 梁凱閔, 楊蘭生, 李仁傑

(中華民國專利(ROC Patent), 第 173442 號 (2003.03.01-2021.10.4))

10. 適合作為二次電池之隔離膜的化學交聯聚丙烯腈高分子電解質的製作方法

(Method for preparation of chemically crosslinked polyacrylonitrile polymer electrolyte as separator for secondary battery)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 薛淵傑, 李仁傑, 王博生

(中華民國專利(ROC Patent), 第 I 237643 號 (2005.08.11-2022.05.13))

11. 含磷光發光基團之發光共軛高分子及其在發光二極體上之應用

(Electroluminescent conjugated polymers containing phosphorescent moieties and the application thereof in LED)

發明人：(inventors)：**陳壽安 (Show-An Chen)**, 陳希文, 廖金龍, 梁永民

(中華民國專利，第 I 267545 號)(2006.12.1-2023.6.16)

(US. Patent, 7,098,295 B2 (2003.12.16-2020.12.15))

12. 側鏈帶有兩種以上相對於主鏈具階梯式離子化位能(或電子親和性)載子傳輸基團之發光共軛高分子及其在發光二極體上之應用

(Conjugated polymers grafted with graded charge transporting moieties and their application in light-emitting diodes)

發明人(inventors)：**陳壽安 (Show-An Chen)**, 黃智偉, 彭剛勇, 劉景洋

(中華民國專利: 第 I 362409 號 (2012-04-21~2027-09-05))

13. 以濕式浸潤擴散法進行高分子發光二極體光色調控、效能提升以及多色元件製作(Method of increasing β-phase content in a conjugated polymer useful as a light emitting layer in a polymer light emitting diode)

發明人(inventors)：**陳壽安 (Show-An Chen)**, 盧信宏

(US patent, US 8287941 B2 (2012.10.16-2028.8.7)

14. 一種可應用於高分子發光二極體之由具有電子注入/傳遞功能的金屬離子鑲嵌入冠醚側鏈之共軛高分子與具有電洞阻擋功能的高分子組成之具水/醇類可溶解性電子注入/電洞阻擋複合層 (A water/alcohol soluble composite layer consisting of electron-injection/electron-transport crown ether/metal-ion grafted conjugated polymer and hole-blocking polymer and their application in organic light-emitting diode and organic solar cell)

發明人(inventors)：**陳壽安 (Show-An Chen)**, 盧信宏, 廖思豪

(中華民國專利: 第 I 480309 號 (2012.06.29-2032.06.28))

(US Patent:9,105,851 B2 (2015.08.11-2032.06.05)

D. Other

1. National Chair, in engineering and applied science offered by Educational Ministry, Republic of China (1999.8-2002.7; 2002.8-2005.7)

2. life-time National Chair in engineering and applied science offered by Educational Ministry, Republic of China (2005.8-date)

3. Editor-in-Chief, Journal of Polymer Research (Official Journal of the Polymer Society, Taipei; published by Springer Publisher), 1994-date

4. Advisory Board Members: Scientific Report (Nature Publishing), 2015-2017; Macromolecules (Amer. Chem. Soc.), 2011-2013; Asia Materials (Nature publishing), 2007-date; Polymer Review (Taylor & Francis), January 2005-date; Journal of Macromolecular Science (Taylor & Francis): Physics (1996-date).

5. Member (full) of Asian-Pacific Academy of Advanced Materials (1998-date).

6. Fellow, Taiwan Institute of Chemical Engineers (First Time)，2013.

7. Fellow, The Polymer Society, Taipei, (First Time)，2015.

8. Honorary Doctor Degree (*Doctor Honoris Causa*), Russian Academy of Sciences, (RAS) Moscow, Russia, December 13, 2016.

9. Member of EU Academy of Sciences, January 2018-date.

10. 台湾石化合成公司「學術貢獻獎」, December 21, 2019.

Publications of Sinn-wen Chen (陳信文)

A. Journal Papers (* Corresponding author)

2021

1. Y. Hutabalian and ***S.-W. Chen**, 2021, "Interfacial reactions in Ag/Se, Ag/Se-30at%Te and Ag_2Te/Se couples and the phase equilibria of the Ag-Se-Te ternary system", Journal of Alloys and Compounds, Vol. 889, 161580, (MOST 107-2923-E-007-005-MY3).

2. Y.-T. Lee, *E. J.-W. Liou, L.-L. Huang, H.-J. Wu and **S.-W. Chen**, 2021, "Effect of anodization on friction behavior of β-titanium orthodontic archwires", Journal of Orofacial Orthopedics, https://doi.org/10.1007/s00056-021-00347-6.

3. O. Fikar, J. Vrestal, A. Kroupa*, and **S.-W. Chen**, 2021, "The Study of the Pb-Se-Te Phase Diagram: Part 2 – The Thermodynamic Assessment of the Se-Te and Pb-Se-Te systems", Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, Vol. 74, 102309, (MOST 107-2923-E-007-005-MY3).

4. ***S.-W. Chen**, T.-Y. Huang, Y.-H. Hsu, J.-X. Liu, A. Zemanova and A. Kroupa, 2021, "Phase diagram of Pb-Se-Te system I: Experimental study", Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, Vol. 74, 102310, (MOST 107-2923-E-007-005-MY3)

5. A. F. Musa and ***S.-W. Chen**, 2021, "Interfacial reactions in Ni/Se-Sn, Ni/Se-Te, Ni/Sn-Te and Ni/Se-Sn-Te couples", Journal of Electronic Materials, Vol. 50, pp. 4346-4357 (MOST-107-2923-E-007-005 -MY3).

6. *W. Gierlotka, I.-T. Lin, **S.-W. Chen**, W. Gąsior and A. Dębski, 2021, "Re-optimization of the binary Sb-Se system aided by ab-initio calculations", Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, Vol. 73, 102257.

7. ***S.-W. Chen**, T.-N Kuo, J.-X. Liu, P.-C. Lo and Y.-W. Yen, 2021, "Phase equilibria and wetting of Al–Co–Cu and Al–Co–Ni quasicrystals", Materials Chemistry and Physics, Vol. 263, pp. 124409 (1-19). (MOST106-2221-E-007 -094 -MY3)

8. ***S.-W Chen**, Y.-H. Hsu, H.-W. Shih and H.-C. Huang, 2021, "Ag-Sb/Cu interfacial reactions and Ag-Cu-Sb phase equilibria", Journal of Alloys and Compounds, Vol. 855, 157239. (MOST 107-2923-E-007-005-MY3).

2020

9. J.-Y. Du, A. Zemanová, Y. Hutabalian, A. Kroupa and ***S.-W. Chen**, 2020, "Phase diagram of Ag-Pb-Sn system", Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, Calphad, Vol. 71, 101997. (MOST 107-2923-E-007-005-MY3).

10. A. Ramakrishnan, K. K. Kesavan, S. Chavhan, M. R. Nagar, J.-H. Jou*, **S.-W Chen***, H.-Wen Hsiao, J.-M. Zuo and L.Y. Hung, 2020, "Liquid Exfoliation of Decagonal Quasicrystal and Its Light Out Coupling Performance in Organic Light Emitting Devices", Advanced Photonics Research, pp. 2000042 (1-7). (MOST 106-2221-E-007-094-MY3 and MOST-109-2811-E-007-052).

11. A. F. Musa and ***S.-W. Chen**, 2020, "Interfacial reactions in Ni/PbSe", Journal of Electronic Materials, Vol. 49(10), pp. 6068-6072. (MOST-107-2923-E-007 -005 -MY3).

12. ***S.-W. Chen**, Y. Hutabalian, Z.-K. Hu, H.-H. Chen, H.-W. Shih and W. Wang, 2020, "Liquation phenomena in Sn/Bi_2Te_3, In/Bi_2Te_3 and Cu/Bi_2Te_3 couples", Acta Materialia, Vol. 196, pp. 418-429. (MOST 104-2221-E-007-090-MY3)

13. ***S.-W. Chen**, T.-Y. Huang, Y.-H. Hsu and A. Kroupa, 2020, "Phase diagram of Pb-Se-Sn system", Journal of Electronic Materials, Vol. 49(8), pp. 4714-4729. (MOST 107-2923-E-007 -005 -MY3)

14. A. Ramakrishnan, ***S.-W. Chen**, and Y. Hutabalian, 2020, "Ag-Se-Sn phase diagrams and Sn/Ag_2Se interfacial reactions", Journal of Alloys and Compounds, Vol. 816, 152670. (MOST 106-2221-E-007-094-MY3).

15. ***S.-W. Chen**, Y. Hutabalian, W. Gierlotka, C.-H. Wang and S.-T. Lu, 2020, "Phase diagram of Bi-In-Se ternary system", Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, Vol. 68, 101744 (1-16). (MOST104-2221-E-007-090-MY3 and MOST107-2221-E-259 -011).

2019

16. ***S.-W. Chen**, Y.-S. Peng and L.-C. Chen, 2019, "Co/$(Ag\text{-}41.0at\%Sb)_{1-x}Co_x$ and Ni/$(Ag\text{-}41.0at\%Sb)_{1-x}Ni_x$ interfacial reactions", Journal of Electronic Materials, Vol. 48 (9), pp. 5743-5756 (MOST 103-2221-E-007-021-MY3).

17. W. Gierlotka*, **S.-W. Chen**, S.-M. Tseng and P.-H Lin, 2019, "Co-In-Sb ternary system (II): Isoplethal section and thermodynamic modeling", Metallurgical and Materials Trasaction A, Vol. 50A(8), pp. 3891-3902, (MOST103-3113-P-008-001 and MOST105-2221-E-259 -004).

18. ***S.-W. Chen**, J.-M. Lin, T.-C. Yang and Y.-H. Du, 2019, "Interfacial reactions in the Cu/Ga/Co and Cu/Ga/Ni samples", Journal of Electronic Materials, Vol. 48(6), pp. 3643–3654, (MOST-104-2221-E-007-090-MY3).

19. ***S.-W. Chen**, T.-C. Yang, J.-M. Lin and T.-Y. Huang, 2019, "Interfacial reactions in the Co/In/Cu and Ni/In/Cu samples", Journal of Taiwan Institute of Chemical Engineers, Vol. 97, pp. 356-369, (MOST 104-2221-E-007 -090 -MY3).

20. ***S.-W. Chen**, Y. Hutabalian, S.-T. Lu, Y.-S. Peng and Y.-C. Lin, 2019, "Interfacial reactions in In/Bi_2Se_3, In/Bi_2Te_3 and In/$Bi_2(Se_{0.2}Te_{0.8})_3$ couples", Journal of Alloys and Compounds, Vol. 779, pp. 347-359, (MOST-104-2221-E-007-090 -MY3).

2018

21. V. B. Rajkumar and ***S.-W. Chen**, 2018, "Ag-Se phase diagram calculation associating ab-initio molecular dynamics simulation", Calphad, Vol. 63, pp. 51-60, (MOST 104–2811–E–007–054).

22. V. B. Rajkumar and ***S.-W. Chen**, 2018, "Phase equilibria and thermodynamic descriptions of Ag-Ge and Ag-Ge-Ni systems", Journal of Electronic Materials, Vol. 47(7), pp. 3666-3677, (MOST 104-281-E-007-054).

23. *L. Zhang, Z.-Q. Liu, **S.-W. Chen**, Y.-D. Wang, W.-M. Long, Y.-H. Guo, S.-Q. Wang, G. Ye and W.-Y. Liu, 2018, "Materials, processing and reliability of low temperature bonding in 3D chip stacking", Journal of Alloys and Compounds, Vol. 750, pp. 980-995.

24. *H.-J. Wu, A. T. Wu, P.-C. Wei and **S.-W. Chen**, 2018, "Interfacial reactions in thermoelectric modules", Materials Research Letters, Vol. 6(4), pp. 244–248. (MOST 106-2221-E-110-025-MY3).

25. ***S.-W. Chen**, Z.-W. Liu, H.-S. Chu and Z.-Y. Huang, 2018, "Interfacial reactions between Ni and $Bi_2(Se_{0.1}Te_{0.9})_3$ and its constituent material systems", Journal of Alloys and Compounds, Vol. 731, pp. 111-117. (NSC99-2221-E-007-093-MY3)

2017

26. ***S.-W. Chen**, W.-T. Chiu, W. Gierlotka, J.-S. Chang and C.-H. Wang, 2017, "Liquidus projection and thermodynamic modeling of Sn-Ag-Zn system", Journal of Electronic Materials, Vol. 46(12), pp 6910–6921. (MOST 97-2221-E-007-067-MY3 and 105-2221-E-259-004).

27. J.-S. Chang and ***S.-W. Chen**, 2017, "Liquidus projection and isothermal section of the Sb-Se-Sn system", Metallurgical and Materials Transactions E: Materials for Energy Systems, Vol. 4(2), pp. 89-100. (MOST 103-2923-E-007-002-MY2).

28. ***S.-W. Chen**, J.-S. Chang, and L.-C. Chang, 2017, "Liquidus projection and isothermal section of Sb-Se-Te ternary system", Materials Chemistry and Physics,Vol. 201, pp.391-398. (MOST 99-2221-E-007-093-MY3).

29. ***S.-W. Chen** and S.-T. Lu and J.-S. Chang, 2017, "Bi-In-Te phase diagrams", Journal of Alloys and Compounds, Vol. 722, pp. 499-508, (MOST 104-2221-E-007 -090 -MY3).

30. ***S.-W. Chen**, J.-C. Wang and L.-C. Chen, 2017, "Interfacial reactions at the joints of PbTe thermoelectric modules using Ag-Ge braze", Intermetallics, Vol. 83, pp. 55-63, (MOST 103-2221-E-007 -021 -MY3).

31. V. B. Rajkumar and ***S.-W. Chen**, 2017, "Thermodynamic modelling of Ag-Ni system combining experiments and molecular dynamic simulation", Journal of Electronic Materials, Vol. 46(4), pp. 2282-2289 (MOST104–2811–E–007–054).

32. ***S.-W. Chen**, A. H. Chu and D. S.-H. Wong, 2017, "Interfacial reactions at the joints of $CoSb_3$-based thermoelectric devices", Journal of Alloys and Compounds, Vol. 699, pp. 448-454 (MOST 103-2221-E-007 -021 -MY3).

33. ***S.-W. Chen**, L.-C. Chen and J.-C. Wang, 2017, "Ag-Ni-Sb phase equilibria and Ag-Sb/Ni interfacial reactions", Journal of Alloys and Compounds, Vol. 694, pp. 93–102, (MOST 103-2221-E-007 -021 -MY3).

B. Conference Presentations

2021

1. **S.-W. Chen**, 2021, "Unexpected phenomena observed in metallurgical studies", presented at the 150th TMS annual meeting, (virtual).
2. **S.-W. Chen**, Y.-H. Hsu, H.-W. Shih and S.-K. Lin, "Interfacial reactions in the Bi2Te3 thermoelectric modules", presented at the 150th TMS annual meeting, (virtual).
3. Y. Hutabalian and **S.-W. Chen**, 2021, "Interfacial Reaction in Ag/Se, Ag/Te, Ag_2Te/Se and Ag_2Te/Se-30at.%Te couples and their Related Phase Diagram", presented at the 150th TMS annual meeting, (virtual).
4. Y. Hutabalian, Z.-K. Hu, H.-H. Chen and **S.-W. Chen**, 2021, "Ni/Pb-Te and Ni/Se-Sn Interfacial Reactions and Their Related Phase Diagrams", presented at the 150th TMS annual meeting, (virtual).
5. Y. Hutabalian and **S.-W. Chen**, 2021, "Diffusion Couples in Cu/Se, Cu_2Se/Te, and Cu_2Te/Se at 300^{o}C and phase equilibria in the Cu-Se-Te ternary system", presented at the Materials Research Society-Taiwan International Conference, (virtual).
6. Y. Hutabalian and **S.-W. Chen**, 2021, "Liquidus projection and isothermal section of the Cu-Se-Te ternary system" presented at the 69th TwIChE annual meeting, Kaohsiung, Taiwan.
7. C.C. Ching and **S.-W. Chen**, 2021, "Bi-Sb-Se-Te quaternary system: Experimental measurement and Calphad calculation" presented at the 69th TwIChE annual meeting, Kaohsiung, Taiwan.
8. 賴運宏、**陳信文**、2021、"(Cu-Ni)/Sb-Ge-Te 界面反應與其相關系統相圖"，2021 台灣化學工程學會 69 周年年會、高雄。
9. 陳奕、**陳信文**、2021、"(Cu-Ni)/GeTe 界面反應與其相關系統相圖"，2021 台灣化學工程學會 69 周年年會、高雄。
10. 郭燿德、**陳信文**、2021、"Co-Fe-Ge 三元系統相圖:實驗量測與 Calphad 計算"，110 中國材料科學學會、台北。

2020

11. **S.-W. Chen**, H.-W. Shih, W. Wang, Y. Hutabalian, Z.-K. Hu and H.-H. Chen, 2020, "Interfacial reactions between Bi2Te3 substrate with Cu, In, Sn and Ni", presented at the 149th TMS annual meeting, San Diego, CA, USA.

12. Y. Hutabalian and **S.-W. Chen**, 2020, "Phase Diagrams of Ag-Cu-Te Ternary System and Ag2Te/Cu Interfacial Reaction", presented at the 149th TMS annual meeting, San Diego, CA, USA.

13. **S.-W. Chen**, J.-Y. Du, Y. Hutabalian, and A. Kroupa, 2020, "Phase diagrams of Ag-Pb-Sn-Te system", presented at the 149th TMS annual meeting, San Diego, CA, USA.

14. Y. Hutabalian, **S.-W. Chen**, 2020, “Interfacial reactions in Ag/Se, Ag/Se-30at%Te and Ag2Te/Se couples and Ag-Se-Te phase equilibria”, presented at the 9th TaPhaD conference, Hsinchu, Taiwan.

15. 胡智凱、**陳信文**、2020、“(Cu-Ni)/Pb-Te-Se 界面反應與其相關系統相圖” 2020 第 9 屆台灣相圖會議、新竹。

16. 陳栩輝、**陳信文**、2020、“Ni 阻障層與 SnSe2 熱電材料之界面反應”, 2020 第 9 屆台灣相圖會議、新竹。

17. 劉君翔、**陳信文**、2020、“錫-銀-銅-銦-鉍五元合金相平衡探討”, 2020 第 9 屆台灣相圖會議、新竹。

18. 郭燿德、**陳信文**、2020、“含具觸媒應用潛力之 Co-Fe-Ge 材料系統相圖”2020 中國工程師學會、台北。

19. A. Ramakrishnan, K. Thanigai Arul, C.L. Dong, **S.-W. Chen**, 2020, “Enhanced electrochemical performance of dealloyed decagonal Al-Co-Ni quasicrystals”, presented at the 67th TwIChE annual meeting, Hsinchu, Taiwan.

20. Y.-D. Guo, Y. Hutabalian, **S.-W. Chen**, 2020, “Phase diagram of Co-Fe-Ge system” presented at the 67th TwIChE annual meeting, Hsinchu, Taiwan.

21. H.-H. Chen, **S.-W. Chen**, 2020, “Ni/SnSe2 interfacial reaction”, presented at the 67th TwIChE annual meeting, Hsinchu, Taiwan.

22. 胡智凱、**陳信文**、2020、“(Cu-Ni)/Pb-Te-Se 界面反應與其相關系統相圖” ，2020 台灣化學工程學會 67 周年年會、新竹。

23. Y. Hutabalian, **S.-W. Chen**, 2020, “Study the Ag-Se-Te phase diagram and its reaction couples”, presented at the MRS-Taiwan annual meeting, Taipei, Taiwan.

24. 劉君翔、**陳信文**、2020、“錫-銀-銅-銦-鉍五元合金相平衡探討”、109 中國材料科學學會、台北。

2019

25. 陳家峻、**陳信文**，2019，" Sb-Se-Te 三元系統相圖"，2019 中國材料科學學會，台南。

26. A. Ramakrishnan, **S.-W. Chen,** 2019, "Interfacial reaction in Sn/Cu_2Se couples", presented at MRS-T conference, Tainan, Taiwan.

27. 石皓瑋、王暐、**陳信文**，2019，"熱電模組接點之 Cu/Bi2Te3 與 Ni/Bi2Te3 界面反應探討"，2019 台灣化學工程學會 66 周年年會，台中。

28. 郭子寧、**陳信文**，2019，"準晶材料與 Ag-Cu 共晶及 Sn-Cu 共晶合金間的界面反應"，2019 台灣化學工程學會 66 週年年會，台中。

29. **S.-W. Chen**, J.-Y. Du, Y. Hutabalian, A. Kroupa, 2019, "Phase diagrams of Ag-Pb-Sn-Te system", presented at the 66th TwIChE annual meeting, Taichung, Taiwan.

30. Y. Hutabalian, **S.-W. Chen**, 2019, "Phase diagrams of Ag-Cu-Te ternary system", presented at the 66th TwIChE annual meeting, Taichung, Taiwan.

31. **S.-W. Chen**, Y.-H. Du and A. Kroupa, 2019, "Phase diagram determination of thermoelectric Ag-Pb-Sn-Te quaternary system", presented at the 2019 AIChE Annual Meeting, Orlando, Florida.

32. **S.-W. Chen**, 2019, "Interfacial reactions in Ag-Cu/Ni, Ag-Cu/Co, Ag-Sb/Ni and Ag-Sb/Co couples", (Invited speech), presented at the Materials Science and Technology 2019(MS&T19), Portland, Oregon.

33. **S.-W. Chen**, 2019, "Interesting and unexpected phenomena observed at the joints of electronic products", presented at the 18th Asian Pacific Confederation of Chemical Engineers (APCChE2019), Sapporo, Hokkaido and Hokkaido University (invited speech).

34. A. Ramakrishnan, **S.-W. Chen**, 2019, "Al-Co-Ni Based Decagonal Quasicrystal: a Study of Phase Transformation and Phase Stability by Synchrotron X-ray Diffraction", NSRRC 25th Users' Meeting & Workshops, Hsinchu, Taiwan.

35. **S.-W. Chen**, 2019, "Unexpected liquation phenomena at joints", (Invited speech), presented at the 148th TMS annual meeting, San Antonio, Texas, USA.

36. **S.-W. Chen** and Y.-C. Lin, 2019, "Phase diagrams of the Bi-In-Se-Te quaternary system", (Invited speech), presented at the 148th TMS annual meeting, San Antonio, Texas, USA.

37. A. Ramakrishnan, Z.-Y. Huang, and **S.-W. Chen**, 2019, "Interfacial reactions in Sn/Ag_2Se Couples", presented at the 148th TMS annual meeting, San Antonio, Texas, USA.

38. T.-Y. Huang and **S.-W. Chen**, 2019, "Phase diagrams of thermoelectric Pb-Se-Sn-Te quaternary system", presented at the 148th TMS annual meeting, San Antonio, Texas, USA.

39. P.-C. Lo, T.-Y. Huang, T.-N. Kuo,and **S.-W. Chen**, 2019, "Phase diagrams of material systems with quasicrystalline phases", presented at the 148th TMS annual meeting, San Antonio, Texas, USA.

2018

40. **S.-W. Chen*** and Y. Hurabalian , 2018, "Phase diagrams of Bi-Sb-Se-Te and Pb-Se-Sn-Te quaternary alloys of thermoelectric interests", presented at ICHEM 2018 (The 2nd International Conference on High-Entropy Materials), Jeju, Korea.

41. 黃澤洋、**陳信文***，2018，"具熱電應用重要性的 Pb-Se-Sn-Te 四元材料系統相圖"，2018 年中國材料科學學會年會，台中。

42. 杜怡慧、**陳信文***，2018，"Ag-Pb-Sn-Te 四元熱電材料系統的相圖實驗與計算"，2018 台灣化學工程學會 65 週年年會，雲林。

43. 羅珮嘉、郭子寧、Anbalagan Ramakrishnan、**陳信文***，2018，"含準晶材料的 Al-Co-Cu 與 Al-Co-Ni 三元系統相圖"，2018 台灣化學工程學會 65 週年年會，雲林。

44. **S.-W. Chen*** and Y. Hurabalian , 2018, " In/Bi2(Se,Te)3 interfacial reactions and Bi-In-Se-Te phase diagram", presented at MS&T 18 (Materials Science &Technology) conference, Columbus, Ohio, U.S.A.

45. **陳信文***, 2018, "熱電元件中接點的界面反應", 第十一屆海峽兩岸化學工程學術研討會, 山西太原, 中國.

46. **S.-W. Chen***, W. Wang and K.-C. Hsieh, 2018, "Ag-Se phase diagram calculation associating ab-initio molecular dynamics simulation", presented at the CALPHAD XLVII. Juriquilla, Querétaro, México.

47. V. B. Rajkumar and **S.-W. Chen***, 2018, " Cu/Bi2Te3 interfacial reactions and Bi-Cu-Te phase diagram ", presented at the CALPHAD XLVII. Juriquilla, Querétaro, México.

48. **S.-W. Chen*** and Y.-S.Peng, 2018, "Ni/(Ag-41.0at%Sb)1-xNix and Co/(Ag-41.0at%Sb)1-xCox Interfacial Reactions and Their Related Ag-Ni-Sb and Ag-Co-Sb Phase Diagrams ", presented at the International Congress on Chemical, Biological and Environmental Sciences, Hokkaido, Japan.

49. **S.-W. Chen***, Z.-Y. Huang, P.-C. Wei and Y.-Y. Chen, 2018, "Phase Diagram of Ag-In-Se System and Thermoelectric Properties of In-containing Ag2Se" (Invited speech), presented at the 147th TMS annual meeting, Phoenix, USA.

50. **S.-W. Chen***, T.-.C. Yang and J.-M. Lin, 2018, "Interfacial reaction studies in SLID bonding processes using Ga and In" (Invited speech), presented at the 147th TMS annual meeting, Phoenix, USA.

2017

51. Y.-C. Lin and **S.-W. Chen**, 2017, "Phase diagram of thermoelectric In-Se-Te ternary system", 發表於「2017 台灣化工年會」，台北。

52. 黃子洋、魏百駿、**陳信文**、陳洋元, 2017, "Ag-In-Se 相圖與含 In 的 Ag_2Se 熱電性質", 發表於「2017 台灣化工年會」，台北。

53. **S.-W. Chen**, Y. Hutabalian, and S.-T. Lu, 2017, "Indium/Bi_2Te_3-based thermoelectric materials interfacial reactions", presented at 18th International Union Materials Research Societies, International Conference in Asia (IUMRS-ICA 2017), Taipei, Taiwan.

54. **S.-W. Chen** and P.-C. Lo, 2017, "Phase equilibria of Al-Co-Cu ternary quasicrystalline system", presented at 18th International Union Materials Research Societies, International Conference in Asia (IUMRS-ICA 2017), Taipei, Taiwan.

55. **S.-W. Chen**, Z.-Y. Huang, and Y.-Y. Chen, " Phase diagrams, defect models and thermoelectric properties: -Ag_2Se and $CoSb_3$ ", presented at the AIChE annual meeting, Minneapolis, USA.

56. **陳信文**, 2017, "相圖計算、缺陷模型與熱電性質", 發表於「第十屆海峽兩岸化學工程學術研討會」(Invited speech)，銀川，中國。

57. V. B. Rajkumar and **S.-W. Chen**, 2017, "Modelling the Gibbs energy of Ag-Ge, Ag-Ni and Ag-Ge-Ni by calphad approach", presented at CALPHAD XLI annual meeting, Saint Molo, France.

58. **S.-W. Chen**, J.-S. Chang and C.-H. Wang, 2017, "Phase equilibria of Pb-Sb-Se-Sn quaternary system", presented at CALPHAD XLI annual meeting, Saint Molo, France.

59. **S.-W. Chen**, 2017, " Phase equilibria studies of thermoelectric materials " (Invited speech), presented at the 2017 APAM Sendai International Conference, Sendai, Japan.

60. T.-C. Yang and **S.-W. Chen**, 2017, "Interfacial reactions in Cu/In/Ni and Cu/In/Co transient liquid phase bonding", presented at the 146th TMS annual meeting, San Diego, USA.

61. J.-W. Chen and **S.-W. Chen**, 2017, "Electromigration effects upon interfacial reactions at the electronic solder joints: relations with bump height and electric current density", presented at the 146th TMS annual meeting, San Diego, USA.

62. J.-M. Lin and **S.-W. Chen**, 2017, "Interfacial reactions in Cu/Ga/Ni and Cu/Ga/Co transient liquid phase bonding", presented at the 146th TMS annual meeting, San Diego, USA.

63. **S.-W. Chen**, T.-W. Liou and H.-S. Chu, 2017, "Interfacial reactions at the joints in the Bi_2Te_3-based thermoelectric modules" (Invited speech), presented at the 146th TMS annual meeting, San Diego, USA.

64. **S.-W. Chen**, J.-C. Wang and L.-C. Chen, 2017, "Interfacial reactions at the joints of PbTe thermoelectric modules" (Invited speech), presented at the 146th TMS annual meeting, San Diego, USA.

C. Invited Articles (受邀期刊專稿)

1. **陳信文**、林士剛，2020, "材料與化學工程整合計算專輯前言"， 化工，Vol. 67(6), p. 105.

2. 陳志銘、劉博韜、郭修伯、陳炳宏、陳嘉明、王銘忠、呂春美、**陳信文**，2020，"培育化工人才策略與建議", 化工，Vol. 67(6), pp. 246-266.

D. Award and service

1. 國立清華大學 清華講座教授，(Tsing Hua Chair Professor, National Tsing Hua University), (2017)

2. 美國 TMS 學會「2017 年功能性材料傑出科學家/工程師獎」(TMS FMD distinguished scientist/engineer award) (2017).

3. 台灣化學工程學會會士 (Fellow of Taiwan Institute of Chemical Engineers).

4. 亞太材料學院院士 (Asia Pacific Academy of Materials (APAM) Academician).

5. 中國材料科學學會會士 (Materials Research Society-Taiwan Fellow).

6. 美國金屬學會會士 (Fellow, ASM International).

7. 台灣化工學會理事長 2019/1/1~2020/12/31

8. 中國材料學會副理事長 2017/1/1~2018/12/31

9. (理)監事: 中國工程師學會新竹分會, 2010~迄今

10. 理事：中國材料學會, 2009~迄今

11. 理事: 台灣化工學會, 2017~迄今

12. Committee Member: Alloy Phase Diagram Committee, ASM, 2006/8~now

13. Education committee member, TMS, 2017/2~2020/12

14. Editorial committee member: Journal of Phase Equilibria and Diffusion, 2010/1~now

15. Associate editor: Journal of Electronic Materials, 2006/8 ~now

Publications of HO-HSIU CHOU (周鶴修)

A. Journal Papers (* Corresponding author)

2022

1. Wei-Cheng Lin, Jayachandran Jayakumar, Chih-Li Chang, Li-Yu Ting, Tse-Fu Huang, Mohamed Hammad Elsayed, Ahmed Elewa, Yu-Tung Lin, Jia-Jen Liu, Yuan-Ting Tseng, **Ho-Hsiu Chou*** "Sulfide oxidation tuning in 4,8-bis(5-(2-ethylhexyl)thiophen-2-yl)benzo[1,2-b:4,5-b′]dithiophene based dual acceptor copolymers for highly efficient photocatalytic hydrogen evolution "***Journal of Materials Chemistry A*** , Feb 2022, https://doi.org/10.1039/D2TA00241H (IF=12.732)

2. Mahmoud Kamal Hussien, Amr Sabbah, Mohammad Qorbani, Mohamed Hammad Elsayed, Putikam Raghunath, Tsai-Yu Lin, Shaham Quadir, Hong-Yi Wang, Heng-Liang Wu, Der-Lii M Tzou, Ming-Chang Lin, Po-Wen Chung, **Ho-Hsiu Chou**, Li-Chyong Chen, Kuei-Hsien Chen* "Metal-free four-in-one modification of g-C3N4 for superior photocatalytic CO_2 reduction and H_2 evolution" ***Chemical Engineering Journal***, Volume 430, February 2022, 132853(IF=13.273)

3. Ahmed M Elewa, Jayachandran Jayakumar, Yen-Wen Huang, Mohamed Hammad Elsayed, Chih-Li Chang, Li-Yu Ting, Wei-Cheng Lin, Chu-Chen Chueh, **Ho-Hsiu Chou***"Biaxially extended side-chain conjugation of benzodithiophene-based polymer dots for superior photocatalytic stability under visible-light irradiation"***Journal of Environmental Chemical Engineering***, Volume 10, February 2022, 106927 (IF=5.876)

2021

4. Mohamed Hammad Elsayed, Mohamed Abdellah, Yi-Hao Hung, Jayachandran Jayakumar, Li-Yu Ting, Ahmed M Elewa, Chih-Li Chang, Wei-Cheng Lin, Kuo-Lung Wang, Mahmoud Abdel-Hafiez, Hsiao-Wen Hung, Masaki Horie, **Ho-Hsiu Chou*** "Hydrophobic and Hydrophilic Conjugated Polymer Dots as Binary Photocatalysts for Enhanced Visible-Light-Driven Hydrogen Evolution through Förster Resonance Energy Transfer" ***ACS Applied Materials & Interfaces*** , November 2021 , 56554–56565 (IF=9.229)

5. Mohammed G Kotp, Ahmed M Elewa, Ahmed FM EL-Mahdy, **Ho-Hsiu Chou*** , Shiao-Wei Kuo "Tunable pyridyl-based conjugated microporous polymers for visible light-driven hydrogen evolution"***ACS Applied Energy Materials*** , October 2021 , 13140–13151 (IF=6.024)

6. Meng-Ju Yu, Chih-Li Chang, Hao-Yu Lan, Zong-Yi Chiao, Yu-Chia Chen, Ho Wai Howard Lee, Yia-Chung Chang, Shu-Wei Chang, Takuo Tanaka, Vincent Tung, , **Ho-Hsiu Chou*** u, Yu-Jung Lu "Plasmon-Enhanced Solar-Driven Hydrogen Evolution Using Titanium Nitride Metasurface Broadband Absorbers"***ACS Photonics***, October 2021 , 3125–3132 (IF=7.529)

7. Wei-Cheng Lin, Jayachandran Jayakumar , Chih-Li Chang ,Li-Yu Ting Mohamed Hammad Elsayed, Mohamed Abdellah , Kaibo Zheng , Ahmed M.Elewa ,Yu-Tung Lin , Jia-Jen Liua , Wen-Shin Wang, Chia-Yeh Lua , **Ho-Hsiu Chou*** "Effect of energy bandgap and sacrificial agents of cyclopentadithiophene-based polymers for enhanced photocatalytic hydrogen evolution" ***Applied Catalysis B: Environmental***, Volume 298, 5 December 2021, 120577(IF=16.683)

8. Ahmed M.Elewa , Ahmed F.M.EL-Mahdy, Mohamed Hammad Elsayed, Mohamed Gamal Mohamed , Shiao-Wei Kuo , **Ho-Hsiu Chou* "**Sulfur-doped triazine-conjugated microporous polymers for achieving the robust visible-light-driven hydrogen evolution" ***Chemical Engineering Journal***, Volume 421, October 2021, 12982 (IF=10.652)

9. Mohamed Hammad Elsayed, Bing-Huang Jiang, Yi-Peng Wang, Po-Yen Chang, Yu-Cheng Chiu, Ru-Jong Jeng, **Ho-Hsiu Chou*** and Chih-Ping Chen "Indacenodithiophene-based N-type conjugated polymers provide highly thermally stable ternary organic photovoltaics displaying a performance of 17.5%" ***J. Mater. Chem. A***, 2021,9, 9780-9790 (IF=11.301)

10. Ming-Yun Liao, Mohamed Hammad Elsayed, Chih-Li Chang, Yun-Chi Chiang, Wen-Ya Lee, Wen-Chang Chen, **Ho-Hsiu Chou*** and Chu-Chen Chueh*"Realizing Nonvolatile Photomemories with Multilevel Memory Behaviors Using Water-Processable Polymer Dots-Based Hybrid Floating Gates "***ACS Appl. Electron. Mater***. 2021, 3, 4, 1708–1718

11. Ahmed M Elewa, Mohamed Hammad Elsayed, Ahmed FM EL-Mahdy, Chih-Li Chang, Li-Yu Ting, Wei-Cheng Lin, Chia-Yeh Lu, **Ho-Hsiu Chou*** "Triptycene-based discontinuously-conjugated covalent organic polymer photocatalysts for visible-light-driven hydrogen evolution from water " ***Applied Catalysis B: Environmental*** 2021, 285, 119802 (IF=16.683, Rank = 3/137,)

12. Mohamed Hammad Elsayed, Jayachandran Jayakumar, Mohamed Abdellah, Tharwat Hassan Mansoure, Kaibo Zheng, Ahmed M.Elewa, Chih-Li Chang, Li-YuTing, Wei-Cheng Lin, Hsiao-hua Yu, Wen-Hsin Wang, Chih-Chia Chung, **Ho-Hsiu Chou*** "Visible-light-driven hydrogen evolution using nitrogen-doped carbon quantum dot-implanted polymer dots as metal-free photocatalysts" ***Applied Catalysis B: Environmental*** 2021, 283, 119659 (IF=16.683, Rank = 3/137, Time Cited: 4)

13. Mohamed Gamal Mohamed, Mohamed Hammad Elsayed, Ahmed Elewa, Ahmed FM EL-Mahdy, Cheng-Han Yang, Ahmed AK Mohammed, **Ho-Hsiu Chou***, Shiao-Wei Kuo"Pyrene-Containing Conjugated Organic Microporous Polymers for Photocatalytic Hydrogen Evolution from Water" ***Catalysis Science & Technology*** 2021, DOI: 10.1039/D0CY02482A (IF=5.820)

14. Chun-Ming Yeh, Chun-Hsiu Lin, Tzung-You Han, Yu-Ting Xiao, Yi-An Chen, **Ho-Hsiu Chou*** "Disulfide bond and Diels–Alder reaction bond hybrid polymers with high stretchability, transparency, recyclability, and intrinsic dual healability for skin-like tactile sensing" ***Journal of Materials Chemistry A***, 2021, DOI: 10.1039/D0TA10135D (IF= 11.301)

15. Jayachandran Jayakumar, Wei-Ling Wu, Chih-Li Chang, Tzung-You Han, Li-Yu Ting, Chun-Ming Yeh, Hsiao-Wen Hung, **Ho-Hsiu Chou*** "Highly thermal stable electron-transporting materials using triptycene derivatives for OLEDs" ***Organic Electronics***, 2021.(IF=3.310)

2020

16. Mohamed Hammad Elsayed, Taha M. Elmorsi,* Ahmed M. Abuelela, Ahmed E. Hassan, Ahmed Zaki Alhakemy, Mostafa F.Bakr, **Ho-Hsiu Chou*** "Direct sunlight-active Na-doped ZnO photocatalyst for the mineralization of organic pollutants at different pH mediums" ***Journal of Taiwan Institute of Chemical Engineers***, 2020, 115, 187-197 (IF=4.794, Time Cited: 1)

17. Yi Ren, Wei-Cheng Lin, Li-Yu Ting, Guanglong Ding , Baidong Yang, Jia-Qin Yang, **Ho-Hsiu Chou***, Su-Ting Han* and Ye Zhou* "Iridium-based Polymer for Memristive Device with Integrated Logic and Arithmetic Applications" ***Journal of Materials Chemistry C***, 2020, 8, 16845-16857 (IF=7.059)

18. Wei-Cheng Lin, Mohamed Hammad Elsayed, Jayachandran Jayakumar, Li-Yu Ting, Chih-Li Chang, Ahmed M. Elewa, Wen-Shin Wang, Chih-Chia Chung, Chia-Yeh Lu, **Ho-Hsiu Chou*** "Design and synthesis of cyclometalated iridium-based polymer dots as photocatalysts for visible light-driven hydrogen evolution" ***International Journal of Hydrogen Energy***, 2020, 45, 32072-32081 (IF=4.939, Time Cited: 6)

19. Wen-Hsin Wang,‡ , Li-Yu Ting, ‡ Jayachandran Jayakumar, Chih-Li Chang, Wei-Cheng Lin, Chih-Chia Chung, Mohamed Hammad Elsayed, Chia-Yeh Lu, Ahmed M. Elewa, and **Ho-Hsiu Chou*** "Design and synthesis of phenylphosphine oxide-based polymer photocatalysts for highly efficient visible-light-driven hydrogen evolution" ***Sustainable Energy*** **Fuels**, 2020, 4, 5264 (IF=5.503, Time Cited: 7)

20. Ahmed F. M. EL-Mahdy , Ahmed M. Elewa , Sheng-Wen Huang , **Ho-Hsiu Chou***, Shiao-Wei Kuo*"Dual-Function Fluorescent Covalent Organic Frameworks: HCl Sensing and Photocatalytic H2 Evolution from Water" ***Advanced Optical Materials***, 2020, 8, 2000642 (IF=8.286, Time Cited: 20)

21. Jia-Qin Yang, Li-Yu Ting, Ruopeng Wang, Jing-Yu Mao, Yi Ren, Chih-Li Chang, Chun-Ming Yeh, **Ho-Hsiu Chou***, Ye Zhou*, Su-Ting Han* "Fluorenone/carbazole based bipolar small molecules for non-volatile memory devices" ***Organic Electronics***, 2020, 78, 105584 (IF=3.500)

22. Chih-Li Chang#, Wei-Cheng Lin#, Chuan-Yu Jia, Li-Yu Ting, Jayachandran Jayakumar, Mohamed Hammad Elsayed, Yong-Quan Yang, Yang-Hsiang Chan, Wen-Shin Wang, Chia-Yeh Lu, Pei-Yu Chen, and **Ho-Hsiu Chou*** "Low-Toxic Cycloplatinated Polymer Dots with Rational Design of Acceptor Co-monomers for Enhanced Photocatalytic Efficiency and Stability" ***Applied Catalysis B: Environmental***, 2020, 268, 118436 (IF=16.683, Rank = 3/137, Time Cited: 21)

23. Jayachandran Jayakumar, and **Ho-Hsiu Chou*** "Recent Advances in Visible-Light-Driven Hydrogen Evolution from Water using Polymer Photocatalysts" ***ChemCatChem***, 2020, 12, 689-704 (IF=4.495, Rank = 34/147, Time Cited: 30) (Invited review article)

2019

24. Li-Yu Ting,+Jayachandran Jayakumar,+Chih-Li Chang, Wei-Cheng Lin, Mohamed Hammad Elsayed, and **Ho-Hsiu Chou***, "Effect of Controlling the Number of Fused Rings on Polymer Photocatalysts for Visible-Light-Driven Hydrogen Evolution" ***Journal of Materials Chemistry A***, 2019, 7, 22924-22929 (IF=10.733, Rank = 20/285, *Time Cited: 21*)

25. Ying-Chih Lai*, Hsing-Mei Wu, Heng-Chuan Lin, Chih-Li Chang, **Ho-Hsiu Chou***, Yung-Chi Hsiao, Yen-Cheng Wu, "Entirely, Intrinsically, and Autonomously Self-healable, Highly Transparent, and Super-Stretchable Triboelectric Nanogenerator for Personal Power Sources and Self-Powered Electronic Skins" ***Advanced Functional Materials***, 2019, 29, 197027 (IF=15.621, Rank = 13/285, Time Cited: 32)

26. Yi Ren, Chih-Li Chang, Li-Yu Ting, Dr. Li Zhou, Jing-Yu Mao, Shi-Rui Zhang, **Ho-Hsiu Chou***, Jia-Qin Yang, Ye Zhou*, Su-Ting Han*, "Flexible Pyrene/Phenanthro[9,10-d]imidazole-based Memristive Devices for Mimicking Synaptic Plasticity", ***Advanced Intelligent Systems***, 2019, *1, 1900008* (New Journal in spring 2019, Time Cited: 15)

27. Jing-Yu Mao, Li Zhou, Yi Ren, Jia-Qin Yang, Chih-Li Chang, Heng-Chuan Lin, **Ho-Hsiu Chou***, Shi-Rui Zhang, Ye Zhou*, and Su-Ting Han*, "A bio-inspired electronic synapse using solution processable organic small molecule", ***Journal of Materials Chemistry C***, 2019, 7, 1491-1501 (IF = 6.641, Rank = 42/285, Time Cited: 31)

2018

28. Po-Jung Tseng, Chih-Li Chang, Yang-Hsiang Chan, Li-Yu Ting, Pei-Yu Chen, Chia-Hsien Liao, Ming-Li Tsai, and **Ho-Hsiu Chou*** "Design and Synthesis of Cycloplatinated Polymer Dots as Photocatalysts for Visible-Light-Driven Hydrogen Evolution" ***ACS* Catalysis** 2018, 8, 7766-7772 (IF=12.221, Rank = 3/58, Times cited: 49)

2017

29. C. Lu, W.-Y. Lee, X. Gu, J. Xu, **H.-H. Chou**, H. Yan, Y.-C. Chiu, M. He, J. R Matthews, W. Niu, J. B.-H. Tok, M. F. Toney, W.-C. Chen and Z. Bao* "Effects of Molecular Structure and Packing Order on the Stretchability of Semicrystalline Conjugated Poly(Tetrathienoacene-diketopyrrolopyrrole) Polymers" ***Advanced Electronic Materials***, 2017, 3, 1600311. (IF=6.312, Rank = 45/285, Times cited: 44)

B. Patents

類別	專利名稱	國別	專利號碼	發明人	專利權人
	Semiconductor Compound, Use Thereof and Hydrogen Production System	US	US Patent App. 16/510,008	**Ho-Hsiu Chou**, Chih-Li Chang, Wei-Cheng Lin	NTHU
	Methods and Apparatus Concerning Sensitive (E-Skin) Pressure Sensors, US Provisional	WO	2017/019887 A1	Zhenan Bao, **Ho-Hsiu Chou**, Alex Chortos	Stanford
	Methods and Apparatus Concerning Sensitive (E-Skin) Pressure Sensors, US Provisional Application	US	2017/0031491 A1	Zhenan Bao, **Ho-Hsiu Chou**, Alex Chortos	Stanford
A	Conjugated Compounds Containing Heteroatom-Center-Arylsilane Derivatives And Their Application	US	7,820,844	Cheng-Hong Cheng, Hung-Hsin Shih, **Ho-Hsiu Chou**	NTHU
A	Light-Emitting Material and Organic Light-Emitting Diode Including the Same	US	7,981,527	Cheng-Hong Cheng, **Ho-Hsiu Chou**	NTHU
	Imidazole Derivatives Having Vinyl Group and Its Use in Electroluminescent Element	US	8,471,037	Chien-Hong Cheng, He-Pei Hsu, **Ho-Hsiu Chou**, Yu-Han Chen, Yi-Hsiang Chen	NTHU
	Application of Triphenylene Derivatives in Organic Electroluminescent Devices	US	8,974,920	Chien-Hong Cheng, Yu-Han Chen, **Ho-Hsiu** Chou	NTHU

類別	專利名稱	國別	專利號碼	發明人	專利權人
	Triptycene Derivatives and their Application	US	11/876,454	Chien-Hong Cheng, Hung-Hsin Shih, **Ho-Hsiu Chou**, Yu-Chen Jao	NTHU
	Blue Light-Emitting Iridium Complex and Application for Organic Light Emitting Diode	US	13/729,877	Chien-Hong Cheng, **Ho-Hsiu Chou**, LI Yi-Kai	NTHU
	Triptycene Derivatives Having Symmetric or Asymmetric Substitutes and Orgainc Light Emetting Diode Using the Same	US	9,590,181	Chien-Hong Cheng, **Ho-Hsiu Chou,** Cheng-Chang Lai	NTHU
	發光材料以及包括此發光材料之有機發光二極體	TW	I388648	鄭建鴻, **周鶴修**	NTHU
	三蝶烯衍生物及其在有機電子元件的應用	TW	I390007	鄭建鴻, **周鶴修**, 施宏欣, 饒育禎	NTHU
	以矽主體具有異原子中心之芳香環衍生物及其在有機電子元件的應用	TW	096128503	鄭建鴻, **周鶴修**, 施宏欣	NTHU
	聯三伸苯基衍生物在有機電致發光元件上之應用	TW	I461387	鄭建鴻, 陳昱翰, **周鶴修**	NTHU
A	含乙烯官能基之咪唑衍生物及其用於電致發光元件之用途	TW	100128992	鄭建鴻, 許郤珮, **周鶴修**, 陳裕翰, 陳奕翔	ITRI
A	對稱或不對稱雙取代三蝶烯衍生物及其有機發光二極體	TW	102141604	鄭建鴻, **周鶴修**, 賴振昌	NTHU

C. Other

- **Guest editor of Polymer (MDPI)**
  Special issue: Stretchable and Smart Polymers II
  Polymer (MDPI): *Polymers* received an updated Journal Impact Factor of **3.46** in the June 2019 release of the Journal Citation Reports® . *Polymers* now ranks **19/87 (Q1)** in the category 'Polymer Science.'

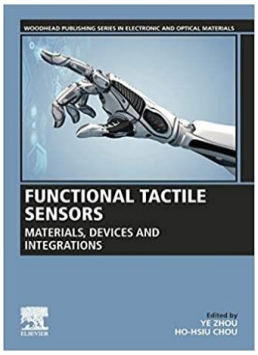
- **中華民國高分子學會 109 年度傑出高分子青年科技獎**

- **2021 吳大猷先生紀念獎**

- **2021 華立創新材料競賽 特選獎**

- **專書**

Functional Tactile Sensors: Materials, Devices and Integrations (Woodhead Publishing Series in Electronic and Optical Materials)



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Publications of I-Ming Chu (朱一民)

A. Journal Papers

2021

1. Ma, W.C., **Chu, I.M.*** "Self-assembly mechanism of thermosensitive polypeptide-containing block copolymer hydrogels", J. Appl. Polym. Sci., 138, 11, e50025 (2021)

2. **J**uang, J.H., Lin, H.C., Chen, C.Y., Kao, C.W., Chen, C.L., Wu, S.T., Lin, S.H., Shen, C.R., Wang, J.J., Tsai, Z.T., **Chu, I.M.***, "Noninvasive tracking of mPEG-poly(Ala) hydrogel-embedded MIN6 cells after subcutaneous transplantation in mice", Polymers, 13, 885 (2021)

3. Lin, S.J., Chan, Y.C., Su, Z.C., Yeh, W.L., Lai, P.L., **Chu, I.M.*** "Growth factor-loaded microspheres in mPEG-polypeptide hydrogel system for articular cartilage repair", J. Biomed. Mater. Res. A , 109, 1516-1526 (2021)

4. Wu, I.E., Anggelia, M.R., Lin, S. Y., Chen, C.Y., **Chu, I.M. ***, Lin, C.H.* "Thermosensitive polyester hydrogel for application of immune-suppressive drug delivery system in skin allograft", Gels, 7, 229 (2021)

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5. Yao, C.L.*, Lin, C.C., **Chu, I.M.,** Lai, Y.T. "Development of a Surfactant-Containing Process to Improve the Removal Efficiency of Phenol and Control the Molecular Weight of Synthetic Phenolic Polymers Using Horseradish Peroxidase in an Aqueous System", Appl. Biochem. Biotechnol. DOI: 10.1007/s12010-020-03245-6 (2020)

6. Lin, H.C., Chen, C.Y., Kao, C.W., Wu, S.T., Chen, C.L., Li, L.Y., Shen, C.R., Juang, J.H.*, **Chu, I.M.*** "In situ gelling-polypeptide hydrogel systems for MIN6 cells subcutaneous transplantation", J. Polym. Res. 27, 64 (2020)

7. Chen, W.C., Lin, Y.C., **Chu, I.M.,** Wang, L.F., Tsai, S.L., Wei, Y.H.*, "Feasibility of enhancing production of 5-hydroxymethylfurfural from pretreated wood dust using deep eutectic solvents as reaction media in a high-pressure reactor", Biochem. Eng. J., 154, UNSP107440 (2020)

8. Su, Z.C., Lin, S.J., Chang, Y.H., **Chu, I.M.*** "Synthesis, characterization and cytotoxicity of PCL-PEG-PCL diacrylate and agarose interpenetrating network hydrogels for cartilage tissue engineering", J. Appl. Polym. Sci., e49409 (2020)

9. Mok, S.W., Fu, S.C., Chuek, Y.C., **Chu, I.M.,** Chan, K.M., Yung, S.M., Qin, L., Ho, K.W.K*., "Intra-articular delivery of quercetin using thermosensitive hydrogel attenuate cartilage degradation in an osteoarthritis rat model", Cartilage, 11, 490-499 (2020)

2019

10. **Chu, I.M.***, Liu, T.H., Chen, Y.R., "Preparation and characterization of sustained release devices based on polyanhydride microspheres with core/shell-like structures", J. Polym. Res., 26, 1 (2019)

11. Huang, W.S., **Chu, I.M.*** "Injectable polypeptide hydrogel/inorganic nanoparticle composites for bone tissue engineering", PLoS ONE, 14, e0210285 (2019)

12. Ku, K.L., Wu, Y.S., Wang, C.Y., Hong, D.W., Chen, Z.X., Huang, C.A., , P.L., **Chu, I.M.***, Lai, P.L.* "Incorporation of surface-modified hydroxy-apatite into poly(methyl methacrylate) to improve biological activity and bone ingrowth", R. Soc. Open Sci. 6, 182060 (2019)

13. Tang, W.C., Su, T.C., Huang, Y.S., Yu, Y.T., Chen, H.L., **Chu, I.M.*** "A non-fluoro nano-brush repelling agent for use in water-based self-stratifying coatings", J. Appl. Polym. Sci., 136, 48003 (2019)

14. Lin, H.C., Cheng, C.C., Anggelia, M.R., Lin, C.H., **Chu, I.M.*** "Mixed thermosensitive hydrogel systems for sustained delivery of tacrolimus in skin allotransplantation", Pharmaceutics, 11, 413 (2019)

2018

15. Chang, C.S., Yang, C.Y., Hsiao, H.Y., Chen, L., **Chu, I.M.**, Cheng, M.H., Tsao, C.K.*, "Cultivation of auricular chondrocytes in poly(ethylene glycol)/poly(e-caprolactone) hydrogel for tracheal cartilage tissue engineering in a rabbit model", Eur. Cell. Mater., 35, 350-364 (2018)

16. **Chu, I.M.***, Cheng, C.C., Lin, H.C., "A hybrid thermosensitive hydrogel formulation for extended release of tacrolimus for vascularized composite allotransplantation", New Biotechnol., 44, S31 (2018)

17. Liu, T.H., Chen, Y.R., **Chu, I.M.*** "Preparation and characterization of sustained release devices based on polyanhydride microspheres with core/shell-like structures", J. Polym. Res., 26, 1, (2018)

18. Tabañag, I.D.F., **Chu, I.M.**, Wei, Y.H., Tsai, S.L.*, "The role of yeast-surface-display techniques in creating biocatalysts for consolidated bioprocessing", Catalyst., 8, 94 (2018)

19. Chen, W.C., Chang, S.M., Chang, J.S., Chen, W.M., **Chu, I.M.,** Tsai, S.L., Wang, L.F., Chang, Y.K, and Wei, Y.H.*, "A process for simultaneously achieving phenol biodegradation and poly-hydroxybutyrate accumulation using *Cupriavidus taiwanesis* 187", J. Polym. Res., 25,137 (2018)

20. Tabañag, I.D.F., **Chu, I.M.**, Wei, Y.H., Tsai, S.L.*, "Ethanol production from hemicellulose by a consortium of different genetically-modified *Sacharomyces cerevisiae",* JTICE, 89, 15-25 (2018)

21. Fu, T.S., Wei, Y.H., Cheng, P.Y., **Chu, I.M.**, Chen, W.C.* "A novel biodegradable and thermosensitive poly(ester-amide) hydrogel for cartilage tissue engineering", BioMed Res., 2018, Article ID 2710892, 12 pages, (2018)

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2017

23. Peng, S., Liu, H.X., Ko, C.Y., Yang, S.R., Hung, W.L., **Chu, I.M.***, "Photo-crosslinked PLA-PEG-PLA / PCL-PEG-PCL dual-component hydrogel with tunable degradation and cell-carrying ability", J. Tissue. Eng. Regen. Med. 11, 669-678 (2017)

24. Ku, K.L., Grϕndahl, L., Dao, H., Du, Ke, Puttick, S., Lai, P.L., Peng, H., **Chu, I.M.***, Whittaker, A.K., "*In vitro* degradation study of polyanhydride copolymers / surface grafted hydroxyapatite composites for bone tissue application", Polym. Degrad. Stab., 140, 136-146 (2017)

25. Peng, S., Lai, Z.T., Hong, D.W., **Chu, I.M.*,** Lai, P.L., "Controlled release of through neutralization reaction within a methoxy(polyethylene glycol)- polyester hydrogel", J. Appl. Biomater. Funct. Mater., 15, e162-e169 (2017)

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27. Liu, Y.K., Chen, W.C., Huang, Y.C. Chang, Y.K., **Chu, I.M.**, Tsai, S.L., Wei, Y.H.*, "Production of bioethanol from Napier grass via simultaneous saccharification and co-fermentation in a modified bioreactor", J. Biosci. Bioeng., 124, 184-188 (2017)

28. Peng, S., Wu, C.W., Lin, J.Y., Yang, C.Y., Cheng, M.H., **Chu, I.M.*,** "Promoting chondrocyte cell clustering through tuning of a poly(ethylene glycol)-poly(peptide) thermosensitive hydrogel with distinctive microarchitecture", Mater. Sci. Eng. C, 76, 181-189 (2017)

29. Yang, C.E., **Chu, I.M.,** Wei, Y.H., Tsai, S.L.*, "Surface display of synthetic phytochelatins on *Saccharomyces cerevisiae* for enhanced ethanol production in heavy metal-contaminated substrates", Bioresour. Technol., 245, 1455-1460 (2017)

B. Conference Papers

2019

1. Huang, W.S.*, **Chu, I.M.,** "Injectable poly-peptides hydrogel/nano-particles composite for bone tissue engineering", 19th AFOB Reginal Symposium, Singapore, Jan. 2019.

2. Su, Z.C.*, Chang, Y.S., Lin, S.J., **Chu, I.M.,** "Synthesis, characterization and cytotoxicity of PEC and agarose interpenetrating network hydrogels for cartilage tissue engineering", 19th AFOB Reginal Symposium, Singapore, Jan. 2019.

3. Ma, W.C.*, **Chu, I.M.,** "Self-assembly mechanism of thermosensitive polypeptide-containing hydrogels", Annual Meeting of Polymer Society 2019, Tainan, Jan. 2019.

4. Lin, H.C.*, Lin, S.Y., Anggelia, M.R., Lin, C.H., **Chu, I.M.,** "Thermo- sensitive polyester hydrogel for application of immunosuppressive drug delivery", 2019 IADDS-BCRS Joint Conference, Hsinchu, March, 2019. **(Outstanding Poster Award)**

5. Huang, W.S., **Chu, I.M.***, "Injectable Polypeptide Hydrogel/Inorganic Nanoparticle Composites for Bone Tissue Engineering", 2019 生物醫用高分子材料學術大會暨海峽兩岸學術交流會，南京，April 2019.

6. Chan, Y.C.*, **Chu, I.M.**, "Growth factor-loaded microspheres in mPEG-polypeptide hydrogel system for cartilage tissue engineering", Asian Congress on Biotechnology 2019, Taipei, Taiwan, July, 2019. **(Outstanding Poster Award)**

7. **Chu, I.M.*,** Lin, H.C.*, Cheng, C.C., Anggelia, M.R., Lin, C.H., "A mixed thermosensitive hydrogel system for sustained delivery of tacrolimus in skin allotransplantation", 20th International Sol-Gel Conference, St. Petersburg, Russia, Aug. 2019.

2018

8. Lin, H.C.*, Chen, C.Y., Kao, C.W., Juang, J.H., **Chu, I.M.**, "Oligoalanine-modified methoxy- poly (ethylene glycol) hydrogels: An *in situ* gelling system for MIN6 cells cultivation and trans-plantation", Asia Islet Biology and Incretin Symposium (AIBIS 2018), Seoul, Korea, August 2018

9. Lin, H.C.*, Chen, C.Y., Kao, C.W., Juang, J.H., **Chu, I.M.**, "Mechanism and optimization study of amphiphilic block-copolymer in situ gelation as scaffolds for tissue engineering", TERMIS 2018, Kyoto, Japan, September 2018

10. Lin, H.C.*, Chen, C.Y., Kao, C.W., Juang, J.H., **Chu, I.M.**, "An *in situ* gelling system for MIN6 β cells cultivation and transplantation with polypeptide hydrogels", YABEC 2018, Taipei, Taiwan, November 2018

11. Yang, W.T*., Lin, H.C., **Chu, I.M.**, "Mechanism and optimization study of amphiphilic block-copolymer for in situ gelation sustained release systems", YABEC 2018, Taipei, Taiwan, November 2018

12. Shen, C.W.*, Lin, H.C., **Chu, I.M.**, "Development of methoxy poly(ethylene glycol)-co-poly(D, L-lactide-co-ε-caprolactone) nanoparticles for drug delivery" YABEC 2018, Taipei, Taiwan, November 2018

13. **Chu, I.M.***, Cheng, C.C., Lin, H.C., "A hybrid thermosensitive hydrogel formulation for extended release of tacrolimus for vascularized composite allotransplantation", Europe Congress on Biotechnology 2018, Geneva, Switzerland, July 2018.

2017

14. **Chu, I.M.***, Lin, J.Y., The synthesis and applications of charged Pluronic-poly(amino acid) thermo-sensitive hydrogels", 6th International Conference on Bio-based Polymers, Chunli, Taiwan, May 2017 **(Invited Speaker)**

15. Cheng, C.C.*, Angelia, M.R., Lin, C.H., **Chu, I.M.** "Thermosensitive polypeptide hydrogel for immunosuppressive drug delivery in vascularized composite allotransplantation", 19th ICBPE, San Francisco, USA, June, 2017.

16. Lee, L.Y.*, Chen, Y.S., Wang, J.S., **Chu, I.M.** "The study of dissolving microneedle patch for androgenetic alopecia"19th ICBPE, San Francisco, USA, June, 2017.

17. **Chu, I.M.***, Ku, K.L., Lai, P.L., "Polyanhydride copolymers / surface grafted hydroxyapatite composites for bone tissue application", BEST 2017, Yunlin, Taiwan, June 2017 **(Invited Speaker)**

18. **Chu, I.M.***, Wu, Y.S., Ku, K.L., Lai, P.L., "Incorporation of surface-modified hydroxyapatite into poly(methylmethacrylate) bone cement for better functionality", Asian Congress of Biotechnology, Khon Kaen, Thailand, July 2017 **(Keynote Speaker)**

C. Patents

2021

1. **朱一民**，林修兆，鄭志琦，古莞霖"藥物載體及其應用之藥物傳遞系統"，中華人民共和國發明專利， ZL201710685912.0, 2021

2. **朱一民**，魏毓宏，蔡伸隆"人工纖維小體、利用其分解纖維素及生產酒精之方法"，中華人民共和國發明專利，ZL201710998031.4, 2021

2020

3. **朱一民**，魏毓宏，蔡伸隆"旋轉式生物共培養反應系統"，中華民國發明專利，I686472 B, 2020

4. **朱一民**，魏毓宏，蔡伸隆，"混菌系統、利用其之半纖維素分解方法及酒精生產方法"，中華人民共和國發明專利，201710998368.5 (2020)

2019

5. **朱一民**，林修兆，鄭志琦，古莞霖 “藥物載體及其應用之藥物傳遞系統”，中華人民共和國發明專利，公開 CN 109381442 A, 2019

2018

6. **朱一民**，魏毓宏，蔡伸隆，“混菌系統、利用其之半纖維素分解方法及酒精生產方法”，中華民國發明專利，I640633 (2018)

7. **朱一民**，魏毓宏，蔡伸隆，“重組酵母菌及其用於製造生質酒精的用途”，中華民國發明專利，I640627 (2018)

8. **朱一民**，林修兆，鄭志琦，古莞霖，“藥物載體及其應用之藥物傳遞系統”，中華民國發明專利 I649096 (2018)

Publications of Rong-Ming Ho (何榮銘)

A. Book Chapters (* Corresponding author)

2018

1. 書名：World Scientific Reference of Hybrid Materials- Volume 1 Block Copolymers
章節：Well-Ordered Inorganic Nanonetworks from Block Copolymer Templates: Syntheses and Applications
編輯：Mato Knez
出版商：World Scientific
ISBN：978-981-3270-48-0

B. Journal Papers (* Corresponding author)

2021

1 K. C. Yang, P. T. Chiu, H. W. Tsai, **R. M. Ho***, "Self-Assembly of Semiflexible-Coil Chiral Block Copolymers under Various Segregation Strengths with Multiple Secondary Interactions" *Macromolecules*, **54**, 9850 (2021). (SCI Impact Factor= 60156; SCI Rank Factor: 8/90)

2 C. C. Yang, P. Puneet, I. M. Lin, Y. W. Chiang, **R. M. Ho*,** "Self-assembled helical superstructures of polystyrene-b-poly(2-vinyl pyridine) with inversed helicity from induced chirality" *Giant*, **7**, 100059 (2021).

3 C. Y. Chang, G. M. Manesi, C.Y. Yang, Y. C. Hung, K. C. Yang, P. T. Chiu, A. Avgeropoulos*****, **R. M. Ho***, "Mesoscale networks and corresponding transitions from self-assembly of block copolymers" *Proceedings of the National Academy of Sciences*, **118**, 11 (2021). (SCI Impact Factor= 12.291; SCI Rank Factor: 8/72)

4 P. T. Chiu, C. Y. Yang, Z. H. Xie, M. Y. Chang, Y. C. Hung, **R. M. Ho***, "Gold Nanohelices for Chiral Plasmonic Films by Templated Electroless Plating" *Advanced Optical Materials*, **9**, 2170036 (2021) (SCI Impact Factor= 9.926; SCI Rank Factor: 7/99)

5 Y. C. Chien, L.Y. Huang, K. C. Yang, M. R. Krishnan, W. S. Hung, J. C. Tsai, **R. M. Ho***, "Fabrication of metallic nanonetworks via templated electroless plating as hydrogenation catalyst" *Emergent Materials*, **4**, 493-501 (2021).

6 S. K. Siddique, T. C. Lin, C. Y. Chang, Y. H. Chang, C. C. Lee*, S. Y. Chang, P. C. Tsai, Y. R. Jeng, E. L. Thomas, **R. M. Ho***"Nanonetwork Thermosets from Templated Polymerization for Enhanced Energy Dissipation" *Nano letters,* **21**, 3355 (2021). (SCI Impact Factor=12.777 SCI Rank Factor: 20/178)

2020

7 K.C. Yang, P.T. Chiu, **R. M. Ho*** "Mesochiral phases from the self-assembly of chiral block copolymers" *Polym. Chem*., **11**, 1542 (2020). (SCI Impact Factor= 5.582; SCI Rank Factor: 10/90)

8 B. Yu, S. P. Danielsen, K. C. Yang, **R. M. Ho,** L. M. Walker, R. A. Segalman* "Insensitivity of Sterically Defined Helical Chain Conformations to Solvent Quality in Dilute Solution" *ACS Macro Lett.*, **9**, 849-854 (2020) (SCI Impact Factor=6.903 SCI Rank Factor: 7/90)

9 K. C. Yang, P. Puneet, **R. M. Ho*** "Reaction: Amplification of Macromolecular Helicity through Self-Assembly" *Giant*, 100015 (2020)

10 G. M. Manesi, C. Y. Chang, A. Avgeropoulos*, **R. M. Ho*** "Inter-domain Spacing Control via an Interdigitating Structure to Bilayers in Lamellae-Forming Star-Block Copolymers" *ACS Applied Polym. Mater.*, **2**, 3685-3695 (2020) (SCI Impact Factor=4.089 ; SCI Rank Factor: 22/90)

11 K. C. Yang, **R. M. Ho*** "Spiral Hierarchical Superstructures from Twisted Ribbons of Self-Assembled Chiral Block Copolymers" *ACS Macro Lett.*, **9**, 1130-1134 (2020). (SCI Impact Factor=6.903 ; SCI Rank Factor: 7/90)

12 H. F. Wang, P. T. Chiu, C. Y. Yang, Z. H. Xie, Y. C. Hung, J. Y. Lee, J. C. Tsai, I. Prasad, H. Jinnai, E. L Thomas, **R. M. Ho*** "Networks with controlled chirality via self-assembly of chiral triblock terpolymers" *Sci. adv.*, **6**, 42 (2020). (SCI Impact Factor=16.45 ; SCI Rank Factor: 5/72)

13 C. Miskaki, I. Moutsios ,G.M. Manesi, K. Artopoiadis, C. Y. Chang, E. A. Bersenev, D. Moschovas, D. A. Ivanov, **R.M. Ho** ,A. Avgeropoulos*"Self-Assembly of Low-Molecular-Weight Asymmetric Linear Triblock Terpolymers: How Low Can We Go?" *Molecules*, **25**, 5527 (2020) (SCI Impact Factor=4.588 ; SCI Rank Factor: 115/2950))

2019

14 T. Wen*, H. F. Wang, P. Georgopanos, A. Avgeropoulos, **R. M. Ho*** "Three-dimensional visualization of phase transition in polystyrene-block-polydimethylsiloxane thin film", *Polymer*, **167**, 209-214 (2019). (SCI Impact Factor= 4.43; SCI Rank Factor: 16/90)

15 H. F. Wang, K. C. Yang, W. C. Hsu, J. Y. Lee, J. T. Hsu, G. M. Grason, Edwin L Thomas, J.C. Tsai*, **R. M. Ho*** "Generalizing the effects of chirality on block copolymer assembly", *PNAS*, **116**, 4080-4089 (2019). (SCI Impact Factor= 12.291; SCI Rank Factor: 8/72)

16 P. T. Chiu, Y. C. Chien, P. Georgopanos, Y. S. Sun, A. Avgeropoulos, **R. M. Ho*** "Examination of well-ordered nanonetwork materials by real-and reciprocal-space imaging", *IUCrJ*, **6**, 2 (2019). (SCI Impact Factor= 5.75; SCI Rank Factor: 59/178)

17 K. C. Yang, C. T. Yao, L. Y. Huang, J. C. Tsai, W. S. Hung, H. Y. Hsueh, **R. M. Ho*** "Single gyroid-structured metallic nanoporous spheres fabricated from double gyroid-forming block copolymers via templated electroless plating" *NPG Asia Mater.*, **11**, 9 (2019). Front Cover Story (SCI Impact Factor= 10.481; SCI Rank Factor: 37/334)

18 C. F. Cheng, Y. M. Chen, F. Zou, K. Liu, Y. Xia, Y. F. Huang, W.Y. Tung, M. R. Krishnan, B. D. Vogt, C. L. Wang, **R. M. Ho***, Y. Zhu* " Li-Ion Capacitor Integrated with Nanonetwork-Structured Ni/NiO/C Anode and Nitrogen Doped Carbonized Metal-Organic Framework Cathode with High Power and Long Cyclability" *ACS Appl. Mater. Inter.*, **11**, 30694-30702 (2019). (SCI Impact Factor= 9.57; SCI Rank Factor: 44/334)

19 X. Feng, C. J. Burke, M. Zhuo, H. Guo1, K. Yang, A. Reddy, I. Prasad, **R. M. Ho**, A. Avgeropoulos, G. M. Grason*, E. L. Thomas* "Seeing the Mesoatomic Distortions in Soft Matter Crystals" *Nature*, **575**, 175–179 (2019). (SCI Impact Factor= 54.637; SCI Rank Factor: 1/72)

2018

20 T. Y. Lo, M. R. Krishnan, K.Y. Lu, **R. M. Ho*** "Silicon-Containing Block Copolymers for Lithographic Applications", *Prog. Polym. Sci*. **77**, 19-68 (2018) (SCI Impact Factor= 31.436; SCI Rank Factor: 1/90)

21 M. R. Krishnan, I. C. Chen, K. Y. Lu, M. C. Lee*, **R. M. Ho*** "Directed Self-Assembly of Star-Block PS-PDMS by Topographic Nanopatterns", *Small*, **14**, 1704005, (2018). (SCI Impact Factor=13.281; SCI Rank Factor: 18/178)

22 C. F. Cheng, Y. M. Chen, F. Zou, K. C. Yang, T. Y. Lin, K Liu, C. H. Lai, Y. Zhu*, **R. M. Ho*** "Nanoporous gyroid Ni/ NiO/ C nanocomposites from block copolymer templates with high capacity and stability for lithium storage" *J. Mater. Chem. A*, **6**, 13676-13684 (2018) (SCI Impact Factor=12.732; SCI Rank Factor: 18/162)

23 K. Y. Lu, H. F. Wang, J. W. Lin, W. T. Chuang, P. Georgopanos, A. Avgeropoulos, A. C. Shi, **R. M. Ho*** "Self-Alignment of Cylinder-Forming Silicon-Containing Block Copolymer Films" *Macromolecules*, **51**, 7656-7665 (2018) (SCI Impact Factor= 6.156; SCI Rank Factor: 8/90)

24 H. L. Wang, H. Yeh, Y. C. Chen, Y. C. Lai, C. Y. Lin, K. Y. Lu, **R. M. Ho***, B. H. Li, C. H. Lin, D. H. Tsai* "Thermal Stability of Metal–Organic Frameworks and Encapsulation of CuO Nanocrystals for Highly Active Catalysis" *ACS applied materials & interfaces*, **10**,11,93329341 (2018) (SCI Impact Factor=9.57; SCI Rank Factor: 44/334)

25 T. Y. Tang, H. Wang, C. T. Yao, K. C. Yang, **R. M. Ho***, D. H. Tsai* "A facile method to functionalize gold nano-tripods with high suspension stability in an aqueous environment" *Nanoscale*, **10**,16, 7352-7356 (2018) (SCI Impact Factor=7.79; SCI Rank Factor: 32/178)

26 I. Prasad, H. Jinnai, **R. M. Ho***, E. L. Thomas, G. M. Grason* "Anatomy of triply-periodic network assemblies: characterizing skeletal and inter-domain surface geometry of block copolymer gyroids" *Soft matter*, **14**, 18, 3612-3623 (2018) (SCI Impact Factor=3.705; SCI Rank Factor: 76/162)

27 H. L. Wang, H. Yeh, Y. C. Chen, Y. C. Lai, C. Y. Lin, K. Y. Lu, **R. M. Ho**, B. H. Li, C. H. Lin, D. H. Tsai*"Thermal Stability of Metal–Organic Frameworks and Encapsulation of CuO Nanocrystals for Highly Active Catalysis" *Acs Applied Materials & Interfaces* , **10**, 9332 (2018) (SCI Impact Factor=9.57; SCI Rank Factor: 44/334)

28 S. W. Dai, B. W. Hsu, C. Y. Chen, C. A. Lee, H. Y. Liu, H. F. Wang, Y. C. Huang, T. L. Wu, A. Manikandan, **R. M. Ho**, C. S. Tsao, C. H. Cheng, Y. L. Chueh, H. W. Lin*"Perovskite quantum dots with near unity solution and neat-film photoluminescent quantum yield by novel spray synthesis" *Advanced Materials* , **30**, 1705532 (2018) (SCI Impact Factor=30.849; SCI Rank Factor: 5/178)

2017

29 P. Georgopanos, T. Y. Lo, **R. M. Ho***, A. Avgeropoulos* "Synthesis, molecular characterization and self-assembly of (PS-*b*-PDMS)n type linear (n = 1, 2) and star (n = 3, 4) block copolymers" *Polym. Chem.* **8**, 843-850 (2017) . **Front Cover Story** (SCI Impact Factor=5.582; SCI Rank Factor: 10/90)

30 T. Wen, H. F. Wang, M. C. Li, **R. M. Ho*** "Homochiral Evolution in Self-Assembled Chiral Polymers and Block Copolymers" *Acc. Chem. Res.* **50**, 1011-1021 (2017). (SCI Impact Factor=22.732; SCI Rank Factor: 10/178) (Google citation numbers:51, WOS citation numbers:42)

31 T. C. Lin, K. C. Yang, P. Georgopanos, A. Avgeropoulos, **R. M. Ho*** "Gyroid-Structured Nanoporous Polymer Monolith from PDMS-Containing Block Copolymers for Templated Synthesis", *Polymer* (invited article for special issue: Nanoporous Polymers) 126, 360-367 (2017). (SCI Impact Factor=4.43 ; SCI Rank Factor: 16/90)

32 T. Wen, **R. M. Ho*** "Effects of Chiral Interface and Orientation-Dependent Segmental Interactions on Twisting of Self-Assembled Block Copolymers", *ACS Macro Letters*, **6**, 370-374 (2017). (SCI Impact Factor=6.903; SCI Rank Factor: 7/90)

33 W. Tao, J. Y. Lee, M. C. Li, J. C. Tsai, **R. M. Ho*** "Competitive Interactions of Junction π-π Association and Microphase Separation of Chiral Block Copolymers" *Chem. Mater.*, **29**, 4493–4501 (2017). (SCI Impact Factor=9.466; SCI Rank Factor: 15/275)

34 H. F. Wang, C. H. Chiang, W. C. Hsu, T. Wen, W. T. Chuang, B. Lotz, M. C. Li*, **R. M. Ho*** "Handedness of Twisted Lamella in Banded Spherulite of Chiral Polylactides and Their Blends", *Macromolecules*, **50**, 5466–5475 (2017). (SCI Impact Factor=5.985; SCI Rank Factor: 8/90)

35 M. C. Li, N. Ousaka, H. F. Wang, E. Yashima*, **R. M. Ho*** (2017) "Chirality control and its memory at interface in self-assembled chiral block copolymers for nanostructured chiral materials", *ACS Macro Lett.***6**, 980-986. Cover Story. (SCI Impact Factor=6.903; SCI Rank Factor: 7/90)

36 M. R. Krishnan, Y. C. Chien, **R. M. Ho*** "Fabrication of Mesoporous Polystyrene Films with Controlled Porosity and Pore Size by Solvent Annealing" *Langmuir*, **33**, 8428-8435 (2017). (SCI Impact Factor=3.908; SCI Rank Factor: 70/178)

37 K. Gu, T. Wen, M. Han, W. Zhang, Z. Zhang, Y. Zhou, M. Zhang, Z. Shen*, X. Fan, **R. M. Ho**, (2017) "Shape effect-induced spiral superstructure in self-assembled achiral disc-bent core amphiphile" *Chem. Comm.*, **86**, 11794-11797. (SCI Impact Factor=6.222; SCI Rank Factor: 44/178)

38 K. Y. Lu, T. Y. Lo, P. Georgopano, A. Avgeropoulos, A. C. Shi, **R. M. Ho*** "Orienting Silicon-Containing Block Copolymer Films with Perpendicular Cylinders via Entropy and Surface Plasma Treatment", *Macromolecules,* **50**, 9403−9410. (2017) (SCI Impact Factor=6.156; SCI Rank Factor: 8/90)

39 T. Y. Lo, M. R. Krishnan, K. Y. Lu, **R. M. Ho*** "Silicon-Containing Block Copolymers for Lithographic Applications" *Prog. Polym. Sci*., **77**, 19-68 (2018). (SCI Impact Factor= 24.505; SCI Rank Factor: 1/87)

40 W. Chang, S. C. Cheng, W. H. Chiang, J. L. Liao, **R. M. Ho**, T. C. Hsiao, D. H. Tsai* "Quantifying Surface Area of Nanosheet Graphene Oxide Colloid Using a Gas-Phase Electrostatic Approach" *Analytical Chemistry*,**89**, 12217 (2017). (SCI Impact Factor=6.986; SCI Rank Factor: 8/87)

41 N. Ousaka, S. Yamamoto , N. Hayashi , M. C. Li , **R. M. Ho**, E. Yashima * "Alkali Metal Ion-enhanced Threading of a Perylenediimide-bound Polymer Chain through a Double-stranded Spiroborate Helicate with a Bisporphyrin Unit" *Chemistry Letters*, **46**, 970 (2017). (SCI Impact Factor=1.389; SCI Rank Factor: 135/178)

C. Patents

中華民國專利

1. 專利編號：I663198
專利名稱：奈米多孔性高分子薄膜製備方法及奈米多孔性薄膜製備方法
METHOD FOR FABRICATING NANOPOROUS POLYMER THIN FILM AND METHOD FOR FABRICATING NANOPOROUS THIN FILM
發明人：何榮銘;孟哈;希蘇翰;簡佑丞
公告/公開日：2019/06/21

美國專利

1. 專利編號：1,105,920,5
專利名稱：Method for fabricating nanoporous polymer thin film and corresponding method for fabricating nanoporous thin film
公告/公開日: 2021/07/13

2. 專利編號：9,896,562
專利名稱：Networks and method for producing the same
公告/公開日：2018/2/20

Publications of Masaki Horie (堀江正樹)

A. Book Chapters

1. 高校化学宣言 Part 13, 高校化学グランドコンテストドキュメンタリー, 監修 中沢浩, 小嵜正敏, 笹森貴裕, 遊タイム出版, 2020 年 4 月 30 日 第 1 刷発行, Chapter 11: **堀江正樹**, 海外へ飛び出して 12 年、英国と台湾での研究生活を通して見えてきたもの, (ISBN: 78-4-86010-360-6).

B. Journal Papers (* Corresponding author)

2022

1. Pin-Rong Wu, Chi-Hsien Wang, Yi-Wen Chen, Yen-Jen Lin, Tomohito Ide, Yoshitaka Tsuchido, Yoshihisa Sei, **Masaki Horie***, "Cyclic and Linear Dithienyl-Anthryl Vinylenes: Synthesis, X-ray Crystallography, Spectroscopic Properties, and Photoinduced Mechanical Motions", *J. Mater. Chem. C* **2022**, *doi.org/10.1039/D1TC04619E*.

2. Chi-Hsien Wang, **Masaki Horie***, "Photo and thermal responsive pseudorotaxane crystals comprising ferrocene-containing ammonium salts and crown ethers", Review article in a special issue dedicated to Sir Fraser Stoddart on the occasion of his 80th birthday, *Mater. Today Chem.* **2022**, accepted.

3. Yuji Suzaki, Tomoko Abe, Asami Takei, Yugo Fukuchi, Take-aki Koizumi, Kohtaro Osakada*, **Masaki Horie**, "Ferrocene-containing Pseudorotaxanes in Crystals: Aromatic Interactions with Hammett Correlation", *Molecules* **2022**, accepted.

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4. Chi-Hsien Wang, Kai-Jen Chen, Tsung-Huan Wu, Hung-Kai Chang, Yoshitaka Tsuchido, Yoshihisa Sei, Pei-Lin Chen, **Masaki Horie***, "Ring rotation of ferrocene in interlocked molecules in single crystals", *Chem. Sci.* **2021**, *12*, 3871-3875 (Selected as a front cover article).

5. Mohamed Elsayed, Mohamed Abdellah, Jayachandran Jayakumar, Yi-Hao Hung, Li-Yu Ting, Ahmed M. Elewa, Chih-Li Chang, Wei-Cheng Lin, Kuo-Lung Wang, Mahmoud Abdel-Hafiez, Hsiao-Wen Hung, **Masaki Horie**, Ho-Hsiu Chou*, "Hydrophobic and Hydrophilic Conjugated Polymer Dots as Binary Photocatalysts for Enhanced Visible-Light-Driven Hydrogen Evolution Through Förster Resonance Energy Transfer", *ACS Appl. Mater. Interfaces* **2021**, *13*, 56554-56565.

6. Tomoki Inoue, Sonoka Yamamoto, Yuma Sakagami, **Masaki Horie**, Kentaro Okano, Atsunori Mori*, "Cross-coupling polymerization of organosodium for polythiophene synthesis", *Organometallics* **2021**, *40*, 3506-3510.

7. Yen-Jen Lin, **Masaki Horie***, "Dithienylethene-containing cyclic and linear conjugated molecules: synthesis, photochromism, and photoluminescence", *Dyes Pigment.* **2021**, *195*, 109700.

8. Yuji Suzaki, Yugo Fukuchi, Hiroko Tadami, Take-aki Koizumi, Kohtaro Osakada,* Tomohito Ide, **Masaki Horie**, Norihisa Hoshino, Tomoyuki Akutagawa, "Further Investigations of Crystal-to-Crystal Phase Transition of a [2]Pseudorotaxane Composed of Ferrocene-terminated Dialkylammonium and Dibenzo[24]crown-8-ether", *CrystEngComm* **2021**, *23*, 5944-5952.

9. Masayasu Hayashi, Jiaqiang Cheng, Kohei Hosokawa, Takumi Hatta, Chi-Hsien Wang, **Masaki Horie**, Kentaro Okano, Atsunori Mori*, "Synthesis and racemization studies of winding vine-shaped biphenyl derivatives", *Eur. J.Org. Chem.* **2021**, 3465-3471.

10. Sonoka Yamamoto, Yushin Shibuya, Toyoko Suzuki, Kentaro Okano, **Masaki Horie**, Atsunori Mori*, "One-shot Deprotonative Metalation/Transmetalation/Polymerization of Halothiophenes Catalyzed by Nickel Complex for Polythiophene Synthesis", *Synthesis* **2021**, *53*, 3081-3084.

11. Chihiro Kubota, Daisuke Morita, Keisuke Fujita, Sonoka Yamamoto, Toyoko Suzuki, Kentaro Okano, Masahiro Funahashi, **Masaki Horie**, Atsunori Mori*, "Thermally-Induced Doping of The Regioregular Polythiophene Bearing Alkylene Spacered Benzene Sulfonate Group at The Side Chain", *Heterocycles* **2021**, *103*, 249-257.

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12. Kuo-Lung Wang, Jia-Cheng Jiang, Cang-He Jhu, Satoshi Wada, Takafumi Sassa*, **Masaki Horie***, "High-performance organic photorefractive materials containing 2-ethylhexyl plasticized poly(triarylamine)", *J. Mater. Chem. C* **2020**, *8*, 13357-13367.

13. Shao-Chi Cheng, Chi-Hsien Wang, Yi-Chia Lin, Yoshitaka Tsuchido, Yuji Suzaki, Ting-Shen Kuo, Yoshihisa Sei, **Masaki Horie***, "Photoinduced Mechanical Motions of Pseudorotaxane Crystals Composed of Azobenzene and Ferrocenyl Groups on an Axle and a Crown Ether Ring", *ACS Appl. Mater. Interfaces* **2020**, *12*, 50002-50010.

14. Kuo-Lung Wang, Kuan-Ting Chen, Yuan-Hsing Yi, Yi-Hao Hung, Hsing-Yu Tuan*, **Masaki Horie***, "High-Performance Lithium Ion Batteries Combining Submicron Silicon and Thiophene−Terephthalic Acid-Conjugated Polymer Binders", *ACS Sustainable Chem. Eng.* **2020**, 8, 1043-1049.

15. Atsunori Mori,* Chihiro Kubota, Keisuke Fujita, Masayasu Hayashi, Tadayuki Ogura, Toyoko Suzuki, Kentaro Okano, Masahiro Funahashi, **Masaki Horie**, "Thermally Induced Self-Doping of π-Conjugated Polymers Bearing a Pendant Neopentyl Sulfonate Group", *Macromolecules* **2020**, *53*, 1171-1179.

16. Atsunori Mori,* Keisuke Fujita, Chihiro Kubota, Toyoko Suzuki, Kentaro Okano, Takuya Matsumoto, Takashi Nishino, **Masaki Horie**, "Formal preparation of regioregular and alternating thiophene–thiophene copolymers bearing different substituents", *Beilstein J. Org. Chem.* **2020**, *16*, 317-324.

17. Atsunori Mori,* Masayasu Hayashi, Mitsuru Matsuoka, Shiomi Ashida, Yukiko Ito, Kohei Hosokawa, Toyoko Suzuki, Kentaro Okano, Chi-Hsien Wang, **Masaki Horie**, "Formation of Seven-membered-ring Fused Bithiophene Derivatives by Nosyl Annulation", *Heterocycles* **2020**, 101, 461-470.

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18. **Masaki Horie***, Chi-Hsien Wang, "Stimuli-Responsive Dynamic Pseudorotaxane Crystals", Review article in Mechanical Bond and Dynamic Covalent Bond themed collection, *Mater. Chem. Front.* **2019**, *3*, 2258-2269.

19. Yen-Jen Lin, Hsin-Yu Chiang, Osamu Oki, Soh Kushida, Shu-Wei Chang, Shih-Ting Chiu, Yohei Yamamoto,* Takuya Hosokai, **Masaki Horie***, "Conjugated Copolymers of Poly(arylenevinylene)s: Synthesis by Ring-Opening Metathesis Polymerization, Film Morphology, and Resonant Luminescence from Microspheres", *ACS Appl. Polym. Mater.* **2019**, *1*, 2240-2248.

20. Kai-Jen Chen, Ann Chen Tan, Chi-Hsien Wang, Ting-Shen Kuo, Pei-Lin Chen, **Masaki Horie***, "Photoinduced Mechanical Motions of Biferrocene-Containing Pseudorotaxane Crystals", *Cryst. Growth Des.* **2019**, *19*, 17-22.

21. Ryohei Nemoto, Peter Krüger, Ayu Novita Putri Hartini, Takuya Hosokai, **Masaki Horie**, Satoshi Kera, Toyo Kazu Yamada*, "Well-Ordered Monolayer Growth of Crown-Ether Ring Molecules on Cu(111) in Ultra-High Vacuum: A STM, UPS, and DFT Study", *J. Phys. Chem. C* **2019**, *123*, 18939-18950.

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22. Shao-Chi Cheng, Kai-Jen Chen, Yuji Suzaki, Yoshitaka Tsuchido, Ting-Shen Kuo, Kohtaro Osakada, **Masaki Horie***, "Reversible Laser-Induced Bending of Pseudorotaxane Crystals", *J. Am. Chem. Soc.* **2018**, *140*, 90–93.

23. Shih-Ting Chiu, Hsin-Yu Chiang, Yen-Jen Lin, Yun-Yung Lu, Hirofumi Tanaka,* Takuya Hosokai, **Masaki Horie***, "Self-Assembly and Ring-Opening Metathesis Polymerization of Cyclic Conjugated Molecules on Highly Ordered Pyrolytic Graphite", *Chem. Commun.* **2018**, *54*, 5546-5549.

24. Priyanka Tyagi, Sun-Chen Hua, Daniel Roger Amorim, R.M. Faria, Jeff Kettle*, **Masaki Horie***, "All-conjugated block copolymers for efficient and stable organic solar cells with low temperature processing", *Org. Electron.* **2018**, *55*, 146-156.

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25. Chun-Feng Yao, Kuo-Lung Wang, Hsin-Kai Huang, Yen-Jen Lin, Yun-Yang Lee, Chun-Wei Yu, Cho-Jen Tsai, **Masaki Horie***, "Cyclopentadithiophene-terephthalic acid copolymers; synthesis via direct arylation and saponification and applications in Si-based lithium-ion batteries", *Macromolecules* **2017**, *50*, 6924–6934.

26. Kuo-Lung Wang, Tzu-Husan Kuo, Chun-Feng Yao, Shu-Wei Chang, Yu-Shuo Yang, Cho-Jen Tsai*, **Masaki Horie***, "Cyclopentadithiophene-Benzoic Acid Copolymers as Conductive Binders for Silicon Nanoparticles in Anode Electrode of Lithium Ion Batteries", *Chem. Commun.* **2017**, *53*, 1856-1859.

27. Kai-Jen Chen, Pei-Lin Chen, **Masaki Horie***, "Dynamic Pseudorotaxane Crystals Containing Metallocene Complexes", *Sci. Rep.* **2017**, *7*, 14195.

28. Shu-Wei Chang, Tsuyoshi Muto, Takeshi Kondo, Ming-Jhih Liao, **Masaki Horie***, "Double acceptor donor–acceptor alternating conjugated polymers containing cyclopentadithiophene, benzothiadiazole, and thienopyrroledione: toward subtractive color organic photovoltaics", *Polym. J.* **2017**, *49*, 113–122 (invitation for special issue).

C. Conference Presentations

2021

1. Invited speech: Synthesis of Conjugated Polymers and Molecular Machines for Optoelectronic Applications, the 2021 International Conference on Modern Challenges in Polymer Science and Technology (MCPST) and 2021 Annual Meeting of the Polymer Society (AMPS), Taipei, (2021 中華民國高分子學會年會), Online-National Sun Yat-Sen University (Online-國立中山大學), Kaohsiung, Taiwan, Jul 9, 2021.

2020

2. Invited speech: Conjugated molecules and molecular machines for use in organic optoelectronics, 2020 The Taiwan Institute of Chemical Engineers (TwIChE), 台灣化學工程學會 67 週年年會 and Taiwan-Japan-Kore Joint Symposium, National Tsing Hua University (清華大學), Hsinchu, Taiwan, Oct 23-24, 2020.

2019

3. Invited speech: Conjugated molecules and molecular machines for use in organic optoelectronics, *2019 Japan/Taiwan/Korea Chemical Engineering Conference*, Beppu, Japan, Nov 13-15, 2019.

4. Invited speech: My enjoyable academic life in the UK and Taiwan (海外へ飛び

出して 12 年 英国と台湾での研究生活を通して見えてきたもの), 2019 Grand Contest on Chemistry for High School Students in Japan (高校化学グランドコンテスト), Osaka City University (大阪市立大学), Osaka, Japan, Oct 27, 2019.

5. **Invited speech:** Photoinduced Mechanical Motions of Pseudorotaxane Crystals, *The 8th International Summer Course on "Nano Material Discovery"*, National Chiao Tung University (交通大學), Hsinchu, Taiwan, June 24, 2019.

6. **Invited speech:** 結晶中で動くロタキサン分子機械, Mechanical motions of rotaxane crystals, *The Japan Society of Applied Physics, 2019 Annual meeting (2019 日本応用物理學會年會)*, Tokyo, Japan, Mar 9-12, 2019.

7. **Invited speech:** 發展應用於有機光電的全共軛共嵌段高分子, *2019 Annual Meeting of the Polymer Society (中華民國高分子學會年會)*, Southern Taiwan University of Science and Technology (南臺科技大學), Taiwan, Jan 18, 2019.

8. **The Silver Poster Award**, Mechanical Motions of Azobenzene-Containing Supramolecular Materials (S3-044), Yi-Chia Lin (林儀嘉), **Masaki Horie**, *Federation of Asian Polymer Societies Polymer Congress (FAPS) 2019*, Taipei, Oct 27-30, 2019.

9. Synthesis of conjugated poly(arylene vinylene) polymers via ring-opening metathesis polymerization and their morphology study (S4-024), Yen-Jen Lin, Yun-Yung Lu, Shih-Ting Chiu, Hsin-Yu Chiang, **Horie Masaki**, *Federation of Asian Polymer Societies Polymer Congress (FAPS) 2019*, Taipei, Oct 27-30, 2019.

10. Complex Materials Consist of a Soft-Polymer and Chromophores with Photoinduced Properties (S1-008), Chi-Hsien Wang, Dao-Hong Huang, **Masaki Horie**, *Federation of Asian Polymer Societies Polymer Congress (FAPS) 2019*, Taipei, Oct 27-30, 2019.

2018

11. All-conjugated block copolymers comprising of P3HT and PTB7-Th, **Masaki Horie**, Sune-Chen Hua, 16F13, *The 12th SPSJ International Polymer Conference (IPC2018)*, Hiroshima, Japan, Dec 4-7, 2018.

12. Photo-responsive actuators comprising of a soft-polymer and chromophores, Chi-Hsien Wang, **Masaki Horie,** Kai-Jen Chen, Dao-Hong Huang, U-Ser Jeng, Chung-Ju Chang, 6P-T8-077c, *The 12th SPSJ International Polymer Conference (IPC2018)*, Hiroshima, Japan, Dec 4-7, 2018.

13. Synthesis of photoresponsive pseudorotaxane crystals composed of dibenzo-30-crown-10-ether and ferrocene-containing axle molecules, Masaki Horie, Tsung-Huan Wu, Kai-Jen Chen, **Masaki Horie**, 6P-T8-089c, *The 12th SPSJ International Polymer Conference (IPC2018)*, Hiroshima, Japan, Dec 4-7, 2018.

14. Synthesis of poly(arylene vinylene) conjugated polymers by ringopening metathesis polymerization and their morphology study, Yenjen Lin, Yunyung Lu, Shihting Chiu, Hsinyu Chiang, **Masaki Horie**, 7P-T4-092b, *The 12th SPSJ International Polymer Conference (IPC2018)*, Hiroshima, Japan, Dec 4-7, 2018.

15. Synthesis and Purification of Poly[triphenylamine] for OFET measurement and XPS Analysis, Kuo-Lung Wang, Ming-Jhih Liao, **Masaki Horie**, 7P-T4-099a, *The 12th SPSJ International Polymer Conference (IPC2018)*, Hiroshima, Japan, Dec 4-7, 2018.

16. **The oral presentation award in young researchers session**, Photoinduced bending of azobenzene-based [2]pseudorotaxane crystals, Shao-Chi Cheng (程紹奇), *The Annual Spring Conference and Expo on Chemical Engineering: From Materials Engineering to Nanotechnology (ChEMEN 2018)*, Maiami, USA, April 4-5, 2018.

17. Synthesis of polymer binders for conductive additive free Silicon based anode Lithium ion batteries, Kuo-Lung Wang (王國隆), **Masaki Horie**, *2018 International Day of Light*, Hsinchu, National Tsing Hua University, May 13-14, 2018.

18. Synthesis of conjugated polymers for use Si based lithium ion batteries Polymer Binders, Kuo-Lung Wang (王國隆), **Masaki Horie**, *2018 Annual Meeting of the polymer society*, Taipei, National Taipei University of Technology, Taiwan, Jan 12-13, 2018.

19. **Invited speech:** 發展應用於有機光電的全共軛共嵌段高分子, **Masaki Horie**, *2018 Annual Meeting of the Polymer Society (中華民國高分子學會年會)*, National Taipei University of Technology (臺北科技大學), Taichung, Taiwan, Jan 13, 2018.

2017

20. **Invited speech:** Photoresponsive Dynamic Crystals and Polymers, *2017 Japan-Taiwan Bilateral Polymer Symposium*, **Masaki Horie**, Yamagata University (山形大學), Yonezawa, Japan, 7 Sept 2017.

21. Photoinduced switching of a ferrocene-containing rotaxane crystal, **Masaki Horie**, Kai-Jen Chen, 14811 MEO_27, *13th International Conference on Materials Chemistry (MC13)*, Liverpool, UK, 13 Jul 2017.

22. Synthesis and opto-electronic devices of poly(cyclopentadithiophene)s, ポリシクロペンタジチオフェン類の合成および電子デバイス特性, **Masaki Horie**, *The Japan Society of Applied Physics, 2017 Annual meeting (2017 日本応用物理學會年會)*, Yokohama, Japan, 14-17 Mar 2017.

23. **Invited speech:** Opto-electronic functional molecular switches and conjugated polymers, **Masaki Horie**, *2017 Annual Meeting of the Polymer Society (中華民國高分子學會年會)*, National Chung Hsing University (中興大學), Taichung, Taiwan, 13th Jan 2017.

D. Patents

1. **堀江正樹**、張書維、武藤豪志、近藤健，"高分子化合物、有機光電変換素子、及び該素子の製造方法", 日本專利 JP 2016-169328 A, 23rd September 2016.

2. 武藤豪志、近藤健、**堀江正樹**、張書維，"高分子化合物、有機光電変換素子、及び該素子の製造方法, Polymeric compound for bulk-hetero junction photoelectric conversion layer, organic photoelectric conversion element, and method for producing said element ", 國際專利, PCT Int. Appl. (2015), WO 2015092909 A1 20150625.

E. Other

1. **堀江正樹**「結晶中で動く、結晶を動かす、ロタキサン分子」日本応用物理学会, 有機分子・バイオエレクトロニクス分科会会誌, 特集: 分子のダイナミクスを活かした有機材料科学の新展開, The Japan Society of Applied Physics (JSAP), Molecular Electronics and Bioelectronics, **2021**, Vol. 32, No. 4, Pages 211(34)-211(39). (https://annex.jsap.or.jp/support/division/MandBE/journal/1192/)

2. **堀江正樹**、王祺嫻， "Ring rotation of ferrocene in interlocked molecules in single crystals (*Chem. Sci.* **2021**, *12*, 3871)", Highlighted by Chemistry Newsletter by MOST, 科技部圖書服務計畫化學中心總圖書室, 七月號化學電子報, Jul. 2021. (https://archive.benchmarkemail.com/beer_beer)

3. 媒體報導: 於 2019 年 11 月 25 日，Japan Yomiuri newspaper (日本 読売新聞), My enjoyable academic life in the UK and Taiwan (海外へ飛び出して 12 年 英国と台湾での研究生活を通して見えてきたもの), 2019 Grand Contest on Chemistry for High School Students in Japan (高校化学グランドコンテスト) (http://www.gracon.jp/gc/gracon2019/2019/11/29/yomiuritokushu/).

4. 2018 年 1 月 中華民國高分子學會傑出青年高分子科技獎

Publications of Chi-Chang Hu (胡啟章)

A. Journal Papers

2021

1. Hao-Yu Ku, Yui-Ju Pai, Yi-Ting Lu, Li-Qian Wang, **Chi-Chang Hu***, 2021, "Design of polyimide-based separators for effective suppression of self-discharge in non-aqueous electrical double layer capacitors", *J. Power Sources*, (**vol. 514**) 230594. (https://doi.org/10.1016/j.jpowsour.2021.230594)

2. Zhi-Xiu Lin, Yi-Ting Lu, Chi-Yu Lai, **Chi-Chang Hu***, 2021, "Polyvinyl alcohol-based gel electrolytes with high water content for flexible zinc-air batteries with high rate capability", *J. Electrochem. Soc.*, (**vol. 168**) 100531.

3. Sook Ting Chung, Meng-Ting Chiang, Yiu Xuan Chin, **Chi-Chang Hu***, De-Hao Tsai*, 2021, "Controlled Aerosol-based Synthesis of Vanadium Oxides Nanoparticle for Supercapacitor Applications", *J. Tw. Inst. Chem. Engr.*, (**vol. 128**) 220-226. (https://doi.org/10.1016/j.jtice.2021.08.030)

4. Jui-Yu Pai, Hao-Yu Ku, Chun-Cheng Lin, Chien-Wei Chiang, Laurence J. Hardwick*, **Chi-Chang Hu***, 2021, "Porous polyimide separator promotes uniform lithium plating for lithium-free cells", *Electrochemical Science Advances*, (**vol. 1**) in press. (https://doi.org/10.1002/elsa.202100091)

5. Da-Je Hsu, Yu-Wen Chi, Kun-Ping Huang, **Chi-Chang Hu***, 2021, "Synthesis and Characterization of Nitrogen-Doped Graphene Nanowalls by Plasma-Enhanced Chemical Vapor Deposition for High Voltage Supercapacitors: Effects of Carbon Sources", *J. Electrochem. Soc.*, (**vol. 168**) 080505.

6. Shu-Ju Chao, Ming-Han Tsai, Rui-Pei Yu, Lap-Cuong Hua, **Chi-Chang Hu**, Chihpin Huang*, 2021, "Dezincification of brass water meters in a long term study: effects of anions, alkalinity, and residual chlorine", *Environ. Sci.: Water Res. Technol.*, (**vol. 7**) 1666-1676. (DOI: 10.1039/d1ew00351h)

7. Yi-Ting Lu, Alex R. Nealea, **Chi-Chang Hu***, Laurence J. Hardwick*, 2021, "Trapped interfacial redox introduces reversibility in the oxygen reduction reaction in a non-aqueous Ca^{2+} electrolyte", *Chemical Science*, (**vol. 12**) 8909-8919. (DOI: 10.1039/d0sc06991d).

8. Tien-Yu Yi, Cheng-Wei Dai, **Chi-Chang Hu***, 2021, 05, "A comparative study on binders for the expanded mesocarbon microbeads as the positive electrodes of lithium-ion capacitors", *J. Power Sources*, (**vol. 501**) 230029 (https://doi.org/10.1016/j.jpowsour.2021.230029).

9. Ren-Hao Guo, **Chi-Chang Hu***, 2021, 05, 03, "The relationships among hydrogen adsorption, CO stripping, and selectivity of CO_2 reduction on Pd nanoparticles", *J. Electrochem. Soc.*, (**vol. 168**) 054507.

10. Ting-Hsuan You, **Chi-Chang Hu***, Hui-Ching Chien, Tien-Yu Yi, 2021, 04, "A new methodology for evaluating the performances of electrocatalysts for rechargeable Li-O_2 batteries: (Ru-Sn)O_2@graphene nanowalls/Ti electrodes as an example", *Electrochem. Commun.*, (**vol. 125**) 107009 (https://doi.org/10.1016/j.elecom.2021.107009).

11. Chih-Hung Lee, Yuan-Chang Huang, Uwe Kinzlinger, Daniel Esken, Yu-Han Lin, Ang-Ta Tsai, Hung-Chun Wu, Yen-Cheng Li, **Chi-Chang Hu***, 2021, 04, "A Novel Cavity-Enhanced Polyethylene/Nanostructured-Alumina Separator with Long Cycle Life and High Rate Capability for Advanced Lithium-Ion Batteries", *ACS Sustainable Chemistry & Engineering*, (**vol. 9**) 1590-1598 (https://dx.doi.org/10.1021/acssus chemeng.0c06628).

12. Tzu-Chien Chang, Yi-Ting Lu, Chih-Heng Lee, Jyoti Gupta, Laurence J. Hardwick, **Chi-Chang Hu,** Hsin-Yi Tiffany Chen*, 2021, 03, "The Effect of Degrees of Inversion on the Electronic Structure of Spinel $NiCo_2O_4$: A DFT Study", *ACS Omega*, (**vol. 6**) 9692-9699(https://doi.org/10.1021/acsomega.1c00295).

13. Chi-Haw Chiang, Chun-Cheng Lin, **Chi-Chang Hu***, 2021, 03, "Effects of thiourea and allyl thioura on the electrodeposition and microstructures of copper from methanesulfonic acid baths", *J. Electrochem. Soc.*, (**vol. 168**) 032505.

14. Yi-Ting Lu, Alex Ryan Neale, **Chi-Chang Hu***, Laurence J. Hardwick*, 2021, 02, "Divalent non-aqueous metal-air batteries", *Frontiers in Energy Research*, (**vol. 8**) 602918 (https://doi.org/10.3389/fenrg.2020.602918).

15. Shi-Kung Chen, Kuo-Hsin Chang, Chun-Han Hsu, Zheng-Yi Lim, Fang-Yi Du, Kai-Wen Chang, Mong-Chen Chang, Hong-Ping Lin*, **Chi-Chang Hu**, Chih-Yuan Tang, Ching-Yen Lin, 2021, 01, 15, "Synthesis of Mesoporous Carbon Platelets of High Surface Area and Large Porosity from Polymer Blends-Calcium Phosphate Nanocomposites for High-Power Supercapacitor", *Journal of the Chinese Chemical Society*, (**vol. 68**) 462-468(https://doi.org/10.1002/jccs.202000510).

16. Yi-Heng Tu, Yu-Hsang Yang, **Chi-Chang Hu***, 2021, 01, "A highly efficient faradaic desalination system utilizing MnO_2 and polypyrrole-coated titanium electrodes", *Desalination*, (**vol. 498**) 114807(https://doi.org/10.1016/j.desal.2020.114807).

17. Jui-Yu Pai, Cheng-Ta Hsieh, Chih-Hung Lee, Jeng-An Wang, Hao-Yu Ku, Chun-Lung Huang, Laurence J. Hardwick*, **Chi-Chang Hu***, 2021, 01, "Engineering of electrospun polyimide separators for electrical double-layer capacitors and lithium-ion cells", *J. Power Sources*, (**vol. 482**) 229054 (https://doi.org/10.1016/j.jpowsour.2020.229054).

2020

18. Saustin Dongmo, Julian Jakob Alexander Kreissl, Kohei Miyazaki, Takeshi Abe, Ting-Hsuan You, **Chi-Chang Hu**, Daniel Schröder*, 2020, 11, "Reproducible and Stable Cycling Performance Data on Secondary Zinc-Oxygen Batteries", *Scientific Data*, (**vol. 7**) 395 (https://doi.org/10.1038/s41597-020-00728-3).

19. Ren-Hao Guo, **Chi-Chang Hu***, Arumugam Manikandan, Yu-Lun Chueh, 2020, 08, "Electrochemical reduction of CO_2 to formate on glacial acetic acid-refluxed Pd nanoclusters", *J. Electrochem. Soc.*, (**vol. 167**) 126507 (https://doi.org/10.1149/1945-7111/abad65).

20. Tien-Yu Yi, Cheng-Wei Dai, Jeng-An Wang, Chen-Chi M. Ma*, **Chi-Chang Hu***, 08, 2020, "Electrochemical Activation and Capacitance Enhancement of Expanded Mesocarbon Microbeads for High-Voltage, Symmetric Super-capacitors", *Electrochim. Acta*, (**vol. 359**) 136941.

21. Chun-Cheng Lin and **Chi-Chang Hu***, 2020, "The ultrahigh-rate growth of nanotwinned copper induced by thiol organic additives", *J. Electrochem. Soc.*, (**vol. 167**) 082505 (DOI: 10.1149/1945-7111/ab897c).

22. Yun Wei, Ren-Hau Guo, **Chi-Chang Hu***, 2020, "Enhancing the selectivity of CO formation for electrochemical reduction of CO_2 on tin(IV) oxide-based catalysts", *J. Tw. Inst. Chem. Engr.*, (**vol. 111**) 337-345.

23. Tzu-Ho Wu, Ivan Scivetti*, Jia-Cing Chen, Jeng-An Wang, Gilberto Teobaldi, **Chi-Chang Hu***, Laurence J. Hardwick*, 2020, "Quantitative Resolution of Complex Stoichiometric Changes During Electrochemical Cycling by Density Functional Theory Assisted, Electrochemical Quartz Crystal Microbalance", *ACS Applied Energy Materials*, (**vol. 3**) 3347-3357.

24. Chun-Chia Hsu, Yi-Heng Tu, Yu-Hsiang Yang, Jeng-An Wang, **Chi-Chang Hu***, 2020, "Improved performance and long-term stability of activated carbon doped with nitrogen for capacitive deionization", *Desalination*, (**vol. 481**) 114362 (https://doi.org/10.1016/j.desal.2020.114362).

25. Jeng-An Wang, Chen-Chi M. Ma* and **Chi-Chang Hu***, 2020, 02, "Constructing a high-performance quasi-solid-state asymmetric supercapacitor: Na_xMnO_2@CNT/WPU- PAAK-Na_2SO_4/AC-CNT", *Electrochimica Acta*, (**vol. 334**) 135576.

2019

26. Yi-Ting Lu, Jianyuan Wu, Zhi-Xiu Lin, Ting-Hsuan You, Sheng-Chi Lin, Hsin-Yi Tiffany Chen, Laurence J. Hardwick*, **Chi-Chang Hu***, 2019, "Enhanced Oxygen Evolution Performance of Spinel $Fe_{0.1}Ni_{0.9}Co_2O_4$/Activated Carbon Composites with Excellent Stability", *Electrochimica Acta*, (DOI: *10.1016/j.electacta.2019.134986*).

27. Yu-An Sun, Li-Ting Chen, Sheng-Yaw Hsu, **Chi-Chang Hu***, De-Hao Tsai*, 2019, 10, "Silver Nanoparticles-Decorating Manganese Oxide Hybrid Nanostructures for Supercapacitor Applications", Langmuir, (vol. 35, 44) 14203-14212.

28. Cheng-Ta Hsieh, Sheng-Chi Lin, Chih-Hung Lee, Ching-Fang Liu, and **Chi-Chang Hu***, 2019, "Designing Multifunctional Polyethylene-Polyimide Composite Separators for Rechargeable Lithium-Ion Batteries", J. Electrochem. Soc., (vol. 166) A3132-A313.

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39. Sheng-Yaw Hsu, Sheng-Chi Lin, Jeng-An Wang, **Chi-Chang Hu***, Chen-Chi M. Ma* and De-Hao Tsai*, 2019, 02, "Aerosol-based synthesis of silsesquioxane-graphene oxide and graphene-manganese oxide nanocomposites for high-performance asymmetric supercapacitors", *Electrochim. Acta*, (**vol. 296**) 427-437.

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2018

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52. Ching-Fang Liu, Yen-Chun Chuan Sun, **Chi-Chang Hu***, Yi-Jing Lu, and Ren-Hau Guo, 2018, 01, "How to achieve the desired performance of solar water splitting with voltage biases", *J. Tw. Inst. Chem. Engr.*, (**vol. 82**) 129-136.

2017

53. Jeng-An Wang, Shin-Ming Li, Yu-Sheng Wang, Pei-Yu Lan, Wei-Hao Liao, Sheng-Tsung Hsiao, Sheng-Chi Lin, Chih-Wen Lin, Chen-Chi M. Ma* and **Chi-Chang Hu***, 2017, 11, "Preparation and Properties of NrGO-CNT Composite for Lithium-Ion Capacitors", *J. Electrochem. Soc.*, (**vol. 164**) A3657-A3665.

54. Yi-Ting Lu, Yu-Ju Chien, Ching-Fang Liu, Ting-Hsuan You, and **Chi-Chang Hu***, 2017, 09, "Active Site-Engineered Bifunctional Electrocatalysts of Ternary Spinel Oxides, $M_{0.1}Ni_{0.9}Co_2O_4$ (M: Mn, Fe, Cu, Zn) for the Air Electrode of Rechargeable Zinc-Air Batteries", *J. Mater. Chem. A*, (**vol. 5**) 21016-21026.

55. Chun-Cheng Lin, Chih-Han Yen, Sheng-Chi Lin, **Chi-Chang Hu***, Wei-Ping Dow*, 2017, "Interactive effects of additives and electrolyte flow rate on the microstructure of electrodeposited copper foils", *J. Electrochem. Soc.*, (**vol. 164**), D810-D-817.

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57. Ren Hau Guo, Ching-Fang Liu, Tzu-Chien Wei, **Chi-Chang Hu***, 2017, 06, "Electrochemical behavior of CO_2 reduction on palladium nanoparticles: Dependence of adsorbed CO on electrode potential", *Electrochem. Commun.*, (**vol. 80**), 24-28.

58. Arturas Adomkevicius, Laura Cabo-Fernandez, Tzu-Ho Wu, Tzu-Man Ou, Ming-Guan Chen, Yuri Andreev*, **Chi-Chang Hu***, and Laurence J. Hardwick*, 2017, 05, "$Na_{0.35}MnO_2$ as an ionic conductor with randomly distributed nano-sized layers", *J. Mater. Chem. A*, (**vol. 5**), 10021-10026.

59. Yi-Jing Lu, Chin-Fang Liu, **Chi-Chang Hu***, Jen-Hou Kuo, Rajender Boddula, 2017, 03, "Fabrication and characterization of ZnO nanowires array electrodes with high photocurrent densities: Effects of the seed layer calcination time**",** *Mater. Chem. Phys.*, (**vol. 189**), 56-63.

60. Po-Chieh Li, **Chi-Chang Hu***, Ting-Hsuan You, Po-Yu Chen, 2017, 01, "Development and characterization of bi-functional air electrodes for rechargeable zinc-air batteries: Effects of carbons", *Carbon*, (**vol. 111**), 813-821.

B. Conference Presentations

2021

1. **Chi-Chang Hu**, "Designs of Electrospun Polyimide-based Separators for Energy Storage Devices ", The International Conference on Clean Technology 2021, Gyeongsan, South Korea, December 23, 2021 (**Keynote lecture**).

2. **Chi-Chang Hu**, Chih-Han Yen, Shang-Tzu Liu, Hao-Yu Ku, Chih-Heng Lee, Hsing-Yi Tiffany Chen, Laurence Hardwick, "Crystal facet control of copper foils for anode-free LBs", 2021 Taiwan-Germany Joint Workshop on Advanced Lithium-Ion Battery Technologies, Tainan, Taiwan, Dec. 14-15, 2021.

3. **Chi-Chang Hu**, Da-Je Hsu, Yu-Wen Chi, Kun-Ping Huang, "Hydrogen responses on graphene@platinum clusters electrodes with graphene prepared by plasma-enhanced chemical vapor deposition", The 12th Asia-Pacific International Symposium on the Basics and Applications of Plasma Technology (APSPT-12), Taipei, Taiwan, Dec. 9-11, 2021.

4. **Chi-Chang Hu**, "Separator designs for energy storage devices", 2021 International Seminar of Advanced Lithium-ion Battery and Hydrogen Fuel Cell Electrochemical Energy Storage, Tainan, Taiwan, Dec. 7-8, 2021 (**Invited Lecture**).

5. **Chi-Chang Hu**, "Development of bi-functional catalysts for rechargeable metal-air batteries", National Tsing Hua University & University of Liverpool 10th Bilateral Workshop, Hsin-Chu, Taiwan, Dec. 6, 2021 (**Invited Lecture**).

6. **Chi-Chang Hu**, Chun-Cheng Lin, Shang-Tzu Liu, Siang-Sheng Wei, "Electroplating of Copper with Microstructure Control and The Applications to Energy Storage Systems", The 30th Topical Meeting of the International Society of Electrochemistry, Taipei, Taiwan, Nov. 21-24, 2021.

7. **Chi-Chang Hu**, Shang-Tzu Liu, Chun-Cheng Lin, Siang-Sheng Wei, Jui-Yu Pai, "Crystalline Facet Control of Electroplated Copper Foils for Energy Storage Applications", INTERFINISH2020, Nagoya, Japan, Sept. 6-8, 2021 (**Invited Lecture**).

8. **Chi-Chang Hu**, Jui-Yu Pai, Cheng-Ta Hsieh, Hao-Yu Ku, Laurence J. Hardwick, "Electrospun Polyimide-copolymer Separators Designed for Electrical Double-Layer Capacitors and Lithium-ion Cells", The 72nd ISE Annual Meeting, Jeju Island, South Korea, Aug. 29th-Sept. 3rd, 2021 (**Coordinator of Symposium 25**).

2020

9. **Chi-Chang Hu**, "Design of a Novel Polymer as the Electrolyte and Binder for Flexible Supercapacitors", Advanced Materials Lecture Series 2020, Stockholm, Sweden, December 11, 2020 (**International Association of Advanced Materials (IAAM) Fellow Lecture**).

10. **Chi-Chang Hu**, Tien-Yu Yi, Jeng-An Wang, Chen-Chi M. Ma, "Electrochemical Activation of Expanded Mesocarbon Microbeads Using Polyurethane-Crosslinked Polyacrylic Acid as a Binder for High-Voltage Symmetric Supercapacitors", The 2020 International Conference on Green Electrochemical Technologies, Taichung, Taiwan, November, 26-28, 2020 (**Keynote lecture**).

11. **Chi-Chang Hu**, Chi-Feng Hsieh, Yi-Jing Chen, Chun-Chia Hsu, Ching-Fang Liu, "Porous carbon materials for electrochemical capacitive deionization", Materials Engineering and Nanotechnology Conference, Singapore, November 26, 2020 (**Keynote lecture**).

12. **Chi-Chang Hu**, "Separator designs for energy storage devices", 2020 Taiwan-Germany Joint Workshop, Taipei, November 10-12, 2020.

2019

13. **Chi-Chang Hu**, Cheng-Ta Hsieh, Sheng-Chi Lin, Chih-Hung Lee, Ching-Fang Liu, "Electrospun-Derived Polymer Composite Separators with Multifunctions for Rechargeable Lithium-Ion Batteries", The 60th Japan Batteries Symposium, Kyoto, Japan, November 13-15, 2019 **(Invited lecture)**.

14. **Chi-Chang Hu**, Po-Chieh Li, Yu-Ju Chien, "Synthesis and Characterization of Bifunctional Air Electrodes for Rechargeable Zn-Air Batteries", 18th Asian Pacific Confederation of Chemical Engineering Congress (APCChE 2019), Sapporo, Japan September 23-27, 2019 **(Keynote lecture and symposium organizer)**.

15. **Chi-Chang Hu**, Jeng-An Wang, Sheng-Chi Lin, and Chen-Chi M. Ma, "Materials Design for Flexible Supercapacitors", 6th International Conference on Advanced Capacitors (ICAC2019), Ueda, Japan, September 8-12, 2019 **(Plenary Lecture, Poster Contest Evaluator, & International Advisory Board Member)**.

16. **Chi-Chang Hu**, Yu-Wen Chi, Hsiao-Hsuan Shen, Kun-Ping Huang, "High-voltage electrical double-layer capacitors using vertical graphene nanowalls with and without nitrogen doping", ISPlasma2019/IC-PLANT2019, Nagoya, Japan, March 17-21, 2019 **(Program committee member)**.

2018

17. **Chi-Chang Hu**, Yi-Ting Lu, Yu-Ju Chien, Ting-Hsuan You, "Active Site-Engineered Bifunctional Electrocatalysts of Ternary Spinel Oxides, $M_{0.1}Ni_{0.9}Co_2O_4$ (M: Mn, Fe, Cu, Zn), for the Air Electrode of Rechargeable Zinc-Air Batteries", The 59th Japan Battery Symposium, Osaka, Japan, November 27-29, 2018.

18. Da-Je Hsu, Yu-Wen Chi, Kun-Ping Huang, and **Chi-Chang Hu**, "Electrochemical activation of vertically grown graphene nanowalls synthesized by plasma-enhanced chemical vapor deposition for high-voltage supercapacitors", The 2018 International Conference on Green Electrochemical Technologies, Tainan, Taiwan, November, 22-24, 2018

19. Jeng-An Wang, Chen-Chi M. Ma, **Chi-Chang Hu**, "High performance asymmetric supercapacitor: NaxMnO2@CNT /WPU-PAAK/AC-CNT" , The 2018 International Conference on Green Electrochemical Technologies, Tainan, Taiwan, November, 22-24, 2018

20. Ren Hau Guo, **Chi-Chang Hu**, "Surface adsorption status on Pd nanoparticles and its effects on the electrochemical reduction of CO_2", The 2018 International Conference on Green Electrochemical Technologies, Tainan, Taiwan, November, 22-24, 2018

21. Cheng Ta Hsieh, **Chi-Chang Hu**, "Preparation of Polyethylene-coated Electrospun Polyimide Composite Films for the Separator of Lithium-ion Batteries", The 2018 International Conference on Green Electrochemical Technologies, Tainan, Taiwan, November, 22-24, 2018.

22. Chun-Chia Hsu, **Chi-Chang Hu**, "Optimization of Activated Carbon-based Capacitive Deionization Systems and Effects of Nitrogen Doping on its Performance", The 2018 International Conference on Green Electrochemical Technologies, Tainan, Taiwan, November, 22-24, 2018

23. Yun Wei, **Chi-Chang Hu**, "Tuning Tin Oxide Catalysts for Enhanced Selectivity of CO_2 Electrochemical Reduction to CO", The 2018 International Conference on Green Electrochemical Technologies, Tainan, Taiwan, November, 22-24, 2018

24. **Chi-Chang Hu**, Sheng-Chi Lin, Chen-Chi M. Ma, "Synthesis and Characterization of Electrospun Carbon Nanofibers/Manganese Dioxide Nanocomposites for Supercapacitors", The 2018 International Conference on Green Electrochemical Technologies, Tainan, Taiwan, November, 22-24, 2018 (**Keynote Lecture**).

25. **Chi-Chang Hu**, Po-Yu Chen, Arturas Adomkevicius, "Pseudocapacitive Characteristics of Cation-Preintercalated Manganese Oxides for High Performance Asymmetric Supercapacitors", The 69th ISE Annual Meeting, Bologna, Italy, September 02-07, 2018.

26. **Chi-Chang Hu**, Jeng-An Wang, Chen-Chi M. Ma, "Engineering Novel Alkaline Bifunctional Polymer Electrolytes for Flexible Supercapacitors", APEnergy2018, Singapore, July 18-20, 2018 (**Invited Lecture**).

27. **Chi-Chang Hu**, Yi-Ting Lu, Yu-Ju Chien, Ting-Hsuan You, Po-Chieh Li, "Engineering the Active Sites of Bifunctional Electrocatalysts of Ternary Spinel Nickel-Cobalt Oxides, $M_xNi_{1-x}Co_2O_4$, for the Air Electrode of Rechargeable Zinc-Air Batteries", IMLB 2018, Kyoto, Japan, June 17-22, 2018.

28. Tien-Yu Yi, **Chi-Chang Hu**, "Capacitance Enhancement by Substituting PUPAK for PVdF as Binders for Carbon Electrodes in Organic Supercapacitor", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

29. Yi-Ting Lu, **Chi-Chang Hu**, "Enhanced Catalytic Performance of Ternary Spinel FexNi1-xCo2O4 / Activated Carbon Composite for the Air Cathode of Rechargeable Zinc-Air Batteries", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

30. Ren Hau Guo, **Chi-Chang Hu**, "Dependence of surface adsorption status on electrode potentials for electrocatalytic reduction of CO2 on Pd nanoparticles", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

31. Jeng-An Wang, Chen-Chi M. Ma, **Chi-Chang Hu**, "Establishing ionic tunnels with WPU-PAAK GPE in electrode materials for supercapacitor", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

32. Da-Je Hsu, Yu-Wen Chi, Kun-Ping Huang, and **Chi-Chang Hu**, "Electrochemical activation of graphene nanowalls synthesized by plasma-enhanced chemical vapor deposition for high-voltage organic EDLCs", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

33. Ting-Hsuan You, **Chi-Chang Hu**, "Designing Binary Ru-Sn Oxides with Optimized Performances for the Air Electrode of Rechargeable Zinc-Air Batteries", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

34. Po-Yu Chen, **Chi-Chang Hu**, "Optimization of Alkali Ion-intercalated Manganese Oxides for Asymmetric Supercapacitors", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

35. Sheng-Chi Lin, Chen-Chi M. Ma, **Chi-Chang Hu**, "Asymmetric supercapacitors based on electrospun carbon nanofiber/sodium-pre-intercalated manganese oxide electrodes with high power and energy densities", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018.

36. **Chi-Chang Hu** and Chun-Cheng Lin, "Surface morphology and microstructure control of electrodeposited copper foils for high-frequency wireless devices and Li-ion batteries", The 22nd Topical Meeting of the International Society of Electrochemistry, Tokyo, Japan, April 15-18, 2018 (**Conference Co-organizer**).

37. **Chi-Chang Hu**, Y.-W. Chi, H.-H. Shen, M.-K. Huang, and K-P Huang, "Synthesis and Characterization of Bifunctional Air Electrodes for Rechargeable Zn-Air Batteries", Energy Future 2018, Sydney, Australia, February 5-7, 2018 (**Invited Lecture**).

2017

38. **Chi-Chang Hu**, Yi-Ting Lu, Yu-Ju Chien, Ching-Fang Liu, Ting-Hsuan You, "Active Site-Engineered Bifunctional Electrocatalysts of Spinel $M_{0.1}Ni_{0.9}Co_2O_4$ (M: Mn, Fe, Cu, Zn) for the Air Electrode of Rechargeable Zinc-Air Batteries", The 3rd Across-Taiwan-Strait Meeting on Electrochemistry, Tainan, Taiwan, November 19-20, 2017 (**Invited Lecture**).

39. **Chi-Chang Hu**, Yi-Ting Lu, Yu-Ju Chien, Ching-Fang Liu, Ting-Hsuan You, "Active Site-Engineered Bifunctional Electrocatalysts of Ternary Spinel Oxides, $M_{0.1}Ni_{0.9}Co_2O_4$ (M: Mn, Fe, Cu, Zn), for the Air Electrode of Rechargeable Zinc-Air Batteries", The 2017 International Conference on Green Electrochemical Technologies, Taipei, Taiwan, November, 5-7, 2017 (**Invited Lecture**).

40. **Chi-Chang Hu**, "Engineering the Graphene-Based Electrode Materials for Electrochemical Applications", The 15th Across-Taiwan-Strait Meeting on Carbon Materials, Kaohsiung, Taiwan, September 13-14, 2017 (**Keynote Lecture**).

41. Da-Je Hsu, Jeng-An Wang, **Chi-Chang Hu**, Tien-Yu Yi, Yu-Chien Liu, Yan-Shi Chen, Gao-Shee Leu, "Electrochemical Activation of Carbons for High-Voltage Organic Electrical Double-Layer Capacitors", The 68th ISE Annual Meeting in Providence, RI, USA, August 27-September 1, 2017.

42. Jeng-An Wang, **Chi-Chang Hu**, Chen-Chi M. Ma, " Novel Alkaline Bifunctional Polymer Electrolytes for Supercapacitors", The 68th ISE Annual Meeting in Providence, RI, USA, August 27-September 1, 2017.

43. Sheng-Chi Lin, Chen-Chi M. Ma and **Chi-Chang Hu**, "Asymmetric supercapacitors consisting of functional electrospun carbon nanofiber/manganese oxide electrodes with high power and energy densities", The 68th ISE Annual Meeting in Providence, RI, USA, August 27-September 1, 2017.

44. Ching-Fang Liu and **Chi-Chang Hu**, "Effects of pH and electrolytes on the stability of the ZnO nanorods photoanode for the photoelectrochemical water splitting", The 68th ISE Annual Meeting in Providence, RI, USA, August 27-September 1, 2017.

45. Chi-Feng Hsieh, **Chi-Chang Hu**, "Determination of the working potential windows of electrode materials for capacitance deionization and invert capacitance deionization", The 68th ISE Annual Meeting in Providence, RI, USA, August 27-September 1, 2017.

46. Ren Hau Guo, **Chi-Chang Hu**, "Dependence of adsorbed CO on electrode potentials and Electrolytes for electrocatalytic reduction of CO_2 on Pd nanoparticles", The 68th ISE Annual Meeting in Providence, RI, USA, August 27-September 1, 2017.

47. Ting-Hsuan You, **Chi-Chang, Hu**, "Engineering binary Ru-Sn oxides as bi-functional catalysts for the air electrode of rechargeable zinc-air batteries", The 68th ISE Annual Meeting in Providence, RI, USA, August 27-September 1, 2017.

48. **Chi-Chang Hu**, Po-Chieh Li, "Synthesis and Characterization of Manganese Oxide-Based Electrocatalysts for the Oxygen Reduction Reaction in Rechargeable Zn-Air Batteries", Li-ion Batteries and Energy Storage Workshop, Tainan, Taiwan, August 2-3, 2017 (**Invited Lecture**).

49. **Chi-Chang Hu**, Jeng-An Wang, Chen-Chi M. Ma, "Synthesis of Novel Alkaline Bifunctional Polymer Electrolytes for Supercapacitors", 5th International Symposium on Enhanced Electrochemical Capacitors, Jena, Germany, July 10-14, 2017 (**Invited Lecture**).

50. **Chi-Chang Hu**, Yu-Wen Chi, Hsiao-Hsuan Shen, RajKumar Muniyandi, Kun-Ping Huang, "Plasma-Enhanced Chemical Vapor Deposition of Heteroatom-Doped Graphenes for Biosensing", ISPlasma2017/IC-PLANTS2017, Aichi, Japan, March 1-5, 2017 (**Invited Lecture**).

C. Patents

1. US Patent, APPLICATION NUMBER: 14/983,473, FILING DATE: 2015/12/29, "ASYMMETRIC ELECTRICAL DOUBLE-LAYER CAPACITOR USING ELECTROCHEMICAL ACTIVATED CARBON". **(本案已於 2017/09/25 通知通過專利申請)**

2. Republic of China Patent, APPLICATION NUMBER: 105107457, FILING DATE: 2016.03.11; 利用電化學活化碳材之非對稱超級電容器/Asymmetric supercapacitors using carbons with electrochemical activation.

3. US Patent, APPLICATION NUMBER: 15207701, FILING DATE: 07/12/2016, "COMPOSITE WATER PURIFICATION APPARATUS AND METHOD THEREOF". **(本案已於 2018/09/10 通知通過專利申請)**

4. Republic of China Patent, APPLICATION NUMBER: 109114479, FILING DATE: 2019.04.30;用於高電壓超電容之軟碳材料的製備方法及非對稱式超級電容器. **(本案已於 2020/07/17 通知通過專利申請)**

5. Republic of China Patent, APPLICATION NUMBER: 110135633, FILING DATE: 2020.10.07; 硬碳微珠、其製法及包含其之儲能裝置/HARD CARBON BEADS, THEIR PREPARATION, AND ENERGY STORAGE DEVICE COMPRISING THE SAME.

6. US Patent, APPLICATION NUMBER: 17/522,151, FILING DATE: 11/09/2021, "HARD CARBON BEADS, THEIR PREPARATION, AND ENERGY STORAGE DEVICE COMPRISING THE SAME".

7. PRC Patent, APPLICATION NUMBER: 202111120064.1, FILING DATE: 2021.11.12; 硬碳微珠、其製法及包含其之儲能裝置/HARD CARBON BEADS, THEIR PREPARATION, AND ENERGY STORAGE DEVICE COMPRISING THE SAME.

D. Other

1. 2021/12-present, President, The Electrochemical Society of Taiwan.

2. World's Top 2% Scientists 2020.

3. 2020 年獲中國工程師學會傑出工程教授

4. 2020, Fellow, The International Association of Advanced Materials (IAAM).

5. 2015-2020, Tajima Prize Evaluation Committee Member, International Society of Electrochemistry.

6. 2006-present, Member of the Editorial Board, Journal of the Taiwanese Institute of Chemical Engineers (indexed by SCI).

7. 2015-present, Editorial Advisory Board Member, Journal of Power Sources (indexed by SCI).

8. 2017-present, Editorial Advisory Board Member, Batteries & Supercaps. (A new journal in ChemPubSocEurope published by Wiley-VCH).

9. 2021 年指導博士生涂易恆獲第 58 屆台灣化工年會學生英文論文競賽口頭報告組優勝 (2022/1 月)。

10. 2021 年指導博士生饒文揚、碩士生劉上慈、碩士生江健瑋獲第 58 屆台灣化工年會學生壁報論文競賽優勝 (2022/1 月)。

11. 2021 年指導博士生顏志翰獲科技部-德國科技部訪問研究補助 9 個月，前往德國 HIU。

12. 2020 年指導博士生涂易恆獲第 57 屆台灣化工年會學生英文論文競賽口頭報告組佳作 (10 月)。

13. 2019 年指導博士生涂易恆獲 18th Asian Pacific Confederation of Chemical Engineering Congress (APCChE 2019) Best Poster Award (11 月)。

14. 2019 年指導博士生游庭瑄獲科技部千里馬國際訪問研究補助 12 個月，前往美國凱西西儲大學。

15. 2019 年指導博士生林浚丞獲科技部-德國科技部暑期訪問研究補助 2 個月，前往德國 HIU。

16. 2018 年指導碩士生劉宇謙獲得國立清華大學國際交換生補助 6 個月，前往波蘭波茲南理工大學。(2018/09-2019/03)

17. 2017 年指導碩士生劉宇謙, The 2017 International Conference on Green Electrochemical Technologies (2017ICGET), Best Poster Award.

18. 2017 年指導碩士生陳柏羽, The 2017 International Conference on Green Electrochemical Technologies (2017ICGET), Best Poster Award.

19. 2017 年指導博士生王政安, 2017 SPE 第十一屆塑膠材料應用及技術論文比賽第一名 (11 月)。

Publications of Yu-Chen Hu (胡育誠)

***: Corresponding author; IF: 2020 Impact factor**

A. Book Chapters (* Corresponding author)

B. Journal Papers (* Corresponding author)

Submitted and in press

1. Chang, C.-W., Huang, J.-W., Lu, Y.-H., Pham, N. N., Tu, J., Tung, Y.-T., Yen, C.-Y., Shen C.-C. Chien, M.-C. Tu, Y., Lin, Y.-H., Yang, S.-W., Nguyen, M.T.T. and **Hu, Y.-C.***. 2022. Improved CRISPR-associated Transposase (iCAST) for genome/metabolic engineering of multiple *E. coli* strains and virus editing. Submitted.

2. Li, H., Pham, N.N., Shen, C.R., Chang, C.-W., Tu, Y., Chang, Y.-H., Tu, Jui., Nguyen, M.T.T., **Hu, Y.-C***. 2022. Combinatorial CRISPR interference library for enhancing 2,3-BDO production and elucidating key genes in cyanobacteria. Submitted.

3. Hwu, J.-R., Kapoor, M., Gupta, N.K., Tsay, S.-C., Huang, W.-C., Tan, K.-T., **Hu, Y.-C.**, Lyssen, P., Neyts, J. 2022. Synthesis and antiviral activities of quinazolinamine–coumarin conjugates toward chikungunya and hepatitis C viruses. European Journal of Medicinal Chemistry. Epub ahead of print. **(IF 6.51)**

2022

4. Truong, A.V., Lin, Y.-H., Nguyen, TKN, Hsu, M.-N., Pham, N.N., Chang, Y.-H., Chang, C.-W., Shen, C.-C., Lai, P.-L., Parfyonova, Y.V., Menshikov, M., Wu, J.-C., Chang, Y.-H., **Hu, Y.-C.***. 2022 Jan. Bi-directional gene activation and repression promote ASC differentiation and enhance bone healing in osteoporotic rats. Molecular Therapy. 30: 92-104. **(IF 11.454)**.

5. Chang, C.-W., Wang, L.-S., Pham, N. N., Shen C.-C., Nguyen, TKN, Yen, C.-Y., Lin, M.-W., Hsu, M.N., Nguyen, M.T.T., Hwu, J.-R., Chang, Y.-H. and **Hu, Y.-C.***. 2022. Feb. Synthetic biology approach to developing all-in-one baculovirus vector using mammalian introns and miRNA binding sites. Journal of the Taiwan Institute of Chemical Engineers. 131: 104175. **(IF 5.876)**.

6. Liu, Y.-C., **Hu, Y.-C.**, Chu, I.-M., Wei, Y.-H., Tsai, S.-L*. 2022 Feb. Biodegradation of tetramethylammonium chloride wastewater and inorganic nitrogen removal by a mixed culture. Journal of Environmental Chemical Engineering. 10: 106931. **(IF 5.909)**

2021

7. Nguyen, TKN, Chang, Y.-H., Truong, A.V., Hsu, M.-N., Pham, NN, Chang, C.-W., Wu, Y.-H., Chang, Y.-H., Li, H., **Hu, Y.-C.***. 2021 Aug. CRISPR activation of long non-coding RNA DANCR promotes bone regeneration. Biomaterials. 275: 120965 **(IF 12.479).**

8. Klionsky, D., Abdel-Aziz, A.K., ..**Hu, Y.-C.**, et al. 2021 Feb. Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition). Autophagy. 17:1-382. **(IF 16.016)**.

9. Chang, Y.-H., Lin, M.-W., Chien, M.-C., Ke, G.-M., Wu, I.-E., Lin, R.-L., Lin, C.-Y., **Hu, Y.-C***. 2021 Oct. Polyplex nanomicelle delivery of self-amplifying RNA vaccine. Invited paper. Journal of Controlled Release. 338: 694-704. **(IF 9.776)**.

10. Lin, M.-W., Shen, C.-C., Lin, Y.-J., Chou, M.-Y., Pham, N.-N., Chang, Y.-H., Chang, C.-W., Hwu, J.-R., Nguyen, M.T.T., **Hu, Y.-C.***. 2021 April. Enhancing the yield and activity of defucosylated antibody produced by CHO-K1 cells using Cas13d-mediated multiplex gene targeting. Journal of the Taiwan Institute of Chemical Engineers.121: 38-47. **(IF 5.876)**.

11. Hwu, J.-R., Panja, A., Gupta, N.K., Huang, W.-C., **Hu, Y.-C.**, Lin, C.-C., Hwang, K.-C., Chan, W.-J., Tsay, S.-C. 2021 April. Asymmetric synthesis of 3-pyrrolines through an aryne-induced domino process. Asian Journal of Organic Chemistry. 10: 803-815 **(IF 3.319)**.

12. Hwu, J.-R., Panja, A., Gupta, N.K., **Hu, Y.-C.**, Tan, K-T., Lin, C.-C., Hwang, K.-C., Hsu, M.-H., Huang, W.-C., Tsay, S.-C. 2021 Jan. Domino Processes of Arynes Reacting with Three Classes of Nucleophiles for Organic Syntheses. European Journal of Organic Chemistry 4: 683-693. **(IF 3.021)**.

2020

13. Hsu, M.-N., Yu, F.-J., Chang, Y.-H., Huang, K-L., Pham, N. N., Troung, A.V., Lin, M.-W., Nguyen, N.T.K., Hwang, S.-M., **Hu, Y.-C.*** 2020 Sep. CRISPR interference-mediated Noggin knockdown promotes BMP2-induced osteogenesis and calvarial bone healing. Biomaterials. 252: 120094. **(IF 12.479).**

14. Hsu, M.-N, Huang, K-L., Yu, F.-J., Lai, P.-L., Troung, A.V., Lin, M.-W., Nguyen, N.T.K., Shen, C.-C., Hwang, S.-M., Chang, Y.-H., **Hu, Y.-C.*** 2020 Feb. Co-Activation of endogenous Wnt10b and Foxc2 by CRISPR activation enhances BMSCs osteogenesis and promotes calvarial bone regeneration. Molecular Therapy 28: 441-451 **(IF 11.454)**.

15. Pham, N. N., Chen, C.-Y., Li, H., Nguyen, M.T.T., Nguyen, K.P.P., Tsai, S.-L., Chou, J.-Y., Ramli, T.C., **Hu, Y.-C***. 2020 April. Engineering stable *Pseudomonas Putida* S12 by CRISPR for 2,5-furandicarboxylic acid (FDCA) production. ACS Synth Biol. 9: 1138-1149 **(IF 5.11).**

16. Shen, C.-C., Lin, M.-W., Nguyen, B.K.T., Chang, C.-W., Shih, J.-R., Nguyen, M.T.T., Chang, Y.-H., **Hu, Y.-C.***. 2020 Sep. CRISPR-Cas13d for gene knockdown and engineering of CHO cells. ACS Synthetic Biology. 9, 2808–2818 **(IF 5.11).**

17. Srinivaas, M., Wu, C.-Y., Duh, J.-G., **Hu, Y.-C.**, Wu, J.-M. 2020 Jan. Multi-walled carbon nanotubes decorated tungsten ditelluride nanostars as anode material for lithium-ion batteries. Nanotechnology 31: 035406 **(IF 3.874).**

18. Hwu, J.-R., Panja, A. Jayakumar, S., Tsay, S-C., Tan, K.-T., Huang, W.-C., **Hu, Y.-C.**, Leyssen, P., Neyts, J. 2020 Aug. Enterovirus inhibition by hinged aromatic compounds with polynuclei. Molecules. 25: 3821. **(IF 4.411)**

19. Oh, M-K, Sakai, Y., **Hu, Y.-C.** 2020 June. Asian Congress on Biotechnology 2019. Biotechnology Journal. 2020, 15: 2000214. **(IF 4.677)**

20. Hwu, J.-R., Roy, A, Panja, A., Huang, W.-C., **Hu, Y.-C.**, Tan, K.-T., Lin, C.-C., Hwang, K.-C., Hsu, M.-H., Tsay, S.-C. 2020 Aug. Domino reaction for the synthesis of polysubstituted pyrroles and Lamellarin R. Journal of Organic Chemistry. 85: 9835-9843. **(IF 4.354)**.

2019

21. Hsu, M-N., Chang, Y.-H., Truong, V. A., Nguyen, N.T.K., **Hu, Y.-C.*** 2019 Dec. CRISPR technology for stem cell engineering and regenerative medicine. Biotechnology Advances 37:107447. **(IF 14.227)**.

22. Hsu, M.-N., **Hu, Y.-C.***. Local magnetic activation of CRISPR. 2019 Feb. Nature Biomedical Engineering. 3: 83-84. **(IF 25.671).**

23. Truong, V. A., Hsu, M-N., Nguyen, N.T.K., Lin, M-W., Shen, C.-C., Lin, C.-Y., **Hu, Y.-C.*** 2019. July. CRISPRai for simultaneous gene activation and inhibition to promote stem cell chondrogenesis and calvarial bone regeneration. Nucleic Acids Research. 47: e74 **(IF 16.971).**

24. Shen, C.-C., Hsu, M.-N., Chang, C.-W., Lin, M.-W., **Hu, Y.-C***. 2019 Feb. Synthetic switch to minimize CRISPR off-target effects by self-restricting Cas9 transcription and translation. Nucleic Acids Research. 47: e13 **(IF 16.971).**

25. Hsu, M-N., Liao, H.-T., Truong, V. A., Huang, K.-L., Yu, F.-J., Chen, H.-H., Nguyen, N.T.K., Makarevich P., Parfyonova, Y., **Hu, Y.-C.*** 2019 Aug. CRISPR-based activation of endogenous neurotrophic genes in adipose stem cell sheets to stimulate peripheral nerve regeneration. Theranostics 9: 6099-6111 **(IF 11.556)**.

26. Wang, S.-Y., Chen, C.-L., **Hu, Y.-C.**, Chi, Y., Huang, Y.-H., Su, C.-W., Jeng, W.-J., Liang, Y.-J., Wu, J.-C*. 2019 Oct. High expression of microRNA-196a is associated with progression of hepatocellular carcinoma in younger patients. Cancers. 11: 1549 **(IF 6.639).**

27. Sung, L.-Y., Wu, M.-Y., Lin, M.-W., Hsu, M.-N., Troung, V. A., Shen, C.-C., Tu, Y., Hwang, K.-Y., Tu, A. P., Chang, Y.-H., **Hu, Y.-C.***. 2019 May. Combining orthogonal CRISPR and CRISPRi systems for genome engineering and metabolic pathway modulation in *E. coli*. Biotechnology and Bioengineering. 116: 1066-1079 **(IF 4.53).**

28. Hwu, J.-R., Huang, W.-C., Lin, S.-Y., Tan, K.-T., **Hu, Y.C.**, Shieh, F.-K., Bachurin, S.O., Ustyugov A, Tsay, S.-C. 2019 March. Chikungunya virus inhibition by synthetic coumarin-guanosine conjugates. Eur J Med Chem 166: 136-143. **(IF 6.514).**

29. Shevchenko M. B. E., Molokotina, Y. M., Makarevich, P., Beloglazova, I., Zubkova, E., Dergilev, K., Tsokolaeva, Z., Penkov, D., Hsu, M.-N., **Hu, Y.-C.**, Parfyonova, Y. 2019 June. Transplantation of adipose stromal cell sheet producing hepatocyte growth factor induces pleiotropic effect in ischemic skeletal muscle. International Journal of Molecular Sciences. 20: 3088. **(IF 5.923)**

2018

30. Lin, M.-W., Tseng, Y.-W., Shen, C.-C., Hsu, M.-N., Hwu, J.-R., Chang, C.-W., Yeh, C.-J., Chou, M.-Y., Wu, J.-C., **Hu, Y.-C.***. 2018, Sep. Synthetic switch-based baculovirus for transgene expression control and selective killing of hepatocellular carcinoma cells. Nucleic Acids Research. 46: e93 **(IF 16.971).**

31. Lin, K.-C., Lin, M.-W., Chen, G.-Y., Chao, Y.-C., Tuan, H.-Y., Chiang, C.-S., **Hu, Y.-C.***. 2018 March. Graphene oxide chemosensitizes cancer cells to cisplatin by inducing early autophagy events, promoting nuclear trafficking and necrosis. Theranostics 8: 2477-2487 **(IF 11.556)**.

32. Masimukku, S., **Hu, Y.-C.**, Lin, Z.-H., Chan, S.-W., Chou, T.-M., Wu, J.-M. 2018 April. High efficient degradation of dye molecules by PDMS embedded abundant single-layer tungsten disulfide and their antibacterial performance. Nano Energy. 46: 338-346. **(IF 17.881).**

33. Lin, C.-W., Cheng, M.-C., Lin, S.-Y., Hung, S.-H., Jhang, S.-Y., Chang, C.-W., Cheng, P.-C., **Hu, Y.-C.*.** 2018 Oct. Hybrid baculovirus–mediated prolonged hemagglutinin expression and secretion *in vivo* enhances the vaccine efficacy. Journal of the Taiwan Institute of Chemical Engineers. 91: 47-56 **(IF 5.876)**.

34. Lin, S.-Y., Sung, L.-Y., Yeh, C.-T., Yu, C.-P., Yang, J.-Y., **Hu, Y.-C***. 2018 Jan. Production and purification of virus-like particles of different enterovirus subtypes as vaccines. Journal of the Taiwan Institute of Chemical Engineers. 82:1-9 **(IF 5.876).**

2017

35. Hsu, M.-N., Liao, H.-T., Li, K.-C., Chen, H.-H., Yen, T.-C., Makarevich, P., Parfyonova, Y., **Hu, Y.-C.***. 2017 Sep. Adipose-derived stem cell sheets functionalized by hybrid baculovirus for prolonged GDNF expression and improved nerve regeneration. Biomaterials. 140: 189-200 **(IF 12.479).**

36. Lo, S.-C., Li, K.-C., Chang, Y.-H., Hsu, M.-N., Sung, L.-Y., Troung, A.V., **Hu, Y.-C***. 2017 April. Enhanced critical-size calvarial bone healing by ASCs engineered with Cre/loxP-based hybrid baculovirus. Biomaterials. 124: 1-11 **(IF 12.479).**

37. Wu, M.-Y., Sung, L.-Y., Li, H., Huang, C.-H., **Hu, Y.-C.***. 2017 Dec. Combining CRISPR and CRISPRi systems for metabolic engineering of *E. coli* and 1,4-BDO biosynthesis. ACS Synth Biol. 6: 2350-2361 **(IF 5.11).**

38. Shen, C.-C., Sung, L.-Y., Lin, S.-Y., **Hu, Y.-C.***. 2017. Aug. Enhancing protein production yield from CHO cells by CRISPR interference (CRISPRi). ACS Synth. Biol. 6:1509-1519 **(IF 5.11).**

39. Li, K.-C., Chang, Y.-H., Hsu, M.-N., Lo, S.-C., Li, W.-H., **Hu, Y.-C***. 2017 Nov. Baculovirus-mediated miR-214 knockdown shifts osteoporotic ASCs differentiation and improves osteoporotic bone defects repair. Scientific Reports. 7:16225 **(IF 4.379).**

40. Li, K.-C., Chang, Y.-H., Lo, S.-.C., Sung, L.-Y., Liao, Y.-H., **Hu, Y.-C***. 2017. Nov. Improved calvarial bone repair by hASCs engineered with Cre/loxP-based baculovirus conferring prolonged BMP-2 and miR-148b co-expression. J. Tissue Eng. Regen. Med. 11: 3068-3077 **(IF 3.806).**

41. Chung, M.-E., Yeh, I.-H., Sung, L.-Y., Wu, M.-Y., Chao, Y.-P., Ng, I.-S., **Hu, Y.-C***. 2017 Jan. Enhanced integration of large DNA into *E. coli* chromosome by CRISPR/Cas9. Biotechnology Bioengineering. 114: 172-183 **(IF 4.53, High Cite paper)**.

C. Conference Presentations

1. **Hu, Y-C.** 2021 Nov. Keynote speaker and session chair, AFOB virtual conference, Korea

2. **Hu, Y-C.**, 2021 Oct. Keynote speaker. Annual Meeting of the Taiwan Neuroimmunology Medical Society and Society for Neurological Rare Disorders-Taiwan. Taipei, Taiwan.

3. **Hu, Y-C.** 2021 July. Keynote speaker.T he 26th BEST conference and International Symposium on Biotechnology and Bioengineering. Taichung. Taiwan.

4. **Hu, Y-C.** 2021, June. Keynote speaker. 2021 Annual Meeting of Agricultural Chemical Society of Taiwan. Taipei, Taiwan.

5. **Hu, Y-C.** 2020 Dec. Invited Speaker. Nanomicelle Delivery of Self-Amplifying mRNA as a Porcine Vaccine. International Conference on Emergent Functional Matter Science 2020. Suao, Taiwan.

6. **Hu, Y-C.**, 2020 Aug. Gene Therapy for Tissue Regeneration. Keynote speaker. Annual Meeting of Biomaterials and Controlled Release Society in Taiwan. Taipei, Taiwan.

7. **Hu, Y-C.**, 2019 Dec. CRISPR Technology for Tissue Regeneration. Keynote speaker. International Symposium of Gene Therapy for Hereditary Diseases. Taipei, Taiwan.

8. **Hu, Y-C.**, 2019 Oct. CRISPR Technology for Tissue Regeneration. Keynote speaker. TERMIS-AP meeting. Brisbane, Australia.

9. **Hu, Y-C.**, 2019 July. CRISPR Technology for Tissue Regeneration. NTHU-SNU Bilateral Symposium. Seoul. Korea.

10. **Hu, Y-C.**, 2019 July. CRISPR Technology for Metabolic Engineering and Tissue Regeneration NTHU-VNU Bilateral Symposium. Ho Chi Minh City, Vietnam.

11. **Hu, Y.-C*.** 2018 Sep. Delivery of anabolic genes, miRNA and CRISPR systems for stem cell fate modulation and tissue regeneration. **Plenary speaker**. TERMIS-World Congress. Kyoto, Japan.

12. K.-L., Huang, M.-N., Hsu, Truong, Vu A., **Hu, Y.-C*.** 2018 Sep. CRISPR activation for stem cell engineering and enhanced calvarial bone healing. TERMIS-World Congress. Kyoto, Japan.

13. M.-N., Hsu, K.-L., Huang, Truong, Vu A., **Hu, Y.-C*.** 2018 Sep. Adipose-derived stem cell sheets functionalized by hybrid baculovirus for prolonged GDNF expression and improved nerve regeneration. TERMIS-World Congress. Kyoto, Japan.

14. Truong, Vu A., K.-L., Huang, M.-N., Hsu, **Hu, Y.-C*.** 2018 Sep. CRISPR-mediated dual programming of bone marrow-derived mesenchymal stem cell for calvarial bone defect regeneration. TERMIS-World Congress. Kyoto, Japan.

15. C.-W., Chang, L.-S., Wang, C.-C., Shen, **Hu, Y.-C*.** 2018 Aug. Development and application of a new Cre/loxP-based long-term gene expression system in single recombinant baculovirus. Asian Federation of Biotechnology Malaysia Chapter International Symposiums 2018 (AFOBMCIS 2018), Sarawak, Malaysia.

16. **Hu, Y.-C*.** 2018 Aug. Bacterial engineering and production of chemicals using CRISPR technology. **Plenary speaker**. Cross-strait Chemical Engineering Forum. Taiyun, China.

17. **Hu, Y.-C*.** 2018 July. Delivery of RNA therapeutics and CRISPR systems for stem cell engineering and tissue regeneration. **Keynote speaker**. European Congress of Biotechnology. Geneva, Switzerland.

18. M.-N., Hsu, **Hu, Y.-C*.** 2018 Jun. Adipose-derived stem cell sheets functionalized by hybrid baculovirus for prolonged GDNF expression and improved nerve regeneration. 2018 BEST Conference & International Symposium on Biotechnology and Bioengineering, Taipei, Taiwan.

19. K.-L., Huang, **Hu, Y.-C*.** 2018 Jun. CRISPR activation for BMSC and ASC engineering and enhanced calvarial bone healing. 2018 BEST Conference & International Symposium on Biotechnology and Bioengineering, Taipei, Taiwan.

20. C.-W., Chang, **Hu, Y.-C*.** 2018 Aug. Development and Application of A New Cre/loxP-based Long-Term Gene Expression System In Single Recombinant Baculovirus. 2018 BEST Conference & International Symposium on Biotechnology and Bioengineering, Taipei, Taiwan.

21. M-W., Lin, **Hu, Y.-C*.** 2018 Jun. Synthetic Circuit-based Baculovirus for Transgene Expression Control and Selective Killing of Hepatocellular Carcinoma Cells. 2018 BEST Conference & International Symposium on Biotechnology and Bioengineering, Taipei, Taiwan

22. C.-C., Shen, **Hu, Y.-C*.** 2018 Jun. Reduce CRISPR Off-target Effects by Synthetic Switch and Self-Restricting Cas9. 2018 BEST Conference & International Symposium on Biotechnology and Bioengineering, Taipei, Taiwan.

23. **Hu, Y.-C*.** 2018 May. Roles of RNA therapeutics and CRISPR systems for stem cell engineering and tissue regeneration. Invited speaker. 19th International Meeting of the Korean Tissue Engineering and Regenerative Medicine Society (KTERMS). Seoul, Korea.

24. **Hu, Y.-C*.** 2018 Jan. Roles of chemical engineers in metabolic and tissue engineering. Invited speaker. Bowie Science Conference. Hsinchu, Taiwan.

25. **Hu, Y.-C*.** 2017 Nov. RNA therapeutics and anabolic gene delivery for tissue regeneration. **Plenary speaker**. 3rd National Congress on Regenerative Medicine, Moscow, Russia.

26. **Hu, Y.-C*.** 2017 Oct. RNA therapeutics and anabolic gene delivery for tissue regeneration. Invited speaker, 2017 International Conference on Biofabrication (BF2017). Beijing, China.

27. **Hu, Y.-C*.** 2017 Sep. RNA therapeutics and anabolic gene delivery for tissue regeneration. 2017 TERMIS-AP meeting. Keynote speaker, Nantong, China.

28. Hsu, M.-N., **Hu, Y.-C*.** 2017 Sep. Baculovirus-engineered adipose stem cell sheet persistently expressing GDNF enhance sciatic nerve regeneration. 2017 TERMIS AP, Nantong, China.

29. Truong, Vu A., Li, K.-C., Chang, Y.-H, **Hu, Y.-C*.** 2017 Sep. Using baculovirus-mediated miR-214 sponges switch osteoporotic ASCs from adipogenesis to osteogenesis for osteoporotic bone defects repair. 2017 TERMIS AP, Nantong, China.

30. **Hu, Y.-C***. 2017 Sep. RNA therapeutics and anabolic gene delivery for tissue regeneration. The third international conference: Innovations in cancer research and regenerative medicine. Invited speaker, Ho Chi Minh City, Vietnam.

31. **Hu, Y.-C***. 2017 Aug. RNA therapeutics and anabolic gene delivery for tissue regeneration. 2017 International Symposium of Materials on Regenerative Medicine (ISOMRM). Plenary speaker. Chunli, Taiwan.

32. C.-C., Shen, L.-Y., Sung, M.-W., Lin, **Hu, Y.-C***. 2017 July. CRISPR interference (CRISPRi) system for CHO cell engineering and product yield improvement. 2017 Asian Congress of Biotechnology (ACB 2017). Khon Kaen, Thailand.

33. L.-Y., Sung, Yi, Tu, H. Tu, **Hu, Y.-C***. 2017 July. Development of a CRISPR/CRISPRi hybrid system for metabolic engineering of E. coli and succinate production. 2017 Asian Congress of Biotechnology (ACB 2017). Khon Kaen, Thailand.

34. **Hu, Y.-C***. 2017 July. RNA therapeutics and anabolic gene delivery for tissue engineering and regenerative medicine. 2017 Asian Congress of Biotechnology (ACB 2017). Invited speaker, Khon Kaen, Thailand.

35. **Hu, Y.-C***. 2017 June. RNA therapeutics and anabolic gene delivery for tissue engineering and regenerative medicine. Keynote speaker. Davos, Switzerland.

36. **Hu, Y.-C***. 2017 June. RNA therapeutics and anabolic gene delivery for tissue regeneration. 18th International Meeting of the Korean Tissue Engineering and Regenerative Medicine Society (KTERMS). Plenary speaker. Daegu, Korea.

37. Li, H., **Hu, Y.-C***. 2017 Jun. CRISPR/Cas9 for the genome engineering of cyanobacteria and succinate production. 2017 BEST Conference International Symposium on Biotechnology and Bioengineering, Yunlin, Taiwan.

38. C.-C., Shen, L.-Y., Sung, M.-W., Lin, **Hu, Y.-C***. 2017 Jun. CRISPR interference (CRISPRi) system for CHO cell engineering and product yield improvement. 2017 BEST Conference International Symposium on Biotechnology and Bioengineering, Yunlin, Taiwan.

39. Truong, Vu A., Li, K.-C., Chang, Y.-H, **Hu, Y.-C***. 2017 Jun. Using baculovirus-mediated miR-214 sponges switch osteoporotic ASCs from adipogenesis to osteogenesis for osteoporotic bone defects repair. 2017 BEST Conference International Symposium on Biotechnology and Bioengineering, Yunlin, Taiwan.

40. M.-W., Lin, **Hu, Y.-C***. 2017 May. Incorporating synthetic circuits into baculovirus vector for stringent control of miRNA and apoptosis-inducing gene expression in hepatocellular carcinoma cells in vitro and in vivo. Washington DC, USA.

41. **Hu, Y.-C*,** K.-C. Li, M.-N., Hsu, M.-W., Lin. 2017 May. Baculovirus-mediated miR-214 suppression shifts osteoporotic ASCs differentiation towards osteogenesis and improves osteoporotic bone defects repair. Washington DC, USA.

42. **Hu, Y.-C***. 2017 April. Bacterial Engineering and Production of Chemicals using CRISPR Technology. 2017 KSBB Spring Meeting and International Symposium. **Invited speaker.** Gyeongju, Korea.

43. **Hu, Y.-C***. 2017 March. CRISPR technology for microorganism engineering and production of chemicals. 82nd Annual Meeting of Society of Chemical Engineers, Japan. **Invited speaker.** Tokyo, Japan.

D. Patents

1. 胡育誠, 張晉維, 黃靖雯, 周俊彥. 大腸桿菌基因編輯系統及其基因編輯方法. 中華民國發明專利申請中. 申請日: 2022 年 01 月 26 日

2. 胡育誠, 張晉維, 黃靖雯, 周俊彥. 大腸桿菌基因編輯系統及其基因編輯方法. 中國發明專利申請中. 申請日: 2022 年 01 月 26 日

3. Yu-Chen Hu, Ngoc-Nam Pham, Cho-Yi Chen, June-Yen Chou. Transformant for producing 2,5-Furandicarboxylic acid and preparation method for 2,5-furandicarboxylic acid. US patent filed on 2020/12/01. (US-2021-0189443-A1)

4. **Yu-Chen Hu**, Nam Ngoc Pham, Cho-Yi Chen. Gene editing system of *pseudomonas putida* and gene editing method thereof. **US patent filed on 10/22/2020.** (US-2021-0189387-A1)

5. **Yu-Chen Hu**, Yenlin Chen, Hung-Ming Chang. Microbial composition and processing method for wastewater. US patent application filed.

6. **Yu-Chen Hu**, Yenlin Chen, An-Banh Du. Black yeast *Aureobasidium melanogenum* strain and method of producing succinic acid using the same. US patent application filed.

7. **Yu-Chen Hu**, Chih-Che Shen. System for over-expressing target protein and method for over-expressing target protein. US patent application published (US-2018-0282759-A1).

8. **Yu-Chen Hu**, Hung Li, Jun-Hung Huang, Li-Yu Sung, Chih-Che Shen. Gene expression regulation system of *Synechococcus elongates* PCC 7942 and application thereof. China patent application filed.

9. **Yu-Chen Hu**, Hung Li, Jun-Hung Huang, Li-Yu Sung, Chih-Che Shen. Gene expression regulation system of *Synechococcus elongates* PCC 7942 and application thereof. US patent application filed.

10. **胡育誠**, 范玉南, 陳偉翊, 周俊彥. 戀臭假單胞菌 S12 基因編輯系統及其應用. **中華民國發明專利核准. 中華民國發明專利 I739247. (專利權有效期間:2021/09/11~ 2039/12/19)**

11. **胡育誠**, 范玉南, 陳偉翊, 周俊彥. 2,5-呋喃二甲酸之製備方法. **中華民國發明專利 I735113. (專利權有效期間:2021/08/01~ 2039/12/22)**

12. **胡育誠**, 陳彥霖, 張鴻銘. Microbial composition and processing method for wastewater. 微生物組合物及廢水處理方法. **中華民國發明專利. I710632 (專利權有效期間: 2020/11/21~ 2039/09/11)**.

13. **Yu-Chen Hu**, Mu-En Chung, I-Hsin Yeh, Hung, Li. Method for bacterial genome editing 細菌基因編輯方法. **中國發明專利. CN 106609279 B (專利有效期間: 2020/08/14 ~ 2036/10/21).**

14. **Yu-Chen Hu**, Hung Li, Jun-Hung Huang, Li-Yu Sung, Chih-Che Shen. 細長聚球藻 PCC7942 之基因編輯系統及其應用. **中華民國發明專利. I643951 (專利有效期間: 2018/12/11~2036/08/01)**

15. **Yu-Chen Hu**, Hung Li, Jun-Hung Huang, Li-Yu Sung, Chih-Che Shen. Gene expression regulation system of *Synechococcus elongates* PCC 7942 and application thereof. 細長聚球藻 PCC 7942 之基因表現干擾系統以及抑制細長聚球藻 PCC 7942 基因表現之方法. **中華民國發明專利 I629358. (專利有效期間: 2018/07/11-2036/08/01)**

16. **Yu-Chen Hu**, Yenlin Chen, An-Banh Du. 黑酵母菌出芽短梗黴 Aureobasidium melanogenum 菌株及利用其生產琥珀酸的方法 (Black yeast *Aureobasidium melanogenum* strain and method of producing succinic acid using the same). **中華民國發明專利. I592482. (專利有效期間: 2017/07/21-2036/12/25).**

17. **Yu-Chen Hu**, Chih-Che Shen. 大量表現目標蛋白系統及其方法 System for over-expressing target protein and method thereof. **中華民國發明專利. I626309. (專利有效期間: 2018/06/11-2037/03/30)**.

18. **Yu-Chen Hu**, Mu-En Chung, I-Hsin Yeh, Hung, Li, Li-Yu Sung. Cas9 plasmid, genome editing system and method of *Escherichia coli*. **US patent. US 9988637B2. 2018/06/05-2036/03/10**.

19. **Yu-Chen Hu**, Mu-En Chung, I-Hsin Yeh, Hung, Li, Li-Yu Sung. Cas9 expression plasmid, gene editing system of *Escherichia coli* and application thereof. **中華民國發明專利 I608100. (專利有效期間: 2017/12/11-2037/02/02)**.

20. **Yu-Chen Hu**, Guan-Yu Chen, Hsing-Yu Tuan. Method for inducing autophagy and activating toll-like receptor. **US Patent. US 9421224B2. 2016/08/23-2035/04/17**.

21. **Yu-Chen Hu**, Shih-Yeh Lin. Method for preparing virus-like particle and recombinant baculovirus used therein. **US Patent. US 9388390B2. 2016/07/12-2035/03/24.**

22. **胡育誠**, 林事曄. 類病毒顆粒的製備方法及其使用的重組桿狀病毒.**中華民國發明專利 I558812. (專利有效期間: 2016/11/21-2032/03/19**).

23. **胡育誠**, 陳繼元. "桿狀病毒表現載體與其應用". 中**華民國發明專利. I411681. (專利有效期間: 20131011-20290817)**.

24. 劉宏仁, 林岳宏, **胡育誠**. "泛用型桿狀病毒表面呈現系統及其應用於次單位疫苗之製備"(A universal baculovirus surface display system and application in production of subunit vaccine) **中華民國發明專利. I368656.**

25. **胡育誠**. "腸病毒類病毒顆粒的製備方法及其應用". 中華人民共和國發明專利 **CN101928728A. 2013/03/27-2033/03/26.**

26. **Yu-Chen Hu**, Chi-Yuan Chen. "Baculovirus expression vector and method therewith for generating immunogenicity in a host". **US patent, US 8399246B2. 2013/03/19-2031/03/04.**

27. **Yu-Chen Hu**, Wen-Hsin Lo. "Method for sustained expression of an exogenous gene". **US patent, US 8110183B2. 2012/02/07-2028/12/11.**

28. **胡育誠**, 羅文鑫. "長期表現外源基因之方法". **中華民國發明專利 I349037.** (專利有效期間: 2011/09/21-2028/08/03).

29. **胡育誠**, 陳皇綺, 廖俊仁 "組織細胞培養生物反應器", **中華民國發明專利 I294912.** (專利有效期間: 2008/03/21-2025/04/03)

30. 廖俊仁, 李筱萍, 胡育誠, 江淑芳 "生物反應器",**中華民國發明專利I238851.** (專利有效期間: 2005/09/01-2023/12/30)

E. Other

榮譽榜

得獎人	獎項	得獎年度
胡育誠	李昭仁教授基金會研究學者獎 Research Scholar Award, Professor Lee Foundation	2021 年
胡育誠	國際生醫材料科學與工程學會聯盟 會士	2020 年
胡育誠	科技部工程司產學合作計畫成果發表優良獎	2020 年
胡育誠	台灣化學工程學會 毛高文教授獎	2020 年
張佾豪	2020 台灣化學工程學會 67 週年年會學生壁報發表競賽優勝(excellent)	2020 年
Thị Kieu Nuong Nguyen	2020 台灣化學工程學會 67 週年年會學生壁報發表競賽佳作 (outstanding)	2020 年
林雅慧	2020 台灣化學工程學會 67 週年年會學生英語口頭發表競賽 佳作(outstanding)	2020 年
張晉維	2020 台灣化學工程學會 67 週年年會學生英語口頭發表競賽 佳作(outstanding)	2020 年
Nam Ngoc Pham	2020 台灣化學工程學會 67 週年年會學生英語口頭發表競賽 優勝(excellent)	2020 年
林美薇	2019 Young Asian Biological Engineer's Community 最佳壁報論文獎	2019 年
胡育誠、沈志哲	第 16 屆國家新創獎 學研新創獎	2019 年
林雅慧	清華大學化工系壁報論文獎 第二名	2019 年
林美薇	清華大學優秀論文獎 優等獎	2019 年
Truong, Vu Anh	清華大學優秀論文獎 優等獎	2019 年
林美薇	14th Asian Congress of Biotechnology. 英文論文口頭發表第一名	2019 年
Truong, Vu Anh	14th Asian Congress of Biotechnology. 英文論文口頭發表第一名	2019 年

得獎人	獎項	得獎年度
許慕農	14th Asian Congress of Biotechnology. 英文論文口頭發表第二名	2019 年
沈志哲	14th Asian Congress of Biotechnology. 英文論文口頭發表優秀(outstanding)獎	2019 年
Thị Kieu Nuong Nguyen	14th Asian Congress of Biotechnology. 英文論文口頭發表優秀(outstanding)獎	2019 年
林仁豐	14th Asian Congress of Biotechnology. 英文論文口頭發表優秀(outstanding)獎	2019 年
王亮忻	科技部 107 年度大專學生研究計畫研究創作獎	2019 年
林美薇、胡育誠	榮台聯大優良論文獎	2019 年
張晉維	23rd BEST Conference on Biotechnology and Bioengineering. Taipei, Taiwan. 英文論文口頭發表第一名	2018 年
林美薇	23rd BEST Conference on Biotechnology and Bioengineering. Taipei, Taiwan. 英文論文口頭發表第一名	2018 年
沈志哲	23rd BEST Conference on Biotechnology and Bioengineering. Taipei, Taiwan. 英文論文口頭發表第一名	2018 年
許慕農	23rd BEST Conference on Biotechnology and Bioengineering. Taipei, Taiwan. 英文論文口頭發表第一名	2018 年
沈志哲	22nd BEST Conference on Biotechnology and Bioengineering. Yunlin, Taiwan. 英文論文口頭發表第二名	2017 年
Truong, Vu Anh	22nd BEST Conference on Biotechnology and Bioengineering. Yunlin, Taiwan. 英文論文口頭發表第一名	2017 年
李泓	22nd BEST Conference on Biotechnology and Bioengineering. Taichung, Taiwan. 英文論文口頭發表佳作	2017 年
林美薇	**Travel Award.** American Society of Gene and Cell Therapy (ASGCT) 20th Annual Meeting.	2017 年
沈志哲	清大工學院論文口頭報告競賽第二名	2017 年
胡育誠	李長榮福聚教育基金會 學術研究傑出教授獎	2017 年

HONORS AND AWARDS

2021	李昭仁教授基金會研究學者獎
2020	科技部工程司產學合作計畫成果發表優良獎
2020	台灣化工學會 毛高文教授獎
2020	國際生醫材料科學與工程學會聯盟 會士 Fellow Biomaterials Science and Engineering (FBSE), International Union of Societies for Biomaterials Science and Engineering
2019	第 16 屆國家新創獎 學研新創獎
2019	台灣化工學會 金開英獎
2018	科技部特約研究計畫
2018	科技部 未來科技突破獎 Future Technology Award, MOST
2017	李長榮福聚教育基金會學術研究傑出教授獎 LCY Foundation Outstanding Research Professor Award

ASSOCIATE EDITOR/EDITORIAL BOARD MEMBERS

2021	Associate Editor, Frontiers in Bioengineering and Biotechnology (IF 5.48)
2021	Co-Chair, Division of Tissue Engineering and Biomaterials，亞洲生物技術聯盟(AFOB)
2020	Guest Editor, Frontiers in Cell and Developmental Biology
2019	Guest Editor, Biotechnology Journal
2018	Editorial board member, Biotechnology and Bioprocess Engineering
2018	Editor, Scientific Report
2018	Editorial board member, Tissue Engineering and Regenerative Medicine

Publications of Jen-Huang (Tony) Huang (黃振煌)

A. Journal Papers (* Corresponding author)

2022

1. W.-H. Lai, H.-Y. Mu, Y.-L Lu, H. Chen, J.-W. Wen, H.-J. Wu, C.-M. Cheng, **J.-H. Huang***. Dual-Cell Culture System with Identical Culture Environment for Comparison of Anti-Cancer Drug Toxicity. *Chemical Engineering Science*, 2022. In press (2019 Impact Factor 4.311).

2020

2. H.-Y. Mu, T.-L. Lu, T.-H. Hsiao, **J.-H. Huang***. Microfluidic-based approaches for COVID-19 diagnosis. Biomicrofluidics, 2020, 14: 061504 (2019 Impact Factor 2.504).

3. C.-Y. Cho, T.-H. Chiang, L.-H. Hsieh, W.-Y. Yang, H.-H. Hsu, C.-K. Yeh, C.-C. Huang*, **J.-H. Huang***. Development of a Novel Hanging Drop Platform for Engineering Controllable 3D Microenvironments. Frontiers in Cell and Developmental Biology, 2020, 8:327. (2019 Impact Factor 5.186).

4. H.-Y. Mu, Y.-C. Ou, H.-N. Chuang, T.-J. Lu, P.-P. Jhan, T.-H. Hsiao*, **J.-H. Huang***. Triple Selection Strategy for in Situ Labeling of Circulating Tumor Cells with High Purity and Viability toward Preclinical Personalized Drug Sensitivity Analysis. Advanced Biosystems, 2020, 4, 2000013 (Cover Image).

5. P.-H. Chen, Y.-T. Cheng, B.-S. Ni, **J.-H. Huang***. Continuous Cell Separation Using Microfluidic-Based Cell Retention Device with Alternative Boosted Flow. Applied Biochemistry and Biotechnology, 2020, 191:151-163 (2019 Impact Factor 2.277).

2019

6. B.-S. Ni, C. Tzao, **J.-H. Huang***. Plug-and-Play In Vitro Metastasis System toward Recapitulating the Metastatic Cascade. Scientific Reports, 2019, 9: 18110 (2019 Impact Factor 3.998).

7. C.-K. Lin, Y.-Y. Hsiao, P. Nath, **J.-H. Huang***. Aerosol Delivery into Small Anatomical Airway Model Through Spontaneous Engineered Breathing.

Biomicrofluidics, 2019, 13: 044109 (2019 Impact Factor 2.504).

8. H.-L. Hsieh, P. Nath, **J.-H. Huang***. Multistep Fluidic Control Network toward the Automated Generation of Organ-on-a-Chip. ACS Biomaterials Science & Engineering, 2019, 5, 4852-4860 (2019 Impact Factor 4.152).

9. J. Ohan, B. Pelle, P. Nath, **J.-H. Huang**, B. Hovde, M. Vuyisich, A. E. Dichosa, S. R. Starkenburg. High-Throughput Phenotyping of Cell-to-Cell Interactions in Gel Microdroplet Pico-Cultures. BioTechniques, 2019, 66, 218-224 (2019 Impact Factor 1.541).

2018

10. A. Arefin, Q. Mcculloch, R. Martinez, S. A. Martin, R. Singh, O. M. Ishak, E. M. Higgins, K. E, Haffey, **J.-H. Huang**, S. Iyer, P. Nath, R. Iyer, K. F. Harris. Micromachining of Polyurethane Membranes for Tissue Engineering Applications. ACS Biomaterials Science & Engineering, 2018, 4 (10), 3522–3533 (2019 Impact Factor 4.152).

11. **J.-H. Huang**, K. Haffey, A. Arefin, L. E. Akhadov, J. F. Harris, R. Iyer, P. Nath. A Microfluidic Method to Measure Bulging Heights for Bulge testing of Polydimethylsiloxane (PDMS) and Polyurethane (PU) Elastomeric Membranes. RSC Advances, 2018, 8, 21133-21138 (2019 Impact Factor 3.119).

12. X. Qiu, **J.-H. Huang**, T. M. Westerhof, J. A. Lombardo, K. M. Henrikson, M. Pennell, P. P. Pourfard, E. L. Nelson, P. Nath, J. B. Haun. Microfluidic Channel Optimization to Improve Hydrodynamic Dissociation of Cell Aggregates and Tissue. Scientific Reports, 2018, 8:2774 (2019 Impact Factor 3.998).

2017

13. A. Arefin, **J.-H. Huang**, D. Platts, V. D. Hypes, J. F. Harris, R. Iyer, P. Nath. Fabrication of Flexible Thin Polyurethane Membrane for Tissue Engineering Applications. Biomedical Microdevices, 2017, 19:98 (2019 Impact Factor 2.176).

14. Y. J. Kim, I. Savukov, **J.-H. Hu**ang, P. Nath. Magnetic Microscopic Imaging with an Optically Pumped Magnetometer and Flux Guides. Applied Physics Letters, 2017, 110, 043702 (2019 Impact Factor 3.597).

B. Conference Presentations

2021

1. P.-R. Lin, C.-W. Wu, **J.-H. Huang***. Development of Continuous Isolation Platform toward Sustainable Metal−Organic Frameworks Production. *68th TwIChE Annual Meeting*, **2021**. Kaohsiung, Taiwan.

2. C.-H. Wu, Y.-H. Chi, **J.-H. Huang***. Develop an Automated Platform and a Microfluidic-Based Valve Controlling System for Continuous Protein Purification on Multi-Columns. *68th TwIChE Annual Meeting*, **2021**. Kaohsiung, Taiwan.

3. G.-Y. Chang, **J.-H. Huang***, C.-W. Wu. Continuous Synthesis of Metal Organic Framework. *68th TwIChE Annual Meeting*, **2021**. Kaohsiung, Taiwan.

4. Y.-J. Chen, C.-H. Peng, **J.-H. Huang***. Development of Low-Pressure Drop Packed-Bed Microreactor for Continuous, Heterogeneous Catalysis. *68th TwIChE Annual Meeting*, **2021**. Kaohsiung, Taiwan.

5. H. Chen, Y.-L. Lu, **J.-H. Huang***. Hydraulically-Driven Microperfusion Platform for Cell Culture and Drug Screening. *68th TwIChE Annual Meeting*, **2021**. Kaohsiung, Taiwan.

6. X.-H. Cheong, Y.-C. Tai, Y.-J. Cheng, **J.-H. Huang***. Detection of neonatal hyperbilirubinemia using microfluidics-based rapid diagnosis chip. *68th TwIChE Annual Meeting*, **2021**. Kaohsiung, Taiwan (Honorable Mention).

7. T.-H. Chiang, C.-C. Huang, **J.-H. Huang***. Development of 3D Spheroid using Novel Hanging Drop Platform for High-Throughput Drug Testing. *68th TwIChE Annual Meeting*, **2021**. Hsinchu, Taiwan (Best Poster Award).

8. L.-H. Lee, **J.-H. Huang***. Continuous Cell Encapsulation in Liquid-Core Microsphere for Cell-Material Interaction Analysis. *68th TwIChE Annual Meeting*, **2021**. Hsinchu, Taiwan (Honorable Mention).

9. C.-L. Wu, **J.-H. Huang***, C.-W. Wu. Continuous and Green Synthesis of Metal-Organic Frameworks with Tunable Size in an Aqueous System. *68th TwIChE Annual Meeting*, **2021**. Hsinchu, Taiwan.

10. Y.-H. Chi, I-W. Chen, **J.-H. Huang***. Automated, Continuous Protein Purification Using Microfluidic- Controlled and Real-Time Monitoring Systems. *The 26th Symposium of Young Asian Biochemical Engineers' Community (YABEC),* **2021**. Kobe, Japan (Online, Invited).

2020

11. **J.-H. Huang***. Experience Sharing of English Teaching and Interactive Response System. 67th TwIChE Annual Meeting, 2020. Hsinchu, Taiwan (Invited).

12. C.-L. Wu, J.-Y. Xu, **J.-H. Huang***. Continuous Droplet-Based Microfluidic Synthesis of Metal-Organic Frameworks. 67th TwIChE Annual Meeting, 2020. Hsinchu, Taiwan.

13. S.-W. Fan, **J.-H. Huang***. Analysis of Flow Field in a Rapid Diagnosis Device. 67th TwIChE Annual Meeting, 2020. Hsinchu, Taiwan.

14. Y.-H. Chi, I-W. Chen, **J.-H. Huang***. Development of Microfluidic-Based Valve Controlling Platform For Continuous Protein Purification. 67th TwIChE Annual Meeting, 2020. Hsinchu, Taiwan.

15. T.-H. Chiang, **J.-H. Huang***. Rapid Formation of Hanging Drop Arrays for Culturing 3D Spheroids. 67th TwIChE Annual Meeting, 2020. Hsinchu, Taiwan (Honorable Mention).

16. L.-H. Lee, **J.-H. Huang***. Continuous Cell Encapsulation in Liquid Core Hydrogel Droplet for Drug Development and Cell Therapy. 67th TwIChE Annual Meeting, 2020. Hsinchu, Taiwan (Honorable Mention).

17. M.-H. Yen, C.-Y. Lin, **J.-H. Huang***. Development of Multi-Antibiotic Susceptibility Testing Chip for Real-time Clinical Diagnosis. Annual Meeting of the Taiwan Filtration and Separations Society, 2020. Taipei, Taiwan (3rd place).

18. T.-H. Chiang, C.-Y. Cho, L.-H. Hsieh, W.-Y. Yang, C.-K. Yeh, C.-C. Huang, and **J.-H. Huang***. A Novel Hanging Drop Platform for High Throughput 3D Spheroid Formation for Drug Testing. Annual meeting of Biomaterials and Controlled Release Society in Taiwan, 2020. Taipei, Taiwan.

19. M.-H. Yen, C.-Y. Lin, **J.-H. Huang***. Antibiotic Susceptibility Testing Chip for Real Time Multi-Drug Diagnosis. Annual meeting of Biomaterials and Controlled Release Society in Taiwan, 2020. Taipei, Taiwan.

20. Y.-H. Chi, I.-W. Chen, **J.-H. Huang***. Automated Microfluidic-Based Vavle Controlling System for Continuous Protein Purification. Annual meeting of Biomaterials and Controlled Release Society in Taiwan, 2020. Taipei, Taiwan.

21. C.-L. Wu, **J.-H. Huang***. Continuous Acid-Base Extraction for Small Molecule Separation in a Slug-Based System. Annual meeting of Biomaterials and Controlled Release Society in Taiwan, 2020. Taipei, Taiwan.

22. Y.-L. Lu, W.-H. Lai **J.-H. Huang***. Dual-Microperfusion Platform for Cell Culture and Drug Screening. Annual meeting of Biomaterials and Controlled Release Society in Taiwan, 2020. Taipei, Taiwan (Excellent Poster Award).

2019

23. Y.-H. Chi, I-W. Chen, **J.-H. Huang***. Development of Microfluidic-Based Vavle Controlling Purification System for Continuous Protein Purification. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan (Honorable Mention).

24. J.-Y. Xu, J.-H. Chiu, **J.-H. Huang***. Continuous Production of Monodisperse Water-in-Oil Droplets under Pulsatile-Free Flow. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan (Honorable Mention).

25. H.-C. Chen, C.-L. Chang, H.-H. Chou*, **J.-H. Huang***. Smart Flexible Pressure Sensors for Biomedical Applications. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan (Best Poster Award).

26. Y.-L. Lu, W.-H. Lai, **J.-H. Huang***. Hydraulically-Driven Microperfusion Cell Culture Platform for Drug Screening. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan (Best Poster Award).

27. Y.-R. Chen, **J.-H. Huang***. Fabrication of a Breathing Bronchial-like Platform for Pulmonary Drug Application. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan (Best Poster Award).

28. M.-H. Chen, **J.-H. Huang***. Fabrication of Plug-and-Play Culture Platform toward Automatically Personalized Tissue Culture. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan.

29. Y.-C. Tai, **J.-H. Huang***. Rapid Diagnosis Chip for Neonatal Hyperbilirubinemia. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan.

30. H.-Y. Mu, Y.-L. Lu, Y.-C. Ou, T.-H. Hsiao*, **J.-H. Huang***. In Situ Retrieval and Labelling of Viable Circulating Tumor Cells on the Chip toward Personalized Drug Sensitivity Analysis. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan.

31. M.-H. Yen, C.-Y. Lin, **J.-H. Huang***. Development of Power-Free Antibiotic Susceptibility Testing Chip for Drug Screening. 66th TwIChE Annual Meeting, 2019. Taichung, Taiwan.

32. **J.-H. Huang***. Aerosol Delivery into Spontaneous Breathing Lung-on-a-Chip Model. The 1st International Symposium on Aerosol Characterization and Therapies, 2019. Kaohsiung, Taiwan (Invited).

33. J.-Y. Xu, J.-H. Chiu, **J.-H. Huang***. Continuous Production of Monodisperse Water-in-Oil Droplets under Pulsatile-Free Flow. Asian Pacific Confederation of Chemical Engineering (APCChE) congress, 2019. Sapporo, Japan (Excellent Poster Award).

34. H.-C. Chen, C.-L. Chang, H.-H. Chou*, **J.-H. Huang***. Fabrication of a Flexible Capacitive Pressure Sensor for Implantable Medical Applications. Asian Pacific Confederation of Chemical Engineering (APCChE) congress, 2019. Sapporo, Japan (Excellent Poster Award).

35. Y.-C. Tai, **J.-H. Huang***. Fabrication of bilirubin chip for neonatal hyperbilirubinemia diagnosis. Asian Pacific Confederation of Chemical Engineering (APCChE) congress, 2019. Sapporo, Japan.

36. M.-H. Chen, **J.-H. Huang***. Fabrication of Plug-and-Play Culture Platform toward Automatically Personalized Tissue Culture. Asian Pacific Confederation of Chemical Engineering (APCChE) congress, 2019. Sapporo, Japan.

37. Y.-R. Chen, **J.-H. Huang***. Fabrication of a breathing bronchial-like platform for pulmonary drug application. Asian Pacific Confederation of Chemical Engineering (APCChE) congress, 2019. Sapporo, Japan.

38. **J.-H. Huang***. Manipulation of Fluidic towards the High-Throughput Organ-on-a-Chip System. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan (Invited).

39. J.-Y. Xu, **J.-H. Huang***. Continuous Formation of Oil-in-water Droplets for Spheroid Cell Culture. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan.

40. P.-H. Chen, **J.-H. Huang***. Development of Microfluidic-based System for Continuous Cell Separation. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan (Best Poster Award).

41. Y.-C. Tai, **J.-H. Huang***. Rapid and Simple Bilirubin Chip for Neonatal Hyperbilirubinemia Diagnosis. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan (Best Poster Award).

42. C.-Y. Cho, **J.-H. Huang***. A Formation of Spheroids by Using Pressure-assisted Network Droplet Accumulation System (PANDAS) for High Throughput Drug Screening. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan (Best Poster Award).

43. M.-H. Chen, **J.-H. Huang***. Automatically Plug-and-play Culture Platform for Long-term Tissue Culture. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan (Best Poster Award).

44. Y.-R. Chen, **J.-H. Huang***. Construction of A Live Bronchial-like Monitor for Pulmonary Drug Screening. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan (First place Poster Award).

45. H.-C. Chen, C.-L. Chang, H.-H. Chou, **J.-H. Huang***. Fabrication of a Flexible Capacitive Pressure Sensor for Implantable Medical Applications. The 14th Asian Congress on Biotechnology, 2019. New Taipei, Taiwan.

2018

46. C.-Y. Cho, **J.-H. Huang***. Using Pressure-Assisted Network Droplet Accumulation System (PANDAS) for Formation of Spheroids. The 24th Symposium of Young Asian Biological Engineers' Community, 2018. Taipei, Taiwan (Best Poster Award).

47. I.-W. Chen, **J.-H. Huang***. Continuous Protein Purification Using Microfluidic-Based Valve Controlling Platform. The 24th Symposium of Young Asian Biological Engineers' Community, 2018. Taipei, Taiwan.

48. W.-H. Lai, **J.-H. Huang***. Multi-Unit Cell Culture Platform for High-Throughput Drug Toxicity Study. The 24th Symposium of Young Asian Biological Engineers' Community, 2018. Taipei, Taiwan.

49. **J.-H. Huang***. Nature Grows in Its Own Way. The 24th Symposium of Young Asian Biological Engineers' Community, 2018. Taipei, Taiwan (Invited).

50. C.-K. Lin, B.-S. Ni, H.-L. Hsieh, **J.-H. Huang***. Human Breathing Lung-on-a Chip for Inhalation Drug Delivery. American Institute of Chemical Engineers Annual Meeting, 2018. Pittsburgh, PA, USA.

51. C.-Y. Cho, **J.-H. Huang***. Formation of Hanging Drop Arrays Using Pressure-Assisted Network for Droplet Accumulation System (PANDAS). 65th TwIChE Annual Meeting, 2018. Yunlin, Taiwan (Best Poster Award).

52. I.-W. Chen, **J.-H. Huang***. Development of Microfluidic-Based Valve Controlling Platform for Continuous Protein Purification. 65th TwIChE Annual Meeting, 2018. Yunlin, Taiwan (Best Poster Award).

53. W.-H. Lai, **J.-H. Huang***. Development of Hydraulically-driven micro Perfusion Cell Culture Platform for High-Throughput Drug Screening. 65th TwIChE Annual Meeting, 2018. Yunlin, Taiwan.

54. **J.-H. Huang***. Manipulation of Fluid for Biomedical Applications. The 2018 International Symposium on Transport Phenomena and Applications, 2018. Yunlin, Taiwan (Invited).

55. **J.-H. Huang***. Reconstruction of Lung Function Using Liquid Logic Technology. 2018 KSBB Fall Meeting and International Symposium, 2018. Seoul, Korea (Invited).

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C. Patents

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D. Other

- 科技部優秀年輕學者研究計畫, 2021
- R&D 100 Awards, 2019

Publications of Shi-Shang Jang (鄭西顯)

A. Journal Papers

2021

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B. Conference Papers

2020

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2. Jia-Lin Kang, **Shi-Shang Jang**, Fan-Kai Sun, and Po-Hsun Chang. (2020, Aug.)"Physically Consistent Machine Learning Models Using Artificial Data for MISO Systems and Model Predictive Control." European Symposium on Computer Aided Process Engineering 30 (Escape 30)

3. Jia-Lin Kang, Chien-Chien Wang, Po-Hsun Chang, David Shan-Hill Wong, **Shi-Shang Jang**, and Chun-HsiuWang. (2020, Aug.) "Modeling of The Solid Oxide Fuel Cell Considering H2 and CO Electrochemical Reactions." European Symposium on Computer Aided Process Engineering 30 (Escape 30)

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6. Siao-Han Huang, Jia-Lin Kang, Abhay S Zambare, David Shan-Hill Wong, **Shi-Shang Jang*** (2018, Nov). Modeling a Water Wash Sieve Tray for Aerosols Scavenging Using Computational Fluid Dynamics.. 18 AIchE Annual Meeting, Pittsburgh, PA.

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8. Jia-Lin Kang, Siao-Han Huang, Guan-Ting Liu, David Shan-Hill Wong, **Shi-Shang Jang*** (2017, Nov). Modeling Amine Aerosol Growth in CO2 Capture Absorption Process. 27 European Symposium on Computer Aided Process Engineering.

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C. Patents

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3. 改善二氯丙醇的產率的製造裝置及其製造方法,中華民國.I592392 , 2017.
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5. 二氯丙醇的製造方法與環氧氯丙烷的製造方法,中華民國,I565689, 2017.

D. Other

Associate Editors and Editorial Board

1. Associate Editor, Journal of Process Control
2. (2) Editorial Board of International Journal
   - Taiwan Institute of Chemical Engineering
   - International Journal of System Control and Information Processing
3. PROGRAM COMMITTEE:
   - Steering Committee, PSE ASIA 2018.
   - International Program Committee, AdCONIP: 2020, Singarpore.
   - International Program Committee, AdCONIP: 2021, Taipei.

Publications of U-Ser Jeng (鄭有舜)

A. Journal Papers (* Corresponding author)

2022

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8. F. Liu, X. Qin, B. Han, C. C. S. Chan, C. Ma, T. L. Leung, W. Chen, Y. He, I. Lončarić, L. Grisanti, J. Ovčar, Ž. Skoko, Y. Shi, F. Chi, C. Ling, M. R. Huqe, J. A. Zapien, S. Wang, C.-J. Su, **U-Ser Jeng**, K. S. Wong, A. Man, C. Ng, M. Gu, J. Popović,, A. B. Djurišić,* "Enhanced Light Emission Performance of Mixed Cation Perovskite Films—The Effect of Solution Stoichiometry on Crystallization" *Advanced Optical Materials*, 2021, 9, 2100393. (IF=9.926, Times Cited=1)

9. E. H.-L. Chen, K.-M. Lin, J. C. Sang, M.-R. Ho, C.-H. Lee, O. Shih, C.-J. Su, Y.-Q. Yeh, **U-Ser Jeng**, R. P.-Y. Chen,* "Condition-dependent structural collapse in the intrinsically disordered N-terminal domain of prion protein" *IUBMB Life*, (2021/07), https://doi.org/10.1002/iub.2528 (IF: 3.885). (IF=3.885, Times Cited=0)

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33. Din-Goa Liu1,a), Chien-Hung Chang1, Ming-Han Lee1, Chin-Yen Liu1, Chia-Feng Chang1, Liang-Chih Chiang1, Ching-Shiang Hwang1, Jui-Che Huang1, Albert Sheng1, Chien-Kuang Kuan1, Yi-Qi Yeh1, Chun-Jen Su1, Kuei-Fen Liao1, Wei-Ru Wu1, Orion Shih1, and **U-Ser Jeng**, Advanced small- and wide-angle x-ray scattering beamline for frontier research in biological structures at the Taiwan photon source, AIP Conference Proceedings 2054, 060021 (2019)

2018

34. Ng, Ka Chon; Lin, Fan-Cheng; Yang, Po-wei; Chuang, Yu-Chun; Chang, Chung-Kai; Yeh, Ai-Hsuan; Kuo, Chin-Sheng; Kao, Chen-Rui; Liu, Chia-Chi; **Jeng, U-Ser;** Huang, Jer-Shing; Kuo, Chun-Hong, Fabrication of Bimetallic Au-Pd-Au Nanobricks as An Archetype of Robust Nanoplasmonic Sensors, ***Chem. Mater.***, 2018, 30, 204–213.

35. Jia-Jhen Kang, Tsung-Yu Yang, Yi-Kang Lan, Wei-Ru Wu, Chun-Jen Su, Shih-Chang Weng, Norifumi L. Yamada, An-Chung Su,* and **U-Ser Jeng,*** "Directed Vertical Diffusion of Photovoltaic Active Layer Components into Porous ZnO-Based Cathode Buffer Layers", ***Small*** **2018**, 14, 1704310.

36. Huang JK, Li M, Wan Y, Dey S, Ostwal M, Zhang D, Yang CW, Su CJ, **U-Ser Jeng,** Ming J, Amassian A, Lai Z, Han Y, Li S, Li LJ. Functional Two-Dimensional Coordination Polymeric Layer as a Charge Barrier in Li-S Batteries. **ACS Nano**, **2018**, 12, 836-843.

37. Y.-J. Wang, **U. Jeng**, and S.-h. Hsu,* Biodegradable Water-Based Polyurethane Shape Memory Elastomers for Bone Tissue Engineering, ACS Biomater. Sci. Eng., 2018, 4, 1397–1406 (IF=4.432, Times Cited=0)

38. Liao, Fang-Hsuean; Wu, Te-Haw ; Huang, Yu-Ting; Lin, Wen-Jye; Su, Chun-Jen; **Jeng, U-Ser;** Kuo, Shu-Chen ; Lin, Shu-Yi "Subnanometer Gold Clusters Adhere to Lipid A for Protection against Endotoxin-induced Sepsis", **Nano Letter,** 2018, 18, 2864–2869

39. M.-H Li, H.-H Yeh, Y.-H. Chiang, **U. Jeng,** C.-J. Jen Su, H.-W. Shiu, Y.-J. Hsu, N. Kosugi, T. Ohigashi, Y.-A. Chen, P.-S. Shen, P. Chen, T.-F. Guo, "Highly efficient 2D/3D hybrid perovskite solar cells via low-pressure vapor-assisted solution process", *Adv. Mater.*, 2018, 30, 1801401.

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41. C.-J. Su,* M.-T. Lee, K.-F. Liao, O. Shih, **U. Jeng*,** "Interplay of entropy and enthalpy in peptide binding to zwitterionic phospholipid membranes as revealed from membrane thinning", *Phys. Chem.Chem. Phys.*, 2018, 20, 26830-26836

42. Y.-C. Huang, C.-J. Su, N. Korolev, N. V. Berezhnoy, S. Wang, A. Soman, C.-Y. Chen, H.-L. Chen,* **U. Jeng** and Lars Nordenskiöld, The Effect of Linker DNA on the Structure and Interaction of Nucleosome Core Particles, *Soft Matter*, 14 , 9096-9106, 2018.

2017

43. H. C Wells, G. Holmes, **U. Jeng,** W.-R. Wu, N. Kirby, A. Hawley, S. Mudie, R. G Haverkamp,* A small angle X-ray scattering study of the structure and development of looseness in bovine hides and leather, *J. Sci. Food & Agriculture*, **2017**, 97, 1543–1551.

44. Y.-Q. Yeh, K.-F. Liao, O. Shih, Y.-J. Shiu, W.-R. Wu, C.-J. Su, P.-C. Lin, **U. Jeng,*** Probing the Acid-Induced Packing Structure Changes of the Molten Globule Domains of a Protein near Equilibrium Unfolding, *J. Phys. Chem. Lett.* **2017,** 8, 470−477.

45. O. Shih, Y.-Q. Yeh, K.-F. Liao, T.-C. Sung, Y.-W. Chiang,* **U. Jeng,*** "Oligomerization process of Bcl-2 associated X protein revealed from intermediate structures in solution, **,** *Phys. Chem. Chem. Phys.*, **2017**, 19, 7947-7954.

46. P.-W. Yang, S. Thoka, P.-C. Lin, C.-J. Su, H.-S. Sheu, M. H. Huang,* **U. Jeng*,** "Tracing the Surfactant-Mediated Nucleation, Growth, and Superpacking of Gold Supercrystals using Time and Spatially Resolved X-ray Scattering", Langmuir, **2017,** 33, 3253−3261.

47. D.-Y. Chiou, F.-Y. Cao, J.-Y. Hsu, C.-E. Tsai, Y.-Y. Lai, **U. Jeng,** J. Zhang, H. Yan, C.-J. Su, Y.-J. Cheng*, Synthesis and Side-Chain Isomeric Effect of 4,9-/5,10-Dialkylated-β-Angular-Shaped Naphthodithiophenes-based Donor-Acceptor Copolymers for Polymer Solar Cells and Field-Effect Transistors, *Poly. Chem.*, **2017**, **8**, 2334-2345.

48. Y.-c. Chien, W.-T. Chuang, **U. Jeng**, and S.-h. Hsu*, Preparation, Characterization, and Mechanism for Biodegradable and Biocompatible Polyurethane Shape Memory Elastomers, *ACS Appl. Mater. Interfaces,* 2017, 9, 5419–5429.

49. G. Long, R. Shi, Y. Zhou, A. Li, B. Kan, W.-R. Wu, **U. Jeng,** T. Xu, T. Yan, M. Zhang, X. Yang, X. Ke, L. Sun, A. G. Weale, X. Wan, H. Zhang, C. Li, Y. Wang, Y. Chen, "Molecular Origin of Donor and Acceptor rich Domain Formation in Bulk heterojunction Solar Cells with an Enhanced Charge Transport Efficiency, *J. Phys. Chem. C,* 2017, 121, 5864–5870.

50. M.-H. Hsieh, Y.-S. Shiau, H.-H. Liou, **U. Jeng,** M.-T. Lee*, and K.-L. Lou,*, Measurement of Hanatoxin-Induced Membrane Thinning with Lamellar X-ray Diffraction, *Langmuir*, **2017**, 33, 2885–2889

51. Y.-T. Chen, H.-S. Su, C.-H. Hung, P.-w. Yang, Y. Hu, T.-L. Lin, M.-T. Lee, and **U. Jeng**, "X-ray Reflectivity Studies on the Mixed Langmuir-Blodgett Monolayers of Thiol-Capped Gold Nanoparticle, DPPC and SDS", Langmuir, 2017, **33**, 10886–10897.

52. W.-R. Wu, C.-J. Su,*, W.-T. Chuang, Y.-C. Huang, P.-W. Yang, P.-C. Lin, C.-Y. Chen, T.-Y. Yang, A.-C. Su, K.-H. Wei, C.-M. Liu, and **U. Jeng***, Surface Layering and Supersaturation for Top-down Nanostructural Development during Spin-coating of Polymer/Fullerene Thin Films. *Adv. Energy Mater.* **2017**, *7*, 1601842(11). **Selected as the Frontispiece of the issue.**

53. Y.-H. Lin, D.-C. Qiu, W.-H. Chang, Y.-Q. Yeh, **U. Jeng,** F.-T. Liu, Jie-rong Huang*, the intrinsically disordered N-terminal domain of galectin-3 dynamically mediates multisite self-association of the protein through fuzzy interactions, *J. Bio. Chem.*, 2017, 292, 17845-17856.

54. H.-C. Chia, H.-S. Sheu, Y.-Y. Hsiao, S.-S. Li, Y.-K. Lan, C.-Y. Lin, J.-W. Chang, Y.-C. Kuo, C.-H. Chen, S.-C. Weng, C.-J. Su, A.-C. Su, **C.-W. Chen,* & U. Jeng***, Critical Intermediate Structure that Directs the Crystalline Texture and Surface Morphology of Organo-Lead Trihalide Perovskite, *ACS Appl. Mater. Interfaces*, 2017, 9, 36897–36906 (IF=7.504, Times Cited=0).

55. Hung, Kai-En; Tsai, Che-En; Chang, Shao-Ling; Lai, Yu-Ying; **Jeng, U-Ser**; Cao, Fong-Yi ; Hsu, Chain-Shu; Su, Chun-Jen; Cheng, Yen-Ju, Bispentafluorophenyl-Containing Additive: Enhancing Efficiency and Morphological Stability of Polymer Solar Cells via Hand-Grabbing-Like Supramolecular Pentafluorophenyl:Fullerene Interactions, ACS Appl. Mater. Interfaces, **2017**, 9, 43861–43870.

56. Hsiao-Ching Yang,* Cheng-Han Yang, Ming-Yi Huang, Jyh-Feng Lu, Jinn-Shyan Wang, Yi-Qi Yeh, and **U-Ser Jeng**, Homology Modeling and Molecular Dynamics Simulation Combined with X-ray Solution Scattering Defining Protein Structures of Thromboxane and Prostacyclin Synthases, ***J. Phys. Chem. B***, **2017**, 121:11229-11240.

B. Conference Presentations

2019

1. Invited talk: 3rd Asia-Oceania Conference on Neutron Scattering (AOCNS 2019), November 16-21, 2019, Kenting, Taiwan

2018

2. Invited talk, USER Meeting of the National Synchrotron Radiation Research Center in Sept. 11-14, 2018, Hsinchu, Taiwan

2017

3. Invited talk, Conference on Grand Challenges in Bio Small-angle Scattering in March 18-20, 2017, Okazaki, Japan

4. Invited talk, Advances in Structural Biology and Beyond, May 11, 2017 in NTHU, Taiwan

5. Invited talk, Biophysics annual meeting, May 17-19, 2017.

6. Invited talk, Annual meeting of The Japan Society of Fiber Science and Technology, Miyazaki, Japan, November 1 – 2, 2017.

C. Other

1. **2018** 16th Y. Z. Hsu Science Award (nano technology)

2. 2017-2019: Chair of the Small-angle Scattering commission of the International Union of Crystallography (IUCr)

Publications of Ying-Ling Liu (劉英麟)

A. Journal Papers (* Corresponding author)

2021

1. C.Y. Tsai, ***Y.L. Liu****, "Crosslinked polyimide asymmetric membranes as thermally-stable separators with self-protective layers and inhibition of lithium dendrite growth for lithium metal battery", *J. Membr. Sci.* **640**, 119816 (2021).

2. H.W. Lee, L. M. Chang, ***Y. L. Liu****, "Thermosetting resins from a tetra-functional vinylbenzene compound possessing cyclic siloxane cores", *J. Polym. Sci.* **59**(17), 1912-1918 (2021).

3. C.C. Lo, Y.W. Chang, Y.L. Chen, ***Y. L. Liu***, H.S. Wu, Y.M. Sun*, Lignin recovery from rice straw biorefinery solid waste by soda process with ethylene glycol as co-solvent, *J. Taiwan Inst. Chem. Eng.* **126**, 50-57 (2021).

4. C.H. Huang, ***Y.L. Liu****, "A self-protection effect of monomers on preventing gelation in synthesis of main-chain polybenzoxazines with high molecular weights", *Macromolecules* **54**(16) 7434-7440 (2021).

5. S. Zachariah, ***Y. L. Liu****, "Surface engineering through biomimicked structures and deprotonation of poly(vinyl alcohol) membranes for pervaporation desalination", *J. Membr. Sci.* **637**, 119670 (2021).

6. T.W. Chuo, J.T. Hou, ***Y.L. Liu****, "Preparation of polymers possessing dynamic N-hindered amide bonds through ketene-based chemistry for repairable anticorrosion coatings", *Mater. Adv.* **2**(12), 3993-3999 (2021).

7. C.H. Huang, ***Y.L. Liu****, "Preparation of Meldrum's acid-functionalized polyimides exhibiting organo-soluble, reactive, self-crosslinkable, and colorless features", *J. Polym. Sci.* **59**(10), 893-903 (2021).

8. Y.T. Chen, Y.M. Sun, C. C. Hu, J. Y. Lai, ***Y.L. Liu****, "Employing lignin in formation of the selective layer of thin-film composite membranes for pervaporation desalination", *Mater. Adv.* **2**(9), 3099-3106 (2021).

9. T.C. Wang, C.Y. Tsai, ***Y.L. Liu****, "Solid polymer electrolytes based on crosslinked polybenzoxazine possessing poly(ethylene oxide) segments enhancing cycling performance of lithium metal batteries", *ACS Sustainable Chem. Eng.* **9**(18), 6274-6283 (2021).

10. C.Y. Tsai, ***Y.L. Liu****, "2,2-Dimethyl-1,3-dioxane-4,6-dione functionalized poly(ethylene oxide)-based polyurethanes as multi-functional binders for silicon anodes of lithium ion batteries", *Electrochim. Acta* **379C**, 138180 (11 pages) (2021).

11. R. P. Parreño Jr.*, ***Y. L. Liu***, A. B. Beltran, Effect on thermal stability of microstructure and morphology of thermally-modified electrospun fibers of polybenzoxazines (PBz) blended with sulfur copolymers (SDIB), *RSC Adv.* **11**(17), 10002-10009 (2021).

12. C. H. Huang, ***Y.L. Liu****, "Self-polymerization of Meldrum's acid-amine compounds: an effective route to polyamides", *Polym. Chem.* **12**(2), 291-298 (2021).

2020

13. S. Zachariah, ***Y.L. Liu****, "Nanocomposites of polybenzoxazine-functionalized multiwalled carbon nanotubes and polybenzoxazine for anticorrosion application", *Composites Sci. Technol.* **194**, 108139 (2020).

14. C.H. Huang, ***Y.L. Liu****, "Self-crosslinkable polymers from furan-functionalized Meldrum's acid and maleimides as effective precursors of free-standing and flexible crosslinked polymer films showing low dielectric constants", *Polym. Chem.* **11**(9), 1606-1613 (2020).

15. Y.L. Chang, T.C. Wei, ***Y.L. Liu****, "Electrochemical activation of polymer chains mediated with radical transfer reactions", *Chem. Commun.* **56**(17), 2626-2629 (2020).

16. C.Y. Tsai, K.J. Peng, C.F. Wang, ***Y.L. Liu****, "Creation of lithium ion conducting channels in gel polymer electrolytes through nonsolvent-induced phase separation for high-rate lithium ion batteries", *ACS Sustainable Chem. Eng.* **8**(5), 2138-2146 (2020). (***Featured as Issue Cover***)

2019

17. Y.J. Han, ***Y.L. Liu****, "Preparation of crosslinkable zwitterionic polybenzoxazine with sulfobetaine groups and the corresponding zwitterionic thermosetting resin for antifouling surface coating", *ACS Appl. Bio Mater.* **2**(9), 3799-3807 (2019).

18. R.P. Parreño Jr., ***Y.L. Liu***, A.B. Beltran*, "Sulfur copolymers (SDIB)/polybenzoxazines (PBz) polymer blend for electrospinning of nanofibers", *Nanomaterials* **9**(11),1526 (2019).

19. Z. Dai*, J. Deng, K.J. Peng, ***Y.L. Liu***, L. Deng*, "Pebax/PEG grafted CNT-hybrid membranes for enhanced CO_2/N_2 separation", *Ind. Eng. Chem. Res.* **58**(27), 12226-12234 (2019).

20. B.K. Su, C.H. Chang, Y.M. Sun, C.C. Hu, J.Y. Lai, ***Y.L. Liu****, "Porous membranes of thermosetting polybenzoxazine resins with interconnected-pores for organic solvent microfiltration", *J. Membr. Sci.* **586**, 267-273 (2019).

21. Y.C. Chen. ***Y.L. Liu****, "Polymerization of Meldrum's acid and diisocyanate: an effective approach for preparation of reactive polyamides and polyurethanes", *ACS Omega* **4**(4), 7884-7890 (2019). (***Invited Paper by Editor***)

22. C.H. Huang, ***Y.L. Liu****, "The Michael addition reaction of Meldrum's acid (MA): an effective route for the preparation of reactive precursors for MA-based thermosetting resins", *Polym. Chem.* **10**(15), 1873-1881 (2019). (***Featured as Issue Cover***)

23. Y.T. Chen, Y.L. Liao, Y.M. Sun, C.C. Hu, J.Y. Lai, ***Y.L. Liu****, Lignin as an effective agent for increasing the separation performance of crosslinked polybenzoxazine based membranes in pervaporation dehydration application", *J. Membr. Sci.* **578**, 156-162 (2019).

24. H.K. Lin, Y.S. Lai, ***Y.L. Liu****, "Crosslinkable and self-foaming polysulfide materials for self-repairable and mercury capture applications", *ACS Sustainable Chem. Eng.* **7**(4), 4515-4522 (2019).

25. S. Sudsandee, C.C. Hu*, ***Y.L. Liu***, S. Worakhunpiset, S. Loahaprapanon, W.S. Hung, K.R. Lee, J.Y. Lai, "Improving barrier performance of transparent polymeric film using silk nanofibril combine graphene oxide", *J. Taiwan Inst. Chem. Engineers* **95**, 332-340 (2019).

2018

26. S. Zachariah, T. W. Chuo, **Y. L. Liu** (2018) "Crosslinked polybenzoxazine coatings with hierarchical surface structures from a biomimicking process exhibiting high robustness and anticorrosion performance", *Polymer* **155**, 168-176.

27. W.L. Su, **Y.L. Liu*** (2018) Self-crosslinkable and modifiable polysiloxanes possessing Meldrum's acid groups", *Polym. Chem.* **9**(38), 4781-4788 (2018).

28. C.Y. Lin, C.C. Hu, Y. T. Chiu, J.Y. Lai, **Y.L. Liu*** (2018) "In situ crosslinking and micro-cavity generation in fabrication of polymeric membranes for pervaporation dehydration on methanol aqueous solution", *J. Membr. Sci.* **563**, 371-379.

29. W.T. Ma, S.R. Kumar, H.C. Ting, C. M. Shih, S.W. Tsai, C.C. Yang, **Y.L. Liu**, S.J. Lue* (2018) "Magnetic field-assisted alignment of graphene oxide nanosheets in a polymer matrix to enhance ionic conduction", *J. Membr. Sci.* **563**, 259-269.

30. L.K. Lin, J. Wang, **Y.L. Liu*** (2018) "Effective synthesis route for linear and cross-linked biodegradable polyesters using aliphatic Meldrum's acid derivatives as monomers", *ACS Omega* **3**(4), 4641-4646.

31. H.K. Lin, **Y.L. Liu*** (2018) "Sulfur radical transfer and coupling reaction to benzoxazine groups: a new reaction route for preparation of polymeric materials using elemental sulfur as a feedstock", *Macromol. Rapid Commun.* **39**(8), 1700832 (6 pages).

32. M. Zhong, B.K. Su, J.Y. Lai, **Y.L. Liu*** (2018) "Organic solvent-resistant and thermally stable polymeric microfiltration membranes based on crosslinked polybenzoxazine for size-selective particle separation and gravity-driven separation on oil-water emulsions", *J. Membr. Sci.* **550**, 18-25.

33. C.Y. Lin, C.H. Huang, C.C. Hu, **Y.L. Liu*** (2018) "Self-crosslinkable nitroxide-functionalized poly(2,6-dimethyl-1,4-phenylene oxide) through atom transfer radical coupling reaction", *Polymer* **135**, 154-161.

34. C.T. Liu, P.K. Su, C.C. Hu, J.Y. Lai, **Y.L. Liu*** (2018) "Surface modification of porous substrates for oil/water separation using crosslinkable polybenzoxazine as an agent", *J. Membr. Sci.* **546**, 100-109.

2017

35. Y.Y. Lee, **Y.L. Liu*** (2017) "Crosslinked electrospun poly(vinylidene difluoride) fiber mats as a matrix of gel polymer electrolytes for fast-charging lithium-ion battery", *Electrochim. Acta* **258**, 1364-1370.

36. T.W. Chuo, **Y.L. Liu*** (2017) "Furan-functionalized aniline trimer based self-healing polymers exhibiting high efficiency of anticorrosion", *Polymer* **125**, 227-233.

37. C. H. Huang, **Y.L. Liu*** (2017) "Self-healing polymeric materials for membrane separation: an example of polybenzimidazole-based membrane for pervaporation dehydration on isopropanol aqueous solution", *RSC Adv.* **7**(61), 38360-38366.

38. K.J. Peng, J.Y. Lai, **Y.L. Liu*** (2017) "Preparation of poly(styrenesulfonic acid) grafted Nafion with a Nafion-initiated atom transfer radical polymerization for proton exchange membranes", *RSC Adv.* **7**(59) 37255-37260.

39. Y. K. Chou, Y. Chen, L.K. Lin, **Y.L. Liu*** (2017) "Thermosetting resins based on a self-crosslinkable monomer/polymer possessing Meldrum's acid groups", *Macromol. Chem. Phys.* **218**(13),1700147 (9 pages).

40. Y.J. Han, **Y.L. Liu*** (2017) "2,2,6,6-Tetramethylpiperydinyl-1-oxyl (TEMPO) functionalized benzoxazines prepared with a one-pot synthesis for reactive/crosslinkable initiators of nitroxide mediated polymerization", *Macromol. Rapid Commun.* **38**(15), 1700078 (6 pages).

41. H.K. Lin, **Y. L. Liu*** (2017) "Reactive hybrid of polyhedral oligomeric silsesquioxane (POSS) and sulfur as a building block for self-healing materials", *Macromol. Rapid Commun.* **38**(10), 1700051 (5 pages).

42. Y.L. Liao, C.C. Hu, J.Y. Lai, **Y.L. Liu*** (2017) "Crosslinked polybenzoxazine based membrane exhibiting in-situ self-promoted separation performance for pervaporation dehydration on isopropanol aqueous solutions", *J. Membr. Sci.* **531**, 10-15.

43. Y. Chen, L.K. Lin, S.J. Chiang, **Y.L. Liu*** (2017) "A co-catalytic effect between Meldrum's acid and benzoxazine compounds in preparation of high performance thermosetting resins", *Macromol. Rapid Commun.* **38**(4), 1600616 (5 pages).

B. Conference Presentations

2020

1. **Y.L. Liu** (2020) "Update on the resaerches and activities of Aseanian Membrane Society", *International Congress on Membranes & Membrane Processes 2020*, Dec. 7-11, 2020, Online Conference (***Invited Speaker***).

2019

2. **Y.L. Liu** (2019) "Crosslinked Polymers/thermosetting Resins Based Membranes: Preparation and Application", *The 12th International conference of the Aseanian Membrane Society (AMS12)*, Jul. 2-5, 2019, Jeju, Korea (***Plenary Speaker***).

2018

3. **Y.L. Liu** (2018) "Recent studies on polybenzoxazines: from chemical reaction to applications", *PSK-FAPS 2018 Congress on Functional Polymers and Their Applications*, Oct. 12, 2018, Gyeongju, Korea (***Invited Speaker***).

4. **Y.L. Liu** (2018) "Polymer Modification through Radical Transfer and Coupling Reaction", *The 10th International Conference of Modification, Degradation and Stabilization of Polymers (MoDeSt 2018)*, Sep. 02 – 06, Tokyo, Japan. (***Keynote Speaker***)

5. **Y.L. Liu** (2018) "Molecular and surface engineering for materials preparation and potential bio-related application", *Biomaterials International 2018*, Jul. 22 – 26, Tokyo, Japan. (***Invited Speaker***)

2017

6. T.W. Chuo, H.G. Lin, **Y.L. Liu** (2017) "Self-Healing Polymers/Nanocomposites for Anticorrosion Coatings", *IUMRS The 15th International Conference on Advanced Materials (IUMRS-ICAM-2017)*, Aug. 28 – Sep. 01, Kyoto, Japan.

7. **Y.L. Liu** (2017) "Self-Assembled and Self-Healing Polyhedral Oligomeric Silsesquioxanes Based Nanocomposites", *2017 International Symposium on Silsesquioxanes-Based Functional Materials (SFM 2017)*, Aug. 11-15, 2017, Jinan, China. (***Invited Speaker, International Advisory Board***)

8. **Y.L. Liu**, H.Y. Lee, C.T. Liu (2017) "Polybenzoxazine: A facile material for building up porous materials for oil/water separation", *The 11th International Congress on Membranes and Membrane Processes (ICOM 2017)*, 29 July – 4 August 2017, San Francisco, CA, USA.

9. **Y.L. Liu** (2017)"Furan Derivatives Based Polymers Preparation and Properties", *The 6th International Conference on Bio-based Polymers (ICBP 2017)*, May 14-17, 2017, Chungli, Taiwan. (***Invited Speaker, Scientific Committee***)

10. **Y. L. Liu** (2017) "Transportation channels in polymeric membranes for fuel cells and separation", *The 4th NIMS-Taiwan MOST Workshop on Nanocharacterization and Computer Materials Science for Green Energy*, May 9-11, 2017, NIMS, Tsukuba, Japan. (***Invited Speaker***)

C. Other

1. 院士/會士

Fellow of The Royal Society of Chemistry (UK)

2. 國際重要期刊編輯/學會職務

Elected President, The Aseanian Membrane Society (AMS), 2020-2021

Associate Editor: RSC Advances (SCIE), 2005-2021

3. 獲獎

科技部傑出研究獎 (2019)

中華民國高分子學會-傑出學術研究獎 (2017)

Publications of Yu-Jeng Lin (林育正)

A. Book Chapters (* Corresponding author)

None

B. Journal Papers (* Corresponding author)

2021

1. Yu, C.H.; **Lin, Y.J.**; Wong, D.S.H.; Chen, C.C. (2021), Process Modeling of CO2 Absorption with Monoethanolamine Aqueous Solutions Using Rotating Packed Beds. *Industrial & Engineering Chemistry Research*, In Press.

2. **Lin, Y.J.**; Hsieh, C.J.; Chen, C.C. (2021), Association-based Activity Coefficient Model for Electrolyte Solutions. *AIChE Journal*, e17422.

3. **Lin, Y.J.**; Hossain, N; Chen, C.C. (2021), Modeling Dissociation of Ionic Liquids with Electrolyte NRTL Model. *Journal of Molecular Liquids*, 329, 115924.

4. Yu, C.H., **Lin, Y.J.**; Chen, C.C. (2021), Modeling Fluid Phase Equilibria of Carbon Dioxide-Methanol Binary System. *Fluid Phase Equilibria*, 529, 112866.

2020

5. Hirata, T.; Tsujiuchi, T.; Kamijo, T.; Kishimoto, S.; Inui, M. Kawasaki S.; **Lin, Y.J.**; Nakagami, Y.; Nojo, T.; (2020), Near-zero Emission Coal-fired Power Plant Using Advanced KM CDR Process. *International Journal of Greenhouse Gas Control*, 92.

2017

6. Chen, E.; Zhang, Y.; **Lin, Y.J.**; Nielsen, P.; Rochelle, G. T. (2017), Review of Recent Pilot Plant Activities with Concentrated Piperazine. *Energy Procedia*, 114, 1110-1127.

7. **Lin, Y.J.**; Rochelle, G. T. (2017), Heat Transfer Enhancement and Optimization of Lean/Rich Solvent Cross Exchanger for Amine Scrubbing. *Energy Procedia*, 114, 1890-1903.

C. Conference Presentations

2021

1. **Lin, Y.J.**; Chen, C.C., *A new activity coefficient model with ionic hydration for electrolyte solutions*, 21st Symposium on Thermophysical Properties, Boulder, CO, 20th-25th June 2021.

2020

2. **Lin, Y.J.**; Chen, C.C., *Challenges of Modeling Electrochemical Processes: Double Layer Structure on Charged Electrode*, Virtual AIChE Annual Meeting, San Francisco, CA, 16th-20th November 2020.

2018

3. Tanaka, H.; Tsujiuchi, T.; Kamijo, T.; Kishimoto, S.; **Lin, Y.J.**; Kawasaki S.; Nakagami, Y.; Nojo, T., *Reducing CO_2 Capture Cost by 30% using Advanced KM CDR Process*®, 14th Greenhouse Gas Control Technologies Conference (GHGT-14), Melbourne, Australia, 21st-25th October 2018.

4. Hirata, T.; Tsujiuchi, T.; Kamijo, T.; Kishimoto, S.; Inui, M. Kawasaki S.; **Lin, Y.J.**; Nakagami, Y.; Nojo, T.; (2020), Near-zero Emission Coal-fired Power Plant Using Advanced KM CDR Process., 14th Greenhouse Gas Control Technologies Conference (GHGT-14), Melbourne, Australia, 21st-25th October 2018.

D. Patents

2018

1. **Lin, Y.J.**, Kamijo, T., Kishimoto, S., Inui, M., Noborisato, T., Acidic gas absorption device and acidic gas absorption method, JP2020093187A.

2. Rochelle, G.T.; Madan, T.; **Lin, Y.J.**, Apparatus for and method of removing acidic gas from a gaseous stream and regenerating an absorbent solution, US9956505.

E. Others

None

Publications of Shih-Yuan Lu (呂世源)

A. Journal Papers (* Corresponding author)

2022

1. Che-Ming Yang, Minh Viet Huynh, Tien Khoa Le, Thi Kieu Xuan Huynh, **Shih-Yuan Lu**, De-Hao Tsai,* 2022, "Metal-Organic Framework-derived Mg-Zn Hybrid Nanocatalyst for Biodiesel Production," *Adv. Powder Technol.*, **33**(1), 103365.

2. Kok Chung Chong,* Pui San Ho, Soon Onn Lai, Sze Shin Lee, Woei Jye Lau, **Shih-Yuan Lu**, and Boon Seng Ooi, 2022, "Solvent-free Synthesis of MIL-101(Cr) for CO_2 Gas Adsorption: the effect of metal precursor and molar ratio," *Sustainability*, **14**, 1152.

3. Chun Chang,* Li Kan, Weina Mu, Qiong Wang, **Shih-Yuan Lu**,* 2022, "Tetragonal/orthorhombic-bismuth tungstate homojunction formed through in situ bismuth induced phase transformation as highly efficient photocatalyst for pollutant degradation," *J. Colloid & Interface Sci.*, **607(part 1)**, 269-280.

4. Cheng-Hao Chen, Shin-Hong Lin, Yen-Ju Wu, Jing-Ting Su, Chih-Chieh Cheng, Po-Yin Cheng, Yu-Chieh Ting, and **Shih-Yuan Lu**,* 2022, "MOF-derived Cobalt Disulfide/Nitrogen-doped Carbon Composite Polyhedrons Linked with Multi-walled Carbon Nanotubes as Sulfur Hosts for Lithium-Sulfur Batteries," *Chemical Engineering J.*, **431, Part 1**, 133924.

5. Duraisamy Senthil Raja, Po-Yin Cheng, Chih-Chieh Cheng, Shun-Qin Chang, Chun-Lung Huang, **Shih-Yuan Lu**,* 2022, "In-situ Grown Metal-Organic Framework-derived Carbon-coated Fe-doped Cobalt Oxide Nanocomposite on Fluorine-doped Tin Oxide Glass for Acidic Oxygen Evolution Reaction," *Appl. Catal. B. – Environ*., **303**, 120899.

2021

6. Jia-Yu Tan, Jing-Ting Su, Yen-Ju Wu, Chun-Lung Huang, Po-Yin Cheng, Yu-An Chen, and **Shih-Yuan Lu**,* 2021, "Hollow porous α-Fe_2O_3 nanoparticles as anode materials for high performance lithium ion capacitors," *ACS Sustainable Chem. Engr.*, **9**(3), 1180-1192.

7. Chih-Chieh Cheng, Po-Yin Cheng, Chun-Lung Huang, Duraisamy Senthil Raja, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2021, "Gold nanocrystal decorated trimetallic metal organic frameworks as high performance electrocatalysts for oxygen evolution reaction," *Appl. Catal. B. – Environ.*, **286**, 119916.

8. Liang-Guo He, Po-Yin Cheng, Chih-Chieh Cheng, Chun-Lung Huang, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2021, "($Ni_xFe_yCo_{6-x-y}$)Mo_6C Cuboids as Outstanding Bifunctional Electrocatalysts for Overall Water Splitting," *Appl. Catal. B. – Environ*., **290**, 120049.

9. Yen-Ju Wu, Cheng-Hao Chen, Chun-Lung Huang, Yong-Xian Yeh, Jia-Yu Tan, Jing-Ting Su, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2021, "Triple Functionalization of Carved N-doped Carbon Nanoboxes with Synergistic Tri-metallic Sulfide for High Performance Lithium-Sulfur Batteries," *J. Mater. Chem. A*, **9**(14), 9028-9037.

10. Shengrui Chen, Runming Tao, Chi Guo, Wang Zhang, Xiaolang Liu, Guang Yang, Pingmei Guo, Gengzhi Sun, Jiyuan Liang,* **Shih-Yuan Lu,*** 2021, "A new trick for an old technology: ion exchange syntheses of advanced energy storage and conversion nanomaterials," *Energy Storage Materials*, **41**, 758-790.

11. Shengrui Chen,+ Runming Tao,+ Ji Tu, Pingmei Guo, Guang Yang, Wenjun Wang, Jiyuan Liang,* **Shih-Yuan Lu**,* 2021, "High performance flexible lithium ion battery electrodes: ion exchange assisted fabrication of carbon coated nickel oxide nanosheet arrays on carbon cloth," *Adv. Functional Mater.*, **31**(24), 2101199. (+: co-first authors)

12. Chun Chang, Huanchun Yang, Li Kan, Weina Mu, Qiong Wang, **Shih-Yuan Lu**,* Baole Deng,* 2021, "Mechanism and impacts of inorganic ion addition on photocatalytic degradation of triclosan catalyzed by heterostructured $Bi_7O_9I_3$/Bi," *J. Taiwan Inst. Chem. Engr.*, **125**, 176-185.

13. Chun–Lung Huang, Kotaro Sasaki, Duraisamy Senthil Raja, Cheng-Ting Hsieh, Yen-Ju Wu, Jing-Ting Su, Chih-Chieh Cheng, Po-Yin Cheng, Shin-Hong Lin, YongMan Choi,* **Shih–Yuan Lu**,* 2021, "Twinning enhances efficiencies of metallic catalysts toward electrolytic water splitting," *Adv. Energy Mater.*, **11**(46), 2101827.

2020

14. Cheng-Ting Hsieh, Chun-Lung Huang, Yu-An Chen, **Shih-Yuan Lu**,* 2020, "NiFeMo Alloy Inverse-Opals on Ni Foam as Outstanding Bifuctional Catalysts for Electrolytic Water Splitting of Ultra-Low Cell Voltages at High Current Densities," *Appl. Catal. B. – Environ.*, **267**, 118376.

15. Yuan-Xin Zhu, Lei Zhang,* Guo-Gang Zhu, Xin Zhang, and **Shih-Yuan Lu**,* 2020, "N-doped carbon armored metal phosphides grown in-situ on nickel foam as chainmail electrocatalysts for high efficiency overall water splitting," *J. Colloid & Interface Sci.*, **562**, 42-51.

16. Xin Zhang, Lei Zhang,* Guo-Gang Zhu, Yuan-Xin Zhu, and **Shih-Yuan Lu**,* 2020, "Mixed Metal Phosphide Chainmail Catalysts Confined in N-Doped Porous Carbon Nanoboxes as Highly Efficient Water Oxidation Electrocatalysts with Ultralow Overpotentials and Tafel Slopes," *ACS Appl. Mater. & Interfaces*, **12**, 7153-7161, (supplementary journal cover)

17. Yuan-Xin Zhu, Lei Zhang,* Guo-Gang Zhu, Xin Zhang, and **Shih-Yuan Lu**,* 2020, "Open-Mouth N-doped Carbon Nanoboxes Embedded with Mixed Metal Phosphides Nanoparticles as High-Efficiency Catalysts for Electrolytic Water Splitting," *Nanoscale*, **12**(10), 5689-6212. (inside front cover)

18. Teng-Yun Liang,+ Duraisamy Senthil Raja,+ Kah-Chun Chin,+ Chun-Lung Huang, Sumathi A/P Sethupathi, Loong-Kong Leong,* De-Hao Tsai,* and **Shih-Yuan Lu**,* 2020, "Bimetallic Metal-Organic Framework-derived Hybrid Nanostructures as High-Performance Catalysts for Methane Dry Reforming," *ACS Appl. Mater. & Interfaces*, **12**(13), 15183-15193. (+: co-first authors)

19. Yen-Ju Wu, Yu-An Chen, Chun-Lung Huang, Jing-Ting Su, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2020, "Small highly mesoporous silicon nanoparticles for high performance lithium ion based energy storage," *Chemical Engineering J.*, **400**, 125958.

20. Jing-Ting Su, Yu-An Chen, Chun-Lung Huang, Yen-Ju Wu, Heng-Yi Cheng, Xui-Fang Chuah, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2020, "Nitrogen doped carbon nanoboxes as high rate capability and long-life anode materials for high-performance Li-ion capacitors," *Chemical Engineering J.*, **396**, 125314.

21. Duraisamy Senthil Raja, Chun-Lung Huang, Yu-An Chen, YongMan Choi, **Shih-Yuan Lu**,* 2020, "Composition-Balanced Trimetallic MOFs as Ultra-Efficient Electrocatalysts for Oxygen Evolution Reaction at High Current Densities," *Appl. Catal. B. – Environ.*, **279**, 119375.

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22. Duraisamy Senthil Raja, Hao-Wei Lin, and **Shih-Yuan Lu**,* 2019, "Synergistically Well-Mixed Synergistic MOFs Grown on Nickel Foam as Highly Efficient Durable Bifunctional Electrocatalysts for Overall Water Splitting at High Current Densities," *Nano Energy*, **57**, 1-13.

23. Xui-Fang Chuah, Cheng-Ting Hsieh, Chun-Lung Huang, Duraisamy Senthil Raja, Hao-Wei Lin, and **Shih-Yuan Lu**,* 2019, "In-Situ Grown, Passivator-Modulated Anodization derived Synergistically Well Mixed Ni-Fe Oxides from Ni Foam as High Performance Oxygen Evolution Reaction Electrocatalysts," *ACS Applied Energy Materials*, **2**(1), 743-753.

24. Chia-Hsun Li, Chun-Lung Huang, Xui-Fang Chuah, Duraisamy Senthil Raja, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2019, "Ti-MOF derived $Ti_xFe_{1-x}O_y$ Shells Boost Fe_2O_3 Nanorod Cores for Enhanced Photoelectrochemical Water Oxidation," *Chemical Engineering J.*, **361**, 660-670.

25. Yu-Yun Lin and **Shih-Yuan Lu**,* 2019, "Selective and efficient cleavage of lignin model compound into value-added aromatic chemicals with $CuFe_2O_4$ nanocrystals decorated on partially reduced graphene oxides via sunlight-assisted heterogeneous Fenton Processes," *J. Taiwan Inst. Chem. Engrs.*, **97**, 264-271.

26. Cheng-Ting Hsieh, Xui-Fang Chuah, Chun-Lung Huang, Hao-Wei Lin, **Shih-Yuan Lu**,* 2019, "NiFe/$(Ni,Fe)_3S_2$ Core/Shell Nanowire Arrays as Outstanding Catalysts for Electrolytic Water Splitting at High Current Densities," *Small Methods*, **3**(10), 1900234. (back cover)

27. Tai-Sing Wu, Leng-You Syu, Chao-Nan Lin, Bi-Hsuan Lin, Yi-Hsiu Liao, Shih-Chang Weng, Yuh-Jeen Huang, Horng-Tay Jeng, **Shih-Yuan Lu**, Shih-Lin Chang, Yun-Liang Soo,* 2019, "Enhancement of catalytic activity by UV-light irradiation in CeO_2 nanocrystals," *Scientific Reports*, **9**, 8018.

28. Heng-Yi Cheng, Po-Yuan Cheng, Xui-Fang Chuah, Chun-Lung Huang, Cheng-Ting Hsieh, Jiaqi Yu, Cheng-Hsien Lin, and **Shih-Yuan Lu**,* 2019, "Porous N-doped Carbon Nanostructure Integrated with Mesh Current Collector for Li-ion Based Energy Storage," *Chemical Engineering J.*, **374**, 201-210.

29. Chun-Lung Huang, Xui-Fang Chuah, Cheng-Ting Hsieh, **Shih-Yuan Lu**,* 2019, "NiFe Alloy Nanotube Arrays as Highly Efficient Bifunctional Electrocatalysts for Overall Water Splitting at High Current Densities," *ACS Appl. Mater. & Interfaces*, **11**(7), 24096-24106.

30. Hao-Wei Lin, Duraisamy Senthil Raja, Xui-Fang Chuah, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2019, "Bi-metallic MOFs Possessing Hierarchical Synergistic Effects as High Performance Electrocatalysts for Overall Water Splitting at High Current Densities," *Appl. Catal. B. – Environ.*, **258**, 118023.

31. Po-Yuan Cheng, Heng-Yi Cheng, Chun-Lung Huang, Yu-An Chen, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2019, "N-doped Hierarchical Continuous Hollow Thin Porous Carbon Nanostructure for High Performance Flexible Gel-Type Symmetric Supercapacitors," *ACS Sustainable Chem. Engr.*, **7**(20), 17020-17029. (supplementary journal cover)

32. A43. Chao-Nan Lv, Lei Zhang,* Xin-Hua Huang, Yuan-Xin Zhu, Xin Zhang, Jin-Song Hu, and **Shih-Yuan Lu**,* 2019, "Double Functionalization of N-doped Carbon Carved Hollow Nanocubes with Mixed Metal Phosphides as Efficient Bifunctional Catalysts for Electrochemical Overall Water Splitting," *Nano Energy*, **65**, 103995. (back cover)

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33. Chun Chang, Lei Zhang, Chan-Wei Hsu, Xui-Fang Chuah, **Shih-Yuan Lu**,* 2018, "Mixed $NiO/NiCo_2O_4$ nanocrystals grown in situ from the skeleton of a 3D porous nickel network as efficient electrocatalysts for oxygen evolution reactions," *ACS Appl. Mater. & Interfaces*, **10**(1), 417-426.

34. Chun Chang,* Huan-Chun Yang, Na Gao, **Shih-Yuan Lu**,* 2018, "Core/Shell p-BiOI/n-β-Bi_2O_3 Heterojunction Array with Significantly Enhanced Photoelectrochemical Water Splitting Efficiency," *J. Alloys & Compounds*, **738**, 138-144.

35. Zai-Wen Kwang, Chih-Wen Chang, Tsung-Yu Hsieh, Tzu-Chien Wei, **Shih-Yuan Lu**,* 2018, "Solvent-modulated reaction between mesoporous PbI_2 film and CH_3NH_3I for enhancement of photovoltaic performances of perovskite solar cells," *Electrochimica Acta*, **266**, 118-129.

36. Chia-Hsun Li, Chan-Wei Hsu, **Shih-Yuan Lu**,* 2018, "TiO_2 Nanocrystals Decorated Z-schemed Core-Shell CdS-CdO Nanorod Arrays as High Efficiency Anodes for Photoelectrochemical Hydrogen Generation," *J. Colloid & Interface Sci.*, **521**, 216-225.

37. Lei Zhang, Jin-Song Hu,* Xin-Hua Huang, Jian Song, **Shih-Yuan Lu**,* 2018, "Particle-in-box nanostructured materials created via spatially confined pyrolysis as high performance bifunctional catalysts for electrochemical overall water splitting," *Nano Energy*, **48**, 489-499.

38. Li-Ting Chen, Ung-Hsuan Liao, Je-Wei Chang, **Shih-Yuan Lu**, De-Hao Tsai,* 2018, "A Facile Aerosol-Based Self-Assembly of Silver-Zinc Oxide Hybrid Nanoparticle Cluster with Mechanistic Understanding of Interface Reaction for Enhanced Photocatalytic Performance," *Langmuir*, **34**(17), 5030–5039.

39. Duraisamy Senthil Raja, Xui-Fang Chuah, **Shih-Yuan Lu**,* 2018, "In situ Grown Bimetallic MOF as Highly Efficient Bifunctional Electrocatalyst for Overall Water Splitting with Ultrastability at High Current Densities," *Adv. Energy Mater.*, **8**, 1801065. (inside back cover)

40. Te-Hui Wu,# Chih-Tse Chang,# Chun-Chieh Wang,# Shaikh Parwaiz, Chih-Chung Lai, Yu-Ze Chen, **Shih-Yuan Lu**,* and Yu-Lun Chueh,* 2018, "Few-Layer Graphene Sheet-Passivated Porous Silicon Toward Excellent Electrochemical Double-Layer Supercapacitor Electrode," *Nanoscale Research Letters*, **13**, 242. (#: co-first authors)

41. Chan-Wei Hsu, Chia-Hsun Li, Lei Zhang, and **Shih-Yuan Lu**,* 2018, "N-Doped Carbon Dots@Layer Facilitated Heterostructure of TiO_2 Polymorphs for Efficient Photoelectrochemical Water Oxidation," *J. Taiwan Inst. Chem. Engrs.*, **93**(12), 388-396.

42. Kuan-Ting Lee,# Yu-Jen Lu,# Shao-Chieh Chiu, Wen-Chi Chang, Er-Yuan Chuang*, and **Shih-Yuan Lu**,* 2018, "Heterogeneous Fenton Reaction Enabled Selective Colon Cancer Cell Treatment," *Scientific Reports*, **8**(1), 16580. (#: co-first authors)

43. Chih-Wen Chang, Zai-Wen Kwang, Tsung-Yu Hsieh, Tzu-Chien Wei, **Shih-Yuan Lu**,* 2018, "High Performance Perovskite Solar Cells Fabricated from Porous $PbI_{2-x}Br_x$ Prepared with Mixture Solvent Pore Generation Treatment," *Electrochimica Acta*, **292**, 399-406.

2017

44. Lei Zhang, Chun Chang, Chan-Wei Hsu, Chih-Wen Chang, **Shih-Yuan Lu**,* 2017, "Hollow Nanocubes Composed of Well-dispersed Mixed Metal-rich Phosphides in N-doped Carbon as Highly Efficient and Durable Electrocatalysts for Oxygen Evolution Reaction at High Current Densities," *J. Mater. Chem. A*, **5**(37), 19656-19663. (inside back cover)

45. Xui-Fang Chuah, Kuan-Ting Lee, Yu-Chieh Cheng, Poh-Foong Lee,* **Shih-Yuan Lu,*** 2017, "Ag/$AgFeO_2$: an Outstanding Magnetically Responsive Photocatalyst for HeLa Cell Eradication," *ACS Omega*, **2**(8), 4261-4268.

46. Kuan-Ting Lee, Yu-An Chen, **Shih-Yuan Lu**,* 2017, "Solid-Liquid Interface based Biphasic Reaction for Nanomaterial Preparation: Bundled CuO Nanorod as an Example and its Outstanding Photocatalytic Efficiencies," *ChemistrySelect*, **2**(11), 3276-3281.

47. Chun-Chieh Wang, Jiyuan Liang, Yi-Hsiu Liao, **Shih-Yuan Lu**,* 2017, "3D porous graphene nanostructure from a simple, fast, scalable process for high performance flexible gel-type supercapacitors," *ACS Sustainable Chem. Engr.*, **5**(5), 4457–4467.

48. Fwu-Long Mi, Thierry Burnouf, **Shih-Yuan Lu**, Yu-Jen Lu, Kun-Ying Lu, Yi-Cheng Ho, Chang-Yi Kuo, Er-Yuan Chuang,* 2017, "Self-targeting, immune transparent plasma protein coated nanocomplex for non-invasive photothermal anticancer therapy," *Adv. Healthcare Mater.*, **6**(14), 1700181.

49. Chun-Chieh Wang, Je-Wei Chang, **Shih-Yuan Lu**,* 2017, "p-Cu_2S/n-$Zn_xCd_{1-x}S$ nanocrystals dispersed in 3D porous graphene nanostructure: an excellent photocatalyst for hydrogen generation through sun light driven water splitting," *Catalysis Science & Technology*, **7**(6), 1305-1314.

50. Kuan-Ting Lee, Fwu-Long Mi, Yu Jen Lu, Thierry Burnouf, Yi-Ting Wei, Shao-Chieh Chiu, Er-Yuan Chuang,* and **Shih-Yuan Lu**, 2017, "Catalase Modulated Heterogeneous Fenton Reaction for Selective Cancer Cell Eradication: $SnFe_2O_4$ Nanocrystals as an Effective Reagent for Treating Lung Cancer Cells," *ACS Appl. Mater. & Interfaces*, **9**(2), 1273–1279.

51. Tung-Yu Tsai, Hong-Li Wang, Yi-Chen Chen, Wei-Chang Chang, Tse-Wei Chang, **Shih-Yuan Lu**, De-Hao Tsai,* 2017, "Noble metal-TiO_2 Hybrid Nanoparticle Clusters and the Interaction to Proteins for Photo-catalysis in Aqueous Environments," *J. Colloid & Interface Sci.*, **490**, 802-811.

52. Kuan-Ting Lee, Kok-Poh Wai, **Shih-Yuan Lu**,* 2017, "CuO nanorods from carrier solvent assisted interfacial reaction processes: an unexpected extraordinary Fe-free photocatalyst in Fenton-like processes," *J. Taiwan Inst. Chem. Engrs.*, **70**, 244-251.

B. Conference Presentations

2022

1. Chun-Lung Huang, Cheng-Ting Hsieh, and **Shih-Yuan Lu**,* 2022, "Nanostructured Multi-component Electrocatalysts for High Performance Electrolytic Water Splitting," 台灣化學工程學會68周年年會, 高雄. (1/6-7/2022) (keynote speech)

2. Duraisamy Senthil Raja and **Shih-Yuan Lu**,* 2022, "Exploring Synergistic Effects for High Performance Catalysts of Electrolytic Water Splitting," 台灣物理年會, Taipei, Taiwan. (1/24-26/2022) (invited talk)

2021

3. Duraisamy Senthil Raja, Chih-Chieh Cheng, and **Shih-Yuan Lu**,* 2021,"Exploring Synergistic Effects for High Performance Catalysts of Electrolytic Water Splitting," 239th ECS Meeting with 18th International Meeting on Chemical Sensors, Digital Meeting, Chicago, USA. (5/30-6/26/2021) (invited talk)

4. Chih-Chieh Cheng, Po-Yin Cheng, Chun-Lung Huang, Duraisamy Senthil Raja, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2021, "Gold nanocrystal decorated trimetallic MOFs as high performance electrocatalysts for oxygen evolution reaction," 2021 Materials Research Society-Taiwan International Conference (2021 MRSTIC), on-line, Taipei, Taiwan. (11/13-17/2021)

5. Duraisamy Senthil Raja and **Shih-Yuan Lu**,* 2021, "Cobalt-MOF-derived Carbon-coated Iron-doped Spinel Co_3O_4 Nanocomposite as an Efficient Oxygen Evolution Electrocatalyst in Acid," 2021 Materials Research Society-Taiwan International Conference (2021 MRSTIC), on-line, Taipei, Taiwan. (11/13-17/2021)

6. Duraisamy Senthil Raja, Chih-Chieh Cheng, and **Shih-Yuan Lu**,* 2021, "Development of High Performance Catalysts for Electrolytic Water Splitting through Engineering Synergistic Effects," 2021 Materials Research Society-Taiwan International Conference (2021 MRSTIC), on-line, Taipei, Taiwan. (11/13-17/2021) (keynote speech)

7. **Shih–Yuan Lu**,* Chun–Lung Huang, Xui–Fang Chuah, Cheng–Ting Hsieh, 2021, "NiFe Alloy Nanotube Arrays as Highly Efficient Bifunctional Electrocatalysts for Overall Water Splitting at High Current Densities," The 30th Topical Meeting of the International Society of Electrochemistry, on-line, Taipei, Taiwan. (11/22-24/2021) (invited talk)

8. Chun-Lung Huang, Kotaro Sasaki, Duraisamy Senthil Raja, Cheng-Ting Hsieh, Yen-Ju Wu, Jing-Ting Su, Chih-Chieh Cheng, Po-Yin Cheng, Shin-Hong Lin, YongMan Choi*, **Shih-Yuan Lu,*** 2021, "Efficiency of metallic catalysts toward electrolytic water splitting enhanced with twinning," 17th Taiwan-Japan Joint Symposium on Catalysis, Taipei, Taiwan. (12/3-4/2021) (invited talk)

2020

9. Duraisamy Senthil Raja, Hao-Wei Lin, and **Shih-Yuan Lu,*** 2020, "Exploring Synergistic Effects for High Performance Catalysts of Electrolytic Water Splitting," 台灣化學工程學會67周年年會, 新竹. (keynote speech)

10. Shun-Qin Chang, Chun-Lung Huang, and **Shih-Yuan Lu**,* 2020, "Precious-metal-free high entropy alloys as electrolytic water splitting catalysts in acidic media," 台灣化學工程學會67周年年會, 新竹.

11. Cheng-Hao Chen, Jing-Ting Su, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2020, "MOF-derived Cobalt Sulfide Interlaced with Multi-walled Carbon Nanotubes as Sulfur Hosts for Lithium-Sulfur Batteries," 台灣化學工程學會67周年年會, 新竹.

12. Chih-Chieh Cheng, Po-Yin Cheng, Chun-Lung Huang, Duraisamy Senthil Raja, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2020, "Gold nanocrystal decorated trimetallic MOFs as high performance electrocatalysts for oxygen evolution reaction," 台灣化學工程學會67周年年會, 新竹.

13. Jing-Ting Su, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2020, "Applications of Core-Shell Silicon-Carbon Composites as Anode Materials for Lithium Ion Capacitors," 台灣化學工程學會67周年年會, 新竹.

14. Chih-Chieh Cheng, Po-Yin Cheng, Chun-Lung Huang, Duraisamy Senthil Raja, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2020, "Gold nanocrystal decorated trimetallic MOFs as high performance electrocatalysts for oxygen evolution reaction," 26th Users' Meeting & Workshops of NSRRC, Hsinchu.

15. Shun-Qin Chang, Chun-Lung Huang, and **Shih-Yuan Lu**,* 2020, "Precious-metal-free high entropy alloys as electrolytic water splitting catalysts in acidic media," 2020 The International Conference on Green Electrochemical Technologies, Taichung.

16. Cheng-Hao Chen, Jing-Ting Su, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2020, "MOF-derived Cobalt Sulfide Interlaced with Multi-walled Carbon Nanotubes as Sulfur Hosts for Lithium-Sulfur Batteries," 2020 The International Conference on Green Electrochemical Technologies, Taichung.

17. Chih-Chieh Cheng, Po-Yin Cheng, Chun-Lung Huang, Duraisamy Senthil Raja, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2020, "Gold nanocrystal decorated trimetallic MOFs as high performance electrocatalysts for oxygen evolution reaction," 2020 The International Conference on Green Electrochemical Technologies, Taichung. (Best Poster Golden Award)

18. Jing-Ting Su, Yen-Ju Wu, and **Shih-Yuan Lu**,* 2020, "Applications of Core-Shell Silicon-Carbon Composites as Anode Materials for Lithium Ion Capacitors," 2020 The International Conference on Green Electrochemical Technologies, Taichung.

2019

19. Duraisamy Senthil Raja, Hao-Wei Lin, Xui-Fang Chuah, **Shih-Yuan Lu**,*2019, "MOF based electrocatalysts for electrolytic water splitting," 235th ECS Meeting, Dallas, USA.

20. Duraisamy Senthil Raja, Hao-Wei Lin, Xui-Fang Chuah, **Shih-Yuan Lu**,* 2019, "MOF based Electrocatalysts for Electrolytic Water Splitting," Taiwan-Japan-Korea Joint Workshop on Energy Materials and Sustainable Development, Hsinchu, Taiwan. (invited talk)

21. **Shih-Yuan Lu**,* 2019, "Nanostructured Catalysts for Electrolytic Water Splitting," Seoul National University & National Tsing Hua University Joint Workshop 2019 Nano/Biotechnology, Seoul, Korea. (invited talk)

22. Duraisamy Senthil Raja, Hao-Wei Lin, Xui-Fang Chuah, **Shih-Yuan Lu**,* 2019, "MOF based electrocatalysts for electrolytic water splitting," Taiwan-Malaysia Workshop on Clean Water and Sustainable Energy 2019, Johor, Malaysia. (invited talk)

23. Duraisamy Senthil Raja, Hao-Wei Lin, Xui-Fang Chuah, **Shih-Yuan Lu**,* 2019, "MOF based Electrocatalysts for Electrolytic Water Splitting," 第十二屆海峽兩岸化學工程學術研討會, 高雄. (invited talk)

24. **Shih-Yuan Lu**,* 2019, "Nanostructured Catalysts for Electrolytic Water Splitting," APCChE 2019, Sapporo, Japan. (keynote speech)

25. Chih-Chieh Cheng, Yu-An Chen, and **Shih-Yuan Lu**,* 2019, "Ni-Fe Based Bi-metallic Metal-Organic Framework in-situ Grown on Nickel Foam as High Efficiency Overall Water Splitting Catalysts," APCChE 2019, Sapporo, Japan. (Excellent Poster Award)

26. Liang-Guo He, Cheng-Ting Hsieh, Chun-Lung Huang, and **Shih-Yuan Lu**,* 2019, "Ni–Fe-Mo based Nanorod Arrays as Bifunctional Electrocatalyst for Overall Water Splitting," APCChE 2019, Sapporo, Japan.

27. B67. Jia-Yu Tan, Po-Yuan Cheng, and **Shih-Yuan Lu**,* 2019, "Mn-Fe based Bimetallic Metal-Organic Framework as Electrode Materials for Supercapacitors," APCChE 2019, Sapporo, Japan.

28. Yen-Ju Wu, Po-Yuan Cheng, Yu-An Chen, and **Shih-Yuan Lu**,* 2019, "Silicon nanoparticle composited with N-dope carbon as anode in Li-ion storage," APCChE 2019, Sapporo, Japan.

29. **Shih-Yuan Lu**,* 2019, "Nanostructured Catalysts for Electrolytic Water Splitting," The 10th Asian Conference on Electrochemical Power Sources 2019, Kaohsiung, Taiwan. (keynote speech)

30. Duraisamy Senthil Raja and **Shih-Yuan Lu**,* 2019, "Iron, Nickel, and Cobalt based Metal-Organic Framework Grown In-situ on Nickel Foam as Highly Efficient Electrocatalyst for Oxygen Evolution Reaction," The 10th Asian Conference on Electrochemical Power Sources 2019, Kaohsiung, Taiwan.

31. Chun–Lung Huang, Xui–Fang Chuah, Cheng–Ting Hsieh, and **Shih–Yuan Lu**,* 2019, "NiFe Alloy Nanotube Arrays as Highly Efficient Bifunctional Electrocatalysts for Overall Water Splitting at High Current Densities," 2019 AIChE Annual Meeting, Orlando, USA.

32. Chih-Chieh Cheng, Yu-An Chen, and **Shih-Yuan Lu**,* 2019, "Ni-Fe Based Bi-metallic Metal-Organic Framework in-situ Grown on Nickel Foam as High Efficiency Overall Water Splitting Catalysts," 台灣化學工程學會66周年年會, 台中. (壁報論文競賽優勝獎)

33. Liang-Guo He, Cheng-Ting Hsieh, Chun-Lung Huang, and **Shih-Yuan Lu**,* 2019, "Ni–Fe-Mo based Nanorod Arrays as Bifunctional Electrocatalyst for Overall Water Splitting," 台灣化學工程學會66周年年會, 台中.

34. Jia-Yu Tan, Po-Yuan Cheng, and **Shih-Yuan Lu**,* 2019, "Mn-Fe based Bimetallic Metal-Organic Framework as Electrode Materials for Supercapacitors," 台灣化學工程學會66周年年會, 台中.

35. Yen-Ju Wu, Po-Yuan Cheng, Yu-An Chen, and **Shih-Yuan Lu**,* 2019, "Silicon nanoparticle composited with N-dope carbon as anode in Li-ion storage," 台灣化學工程學會66周年年會, 台中.

2018

36. Lei Zhang, Chun Chang, and **Shih-Yuan Lu**,* 2018, "Mixed Oxides/Phosphides as Efficient Electrocatalysts for Oxygen Evolution Reaction," 233rd ECS Meeting, Seattle, USA.

37. **Shih-Yuan Lu**,* 2018, "Nanostructured Catalysts for Electrolytic Water Splitting," Bilateral Conference of South China Advanced Institute for Soft Matter Science and Technology (AISMST), South China University of China (SCUT) & Department of Chemical Engineering, National Tsing Hua University (NTHU), 廣州, China. (invited talk)

38. **Shih-Yuan Lu**,* 2018, "Nanostructured Catalysts for Electrolytic Water Splitting," 第十一屆海峽兩岸化學工程學術研討會, 太原, China. (invited talk)

39. Cheng-Ting Hsieh, Xui-Fang Chuah, Hao-Wei Lin, **Shih-Yuan Lu**,* 2018, "NiFe Alloy Nanowire Arrays as Outstanding Bifunctional Electrocatalysts for Overall Water Splitting," 2018 AIChE Annual Meeting, Pittsburgh, USA.

40. Po-yuan Cheng, Heng-Yi Cheng, and **Shih-Yuan Lu**,* 2018, "N-doped Hierarchical Porous Carbon Nanostructure for High Performance Flexible Gel-Type Supercapacitors," 台灣化學工程學會年會, Yunlin, Taiwan. (壁報論文競賽優勝獎)

41. Hao-Wei Lin and **Shih-Yuan Lu**,* 2018, "Optimally Alloying Bi-metallic MOFs to be High Performance Electrocatalysts for Overall Water Splitting at High Current Densities," 台灣化學工程學會年會, Yunlin, Taiwan.

42. Cheng-Ting Hsieh and **Shih-Yuan Lu**,* 2018, "NiFe Core / $(Ni,Fe)_3S_2$ Shell Nanowire Arrays as Outstanding Catalysts for Electrolytic Overall Water Splitting at High Current Densities," 台灣化學工程學會年會, Yunlin, Taiwan.

43. **Shih-Yuan Lu**,* 2018, "Nanostructured Catalysts for Electrolytic Water Splitting," 兩岸清華大學學術研討會, Hsinchu, Taiwan. (invited talk)

44. **Shih-Yuan Lu**,* 2018, "Applications of Nanostructured Materials in Electrocatalytic Water Splitting, Lithium Ion Capacitors, and Bio-refinery," 2018 NTHU - UTAR Symposium, Universiti Tunku Abdul Rahman, Sungai Long, Malaysia. (invited talk)

2017

45. Chia-Hsun Li and **Shih-Yuan Lu**,* 2017, "Photoelectrochemical performances of CdS nanorod arrays enhanced with surface decoration of TiO_2 nanoparticles," 2017 International Conference on Green Electrochemical Technologies, Taipei, Taiwan. (Best Poster Award)

46. Xui Fang Chuah, Lei Zhang, Chun Chang and **Shih-Yuan Lu**,* 2017, "$Ni(OH)_2$ Nanosheet Array grown on Ni Foam as an Outstanding Oxygen Evolution Reaction Electrocatalyst," 2017 International Conference on Green Electrochemical Technologies, Taipei, Taiwan.

47. Heng-Yi Cheng, Yi-Hsiu Liao, **Shih-Yuan Lu**,* 2017, "A flexible gel-type symmetric supercapacitor fabricated from 3D porous graphene-agar nanomaterials," 2017 International Conference on Green Electrochemical Technologies, Taipei, Taiwan.

48. Yu-Yun Lin, **Shih-Yuan Lu**,* 2017, "Facile Synthesis of $CuFe_2O_4$ Nanoparticles as Efficient Heterogeneous Fenton Catalysts for Photo-degradation of Organic Pollutants," 2017 深圳大學高等研究院暑期參訪雙邊研討會, Hsinchu, NTHU, Taiwan.

49. Chia-Hsun Li and **Shih-Yuan Lu**,* 2017, "Photoelectrochemical performances of CdS nanorod arrays enhanced with surface decoration of TiO_2 nanoparticles," 2017 深圳大學高等研究院暑期參訪雙邊研討會, Hsinchu, NTHU, Taiwan.

50. Xui Fang Chuah, Lei Zhang, Chun Chang and **Shih-Yuan Lu**,* 2017, "$Ni(OH)_2$ Nanosheet Array grown on Ni Foam as an Outstanding Oxygen Evolution Reaction Electrocatalyst," 2017 深圳大學高等研究院暑期參訪雙邊研討會, Hsinchu, NTHU, Taiwan. (論文海報展示報告優勝獎)

51. Heng-Yi Cheng, Yi-Hsiu Liao, **Shih-Yuan Lu**,* 2017, "A flexible gel-type symmetric supercapacitor fabricated from 3D porous graphene-agar nanomaterials," 2017 深圳大學高等研究院暑期參訪雙邊研討會, Hsinchu, NTHU, Taiwan. (論文海報展示報告佳作獎)

52. Yu-An Chen, Bo-Yuan Lee, Shun-An Ke, Kuan-Ting Lee, **Shih-Yuan Lu**,* 2017, "Sn-Cu based nanorods as highly efficient photocatalysts for sun-light assisted heterogeneous Fenton processes," 台灣化學工程學會年會, Taipei, Taiwan. (傑出壁報論文獎)

53. Yu-Yun Lin, **Shih-Yuan Lu**,* 2017, "Facile Synthesis of $CuFe_2O_4$ Nanoparticles as Efficient Heterogeneous Fenton Catalysts for Photo-degradation of Organic Pollutants," 台灣化學工程學會年會, Taipei, Taiwan.

54. Chia-Hsun Li, Chan-Wei Hsu, and **Shih-Yuan Lu**,* 2017, "Photoelectrochemical performances of CdS nanorod arrays enhanced with surface decoration of TiO_2 nanoparticles," 台灣化學工程學會年會, Taipei, Taiwan. (佳作壁報論文獎)

55. Xui Fang Chuah, Lei Zhang, Chun Chang and **Shih-Yuan Lu**,* 2017, "$Ni(OH)_2$ Nanosheet Array grown on Ni Foam as an Outstanding Oxygen Evolution Reaction Electrocatalyst," 台灣化學工程學會年會, Taipei, Taiwan.

56. Heng-Yi Cheng, Yi-Hsiu Liao, **Shih-Yuan Lu**,* 2017, "A flexible gel-type symmetric supercapacitor fabricated from 3D porous graphene-agar nanomaterials," 台灣化學工程學會年會, Taipei, Taiwan. (傑出壁報論文獎)

57. **Shih-Yuan Lu**,* 2017, "Mixed Oxides/Phosphides as Efficient Electrocatalysts for Oxygen Evolution Reaction," 台灣化學工程學會年會, Taipei, Taiwan. (invited talk)

58. **Shih-Yuan Lu**,* 2017, "Applications of Nanomaterials and Nanostructure in Energy and Environmental Research," 2017 2nd NTHU-HCMUS Bilateral Symposium, Hsinchu, Taiwan. (invited talk)

59. **Shih-Yuan Lu**,* 2017, "Applications of Heterogeneous Fenton Catalysts in Pollutant Degradation, Sensing, and Cancer Cell Treatment," 18th International Conference of the Union of Materials Research Societies in Asia (IUMRS-ICA 2017), Taipei, Taiwan. (keynote speech)

60. **Shih-Yuan Lu**,* 2017, "Applications of Heterogeneous Fenton Catalysts in Pollutant Degradation, Sensing, and Cancer Treatments," 2017 AIChE Annual Meeting, Minneapolis, USA.

61. **Shih-Yuan Lu**,* 2017, "Applications of Heterogeneous Fenton Catalysts in Pollutant Degradation, Sensing, and Cancer Treatments," 第十屆海峽兩岸化學工程學術研討會, 銀川市, China. (invited talk)

62. Yu-Yun Lin, **Shih-Yuan Lu**,* 2017, "Facile Synthesis of $CuFe_2O_4$ Nanoparticles as Efficient Heterogeneous Fenton Catalysts for Photo-degradation of Organic Pollutants," 7th Asian Conference on Colloid and Interface Science, Kuala Lumpur, Malaysia. (Best Poster Presentation)

63. Chia-Hsun Li and **Shih-Yuan Lu**,* 2017, "Photoelectrochemical performances of CdS nanorod arrays enhanced with surface decoration of TiO_2 nanoparticles," 7th Asian Conference on Colloid and Interface Science, Kuala Lumpur, Malaysia.

64. Xui Fang Chuah, Lei Zhang, Chun Chang and **Shih-Yuan Lu**,* 2017, "$Ni(OH)_2$ Nanosheet Array grown on Ni Foam as an Outstanding Oxygen Evolution Reaction Electrocatalyst," 7th Asian Conference on Colloid and Interface Science, Kuala Lumpur, Malaysia.

65. Heng-Yi Cheng, Yi-Hsiu Liao, **Shih-Yuan Lu**,* 2017, "A flexible gel-type symmetric supercapacitor fabricated from 3D porous graphene-agar nanomaterials," 7th Asian Conference on Colloid and Interface Science, Kuala Lumpur, Malaysia.

66. **Shih-Yuan Lu**,* 2017, "Applications of Heterogeneous Fenton Catalysts in Pollutant Degradation, Sensing, and Cancer Cell Treatment," 7th Asian Conference on Colloid and Interface Science, Kuala Lumpur, Malaysia. (keynote speech)

67. **Shih-Yuan Lu**,* 2017, "Applications of Heterogeneous Fenton Catalysts in Pollutant Degradation, Sensing, and Cancer Treatments," Japan-Taiwan Joint Symposium 2017, Fukuoka, Kyushu University, Japan. (invited talk)

68. Chun-Chieh Wang, Ji-Yuan Liang, and **Shih-Yuan Lu**,* 2017, "3D porous graphene nanostructure fabricated with a simple, fast, scalable process for applications in high performance flexible gel-type supercapacitors," 2017 MRS Spring Meeting, Phoenix, USA.

69. **Shih-Yuan Lu**, 2017, "Nanostructured Semiconductors for Photocatalytic Hydrogen Production," MCARE 2017, Jeju Island, Korea. (invited talk)

C. Patents

1. Kuan-Ting Lee and **Shih-Yuan Lu**, 2018, "Kit for wastewater treatment, and manufacturing method for and use of photocatalyst," 美國發明專利, US9,902,631B2, 2/27/2018 – 5/13/2036.

2. Kuan-Ting Lee and **Shih-Yuan Lu**, 2017, "Composite Photocatalyst, Manufacturing Method thereof, and Kits Containing Composite Photocatalyst, and Bactericide Photocatalyst," 美國發明專利, US9,757,715B2, 9/12/2017 – 2/3/2036.

3. 李冠廷,**呂世源**, 2017, "用於製備光觸媒的膏體以及光觸媒的製備方法," 中華民國發明專利, 發明第 I 606864 號, 12/1/2017 – 4/21/2036.

4. Kuan-Ting Lee and **Shih-Yuan Lu**, 2018, "Paste for Manufacturing Photocatalyst and Manufacturing Method of Photocatalyst," 美國發明專利, US10,150,101B2, 12/11/2018-2/28/2037.

5. 黃俊龍, **呂世源**, 2020, "電解水的方法及用於電解水的觸媒的製備方法," 中華民國發明專利, 發明第 I 745828 號, 11/11/2021 – 1/8/2040.

D. Other

1. **呂世源**, 2021, "發展用於質子交換膜與陰離子交換膜電解水之高效穩定以金屬有機架構材料為基礎的產氫產氧電觸媒(2/3)",科技部專題研究計畫期中報告, MOST 108-2221-E-007-073-MY3.

2. **呂世源**, 2020, "發展用於質子交換膜與陰離子交換膜電解水之高效穩定以金屬有機架構材料為基礎的產氫產氧電觸媒(1/3)",科技部專題研究計畫期中報告, MOST 108-2221-E-007-073-MY3.

3. **呂世源**, 2020, "新穎集電器複合之氮摻雜階層式多孔碳奈米結構應用於鋰離子電容器(2/2)",科技部專題研究計畫期末報告, MOST 107-2221-E-007-044-MY2.

4. **呂世源**, 2019, "有機金屬骨架結構物衍生之金屬氧化物與磷化物修飾之奈米孔洞碳材做為價廉高效長壽之析氧反應電觸媒(2/2)",科技部專題研究計畫期末報告, MOST 106-2221-E-007-090-MY2.

5. **呂世源**, 2019, "新穎集電器複合之氮摻雜階層式多孔碳奈米結構應用於鋰離子電容器(1/2)",科技部專題研究計畫期中報告, MOST 107-2221-E-007-044-MY2.**呂世源**, 2018, "以石墨烯/碳布複合物為基礎的柔性膠態超級電容器(2/2)",科技部專題研究計畫期末報告, MOST 105-2221-E-007-126-MY2.

6. **呂世源**, 2018, "有機金屬骨架結構物衍生之金屬氧化物與磷化物修飾之奈米孔洞碳材做為價廉高效長壽之析氧反應電觸媒(1/2)",科技部專題研究計畫期中報告, MOST 106-2221-E-007-090-MY2.
7. **呂世源**, 2018, "以石墨烯/碳布複合物為基礎的柔性膠態超級電容器(2/2)",科技部專題研究計畫期末報告, MOST 105-2221-E-007-126-MY2.
8. **呂世源**, 2017, "功能性尖金石型結構材料之製與其於環境與生物感測器領域之應用(2/2)",科技部專題研究計畫期末報告, MOST 103-2221-E-007-119-MY2.
9. **呂世源**, 2017, "以石墨烯/碳布複合物為基礎的柔性膠態超級電容器(1/2)",科技部專題研究計畫期中報告, MOST 105-2221-E-007-126-MY2.

國際重要期刊編輯

- Editor-in-Chief: J. Taiwan Inst. Chem. Engr., 7/2015 – 6/2018
- Editorial Board: J. Chin. Inst. Engr., 1/2015 – 12/2021
- Editor: Advanced Powder Technology, 1/2013 – present
- Consulting Editor: J. Taiwan Inst. Chem. Engr., 7/2018 - present

學術榮譽/競賽獲獎:

- 2017 起, Elsevier, World's Top 2% Scientists
- 2017, 國立清華大學, 清華講座教授
- 2017, "2017 Certificate of Editorial Excellence", Advanced Powder Technology
- 2019 起, 科技部, 特約研究員
- 2019, 中國工程師學會, 工程論文獎
- 2020, The Royal Society of Chemistry, United Kingdom, Fellow
- 2020, International Association of Advanced Materials, Sweden, Fellow
- 2020, 國立清華大學, 傑出教學獎及榮譽教學獎
- 2021, 中國工程師學會, 傑出工程教授獎

Publications of Claire Roa-Pu Shen (沈若樸)

A. Journal Papers (* Corresponding author)

2021

1. Lu KW, Wang CT, Chang H, Wang RS, **Shen CR***. Overcoming glutamate auxotrophy in Escherichia coli itaconate overproducer by the Weimberg pathway. Metabolic Engineering Communications 2021, 13: e00190.

2020

2. Fan ES, Lu KW, Wen RC, **Shen CR***. Photosynthetic Reduction of Xylose to Xylitol Using Cyanobacteria. Biotechnol J 2020, 15(6).

3. Lin TY, Wen RC, **Shen CR**, Tsai SL. Biotransformation of 5-Hydroxymethylfurfural to 2,5-Furandicarboxylic Acid by a Syntrophic Consortium of Engineered Synechococcus elongatus and Pseudomonas putida. Biotechnol J 2020, 15(6).

2018

4. Putri SP, Nakayama Y, **Shen CR**, Noguchi S, Nitta K, Bamba T, Pontrelli S, Liao JC, Fukusaki E. "Identifying metabolic elements that contribute to productivity of 1-propanol bioproduction using metabolomic analysis", *Metabolomics* 2018, 14(7): 96.

2017

5. Liang KM, **Shen CR***. "Engineering cofactor flexibility enhanced 2,3-butanediol production in Escherichia coli", *Journal of Industrial Microbiology & Biotechnology* 2017, 44(12):1605-1612.

6. Chen GS, Siao SW, **Shen CR***. "Saturated mutagenesis of ketoisovalerate decarboxylase V461 enabled specific synthesis of 1-pentanol via the ketoacid elongation cycle", *Scientific Reports* 2017, 7.

7. Chang PC, Chen GS, Chu HY, Lu KW, **Shen CR***. "Engineering efficient production of itaconic acid from diverse substrates in Escherichia coli", *Journal of Biotechnology* 2017, 249:73-81.

8. Liang K, **Shen CR***. "Selection of an endogenous 2,3-butanediol pathway in Escherichia coli by fermentative redox balance", *Metabolic Engineering* 2017, 39:181-191.

B. Conference and Workshop Presentations

2021

1. Invited Speaker: “Mutagenesis of the flavin-containing monooxygenase enhanced indigo and indirubin production”, Biotechnology and Biochemical Engineering Society of Taiwan (BEST) 26th annual conference, Online virtual meeting (2021/10)
2. Invited Speaker: “Mutagenesis of the flavin-containing monooxygenase enhanced indigo and indirubin production”, 2021 JAPAN-TAIWAN Symposium: Foresight Advanced Materials for Biotechnology and Precision Health and Medicine with AI, Online virtual meeting (2021/11)

2020

3. Invited Speaker: “分子生物學簡介”, 工業技術研究院, Hsinchu, Taiwan (2020/12)
4. Invited Speaker: “Redox balance as a driving force for enzyme evolution and biochemical production”, 2020 Innovation and Application of Microbial and Biological Conversion Technology (前瞻性生物轉換技術及其應用研討會), Taipei, Taiwan (2020/6)

2019

5. Symposium Moderator: *Biology for Chemical Production Symposium*, Institute of Biomedical Science, Academic Sinica, Taipei, Taiwan (2019/5)
6. Session Chair / Invited Speaker: “Characterization and application of the growth selection platform based on anaerobic redox balance”, *14th Asian Congress on Biotechnology (ACB 2019)*, Taipei, Taiwan (2019/7)

7. Invited Speaker: “Expanding and fine-tuning the biochemical spectrum in iterative ketoacid elongation”, *10th Asian Symposium on Innovative Bio-Production (iBioT 2019)*, Taichung, Taiwan (2019/11)

8. Poster: “Engineering NADH-dependence of reductase by directed evolution based on anaerobic redox balance”, *The 25th Young Asian Biological Engineers' Community (YABEC)*, Seoul, Korea (2019/11)

2018

9. Invited Speaker: “Preferential tuning of product specificity from the ketoacid elongation cycle by saturated mutagenesis of ketoisovalerate decarboxylase”, *The 24th Young Asian Biological Engineers' Community (YABEC)*, Taipei, Taiwan (2018/11)

2017

10. Invited Speaker: “Self-regulated 1-butanol production in Escherichia coli based on the endogenous control of fermentative reactions”, *The 18th International Union of Materials Research Societies-International Conference in Asia (IUMRS-ICA)*, Taipei, Taiwan (2017/11)

11. Invited Poster: “Characterization and application of the growth selection platform based on anaerobic redox balance”, *The 23rd Young Asian Biological Engineers' Community (YABEC)*, Xian, China (2017/10)

12. Invited Speaker: “Engineering efficient production of itaconic acid from diverse substrates in Escherichia coli”, *The 6th International Conference on Bio-based Polymers*, Taoyuan, Taiwan (2017/05)

13. Invited Speaker: “Metabolic engineering for the production of renewable fuel and chemical”, *Synthetic Biology Australasia & BEST (Biotechnology and Biochemical Engineering Society of Taiwan) MOU signing ceremony*, Taipei, Taiwan (2017/03)

14. Invited Speaker: “代謝工程於生質能之應用”, 儲能/生質能相關技術交流討論會, Taoyuan, Taiwan (2017/01)

C. Patents

1. **沈若樸**、呂維、王東煜.“生產衣康酸的大腸桿菌轉殖株及其用途”, 中華民國專利發明第 I 732205 號 (專利權期間: 2021/07/01 - 2039/04/10).
2. **Roa-Pu Shen**, Wei Lu, Tung-Yu Wang. “Escherichia coli transformant for producing itaconate and uses thereof”, United States Patent No. US 10,982,238 (Date of Patent: 2021/4/20).
3. **沈若樸**、溫爵宇.“正丁醇表現匣、重組質體及正丁醇生產相關基因的表現方法”, 中華民國專利發明第 I622648 號 (專利權期間: 2018/5/1 - 2036/12/26).
4. **Roa-Pu Shen**, Rex C. Wen. “Butanol expression cassette, recombinant plasmid and butanol production related gene expression method”, United States Patent No. US 10,633,677 B2 (Date of Patent: 2020/4/28).
5. **沈若樸**、呂維.“生產醋酸的基因轉殖藍綠菌及其應用”, 中華民國專利發明第 I664286 號 (專利權期間: 2019/7/1 - 2037/8/1).
6. **Roa-Pu Shen**, Wei Lu. “Engineered cyanobacterium and its application for producing acetate”, United States Patent No. US 10,570,425 B2 (Date of Patent: 2020/2/25).
7. 黃瓊芳, 馬天陽, 梁克明, **沈若樸**, 郭家倫. “生產高產量 2,3-丁二醇之方法”, 中華民國專利發明第 I690593 號 (專利權期間: 2020/4/11 - 2038/3/21).
8. **Roa-Pu Claire** Shen, James C. Liao. “Butanol production by microorganisms having NADH coupling”, Worldwide Application WO2012099934A3 (2012).

D. Other

1. 105-107學年度 優秀年輕學者研究計畫

Publications of An-Chung Su (蘇安仲)

A. Journal Papers (* Corresponding author)

2021

1. Yi-Qi Yeh, Chun-Jen Su, Chen-An Wang, Ying-Chu Lai, Chih-Yuan Tang, Zhenyu Di, Henrich Frielinghaus, **An-Chung Su**, U-Ser Jeng,* and Chung-Yuan Mou,* (2021, Feb). "Diatom-inspired self-assembly for silica thin sheets of perpendicular nanochannels," Journal of Colloid and Interface Science, 584, 647–659.

2. Cheng-Yo Ho, Po-Hsun Chen,* Ching-Feng Yang, U-Ser Jeng, and **An-Chung Su**,* (2021, Jan). "Mesomorphic Intermediate Stages during Brill Transition of Nylon 6/6," ACS Applied Polymer Materials, 3, 1042–1051.

2020

3. Po-Hsun Chen,* Shi-Jie Lin, Jing-Cherng Tsai, U-Ser Jeng, and **An-Chung Su**,* (2020, Apr). "Equilibrium Melting Temperature Depression in Syndiotactic Poly(styrene-*stat*-3-methylstyrene) and Poly(styrene-*stat*-4-methylstyrene)," *Macromolecules*, 53, 3059-3070.

2019

4. C.Y. Lin, S.S. Li, J.W. Chang, H.C Chia, Y.Y. Hsiao, C.J. Su, B.J. Lian, C.Y. Wen, S.K. Huang, D.Y. Wang, **A.C. Su**, C.W. Chen,* and U. Jeng* (2019, Sep). Unveiling the Nanoparticle-Seeded Catalytic Nucleation Kinetics of Perovskite Solar Cells by Time-Resolved GIXS, *Advanced Functional Materials*, 29, 1902582.

5. P.H. Chen, Y.K. Lan, S.J. Lin, J.C. Tsai, U. Jeng, and **A.C. Su*** (2019, Jan). Crystallization of α versus β phases in syndiotactic poly(styrene-*stat*-3-methylstyrene) and poly(styrene-*stat*-4-methylstyrene)," *ACS Applied Polymer Materials*, 1, 251–258

2018

6. J.J. Kang, T.Y. Yang, Y.K. Lan, W.R. Wu, C.J. Su, S.C. Weng, N.L. Yamada, H.J. Jhuo, **A.C. Su**,* and U. Jeng* (2018, Apr). Directed Vertical Diffusion of Photovoltaic Active Layer Components into Porous ZnO-based Cathode Buffer Layers, *Small*, 14, 1704310.

2017

7. W.R. Wu, C.J. Su,***** W.T. Chuang, Y.C. Huang, P.W. Yang, P.C. Lin, C.Y. Chen, T.Y. Yang, **A.C. Su**, K.H. Wei, C.M. Liu, and U. Jeng***** (2017, Mar). Surface Layering and Supersaturation for Top-down Nanostructural Development during Spin-coating of Polymer/Fullerene Thin Films, *Advanced Energy Materials*, 7, 1601842.

8. H.C. Chia, H.S. Sheu, Y.Y. Hsiao, S.S. Li, Y.K. Lan, C.Y. Lin, J.W. Chang, Y.C. Kuo, C.H. Chen, S.C. Weng, Y.K. Lan, C.J. Su, **A.C. Su**, C.W. Chen,* and U. Jeng,* (2017, Oct). "Critical Intermediate Structure that Directs the Crystalline Texture and Surface Morphology of Organo-Lead Trihalide Perovskite," *ACS Applied Materials Interfaces*, 9, 36897−36906.

B. Conference Presentations

2018

1. "Formation of a skin layer during spin-casting of dilute poly(3-hexyl-2,5-thiophene) solutions", in the 8th Taiwan-Japan Joint Meeting on Neutron and X-ray Scattering, National Central University, Chungli, March 14 to 18. [Invited Lecture]

2017

2. "Morphology of Spin-cast Multiphase Thin Films as Revealed via X-Ray/ Neutron Reflectivity and In-situ Grazing-incidence X-ray Scattering", in the 2017 Annual Meeting of TWNSS, NCTU, Hsinchu, September 2 to 4. [Invited Lecture]

C. Other

Editor, *Materials Chemistry and Physics*, Elsevier

Publications of Yung-Tin Pan (潘詠庭)

A. Journal Papers

2022

1. W-C. Liao, D-H. Tsai, W-Z. Hong, Y-H. Huang, L-C. Lin, **Y-T. Pan***, Enabling Direct CO_2 Electrolysis by Alkali Metal Cation Substituted Membranes in a Gas Diffusion Electrode Reactor, *Chem. Eng. J*. **2022**, 134765

2. Y-H. Huang, Y-H. Hsu, **Y-T. Pan***, Fabrication of Catalyst Layers with Preferred Mass and Charge Transport Properties through Texture Engineering, *ACS Appl. Energy Mater.* **2022** (In Press)

2021

3. Y.-S. Cheng, L.-C. Lin, C.-H. Kuo, Y.-C. Chen, W.-C. Liao, L.-Y. Chueh, H.-Y. Chen, H.-Y. Chen, and **Y.-T. Pan***, Armoring the Pt/C Catalyst with Fine Atomic-Scale Tungsten Species to Increase Tolerance against Thermal and Fuel Cell Stresses, *ACS Appl. Energy Mater.*, **2021**, *4*, 11448-11457.

4. L.-C. Lin, Y.-S. Cheng, W.-C. Liao, Y.-H. Huang, and **Y.-T. Pan*** Transient Loss and Recovery of Platinum Fuel Cell Cathode Catalyst at High Voltage Efficiency Regimes, *J. Electrochem. Soc.* **2021**, *168*, 054053.

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8. X. X. Wang, S. Hwang, **Y.-T. Pan**, K. Chen, Y. He, S. G. Karakalos, H. Zhang, J. S. Spendelow, D. Su, G. Wu, Ordered Pt3Co Intermetallic Nanoparticles Derived from Metal-organic Frameworks for Oxygen Reduction, *Nano Lett.*, **2018**, *18*, 4163-4171

9. X. X. Wang, D. A. Cullen, **Y-T. Pan**, S. Hwang, M. Wang, Z. Feng, J. Wang, M.H. Engelhard, H. Zhang, Y. He, Y. Shao, D. Su, K. L. Moore, J. S. Spendelow, G. Wu, Nitrogen-Coordinated Single Cobalt Atom Catalysts for Oxygen Reduction in Proton Exchange Membrane Fuel Cells, *Adv. Mater.*, **2018**, 30, 1706758.

10. N. M. Wilson, **Y-T. Pan**, Y-T. Shao, J-M. Zuo, H. Yang, D. W. Flaherty, Direct Synthesis of H_2O_2 on AgPt Octahedra: The Importance of Ag–Pt Coordination for High H2O2 Selectivity, *ACS Catal.*, **2018**, 8, 2880-2889.

11. J. Li, Z. Xi, **Y-T. Pan**, J. S. Spendelow, P. N. Duchesne, D. Su, Q. Li, C. Yu, Z. Yin, B. Shen, Y. S. Kim, P. Zhang, S. Sun, Fe stabilization by intermetallic $L1_0$-FePt and Pt catalysis enhancement in $L1_0$-FePt/Pt nanoparticles for efficient oxygen reduction reaction in fuel cells, *J. Amer. Chem. Soc.*, **2018**, 140, 2926-2932.

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12. **Y-T. Pan**, Y. S. Kim, J. Li, S. Sun, J. Spendelow, Fuel Cell Testing of Intermetallic Oxygen Reduction Catalysts, *232th ECS Meeting*, **2017**, (Symposium I01D Polymer Electrolyte Fuel Cells 17 – Catalyst Activity/Durability for Hydrogen (Reformate) Acidic Fuel Cells)

B. Conference Papers

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13. Dongguo Li, **Yung-Tin Pan**, Chenyu Wang, Xiaojing Wang, Yu Seung Kim, Jacob S. Spendelow, Effect of the Catalyst Pt Content and Carbon Support on PEMFC Durability, *236th ECS Meeting*, **2019**, Atlanta

14. Chenyu Wang, **Yung-Tin Pan**, Dongguo Li, Xiaojing Wang, Yu Seung Kim, Jacob S. Spendelow, Support Effect of $L1_0$-CoPt Catalyst in Hydrogen Fuel Cell Application, *236th ECS Meeting*, **2019**, Atlanta

15. **Y-T. Pan**, Dispersion Control Through Crystal Ordering: The Case of L11 Ag-Pt, *The 2019 EITA Conference on New Materials, Nanotechnology, Healthcare, New Energy and Sustainable Smart Manufacturing*, **2019**

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17. **Y-T. Pan**, Y. S. Kim, J. Li, S. Sun, J. Spendelow, Fuel Cell Testing of Intermetallic Oxygen Reduction Catalysts, *232th ECS Meeting*, **2017**, (Symposium I01D Polymer Electrolyte Fuel Cells 17 – Catalyst Activity/Durability for Hydrogen (Reformate) Acidic Fuel Cells)

C. Other 重要成就及榮譽

1. 清華工學院第 109 學年度傑出教學獎

2. 2018 通過科技部年輕學者養成計畫，授予 MOST Young Scholar Fellowship (愛因斯坦)

Publications of Hsing-Wen Sung (宋信文)

A Refereed Journal Papers (*Corresponding Author)

2021

1. Miao, Y. B., Lin, Y. J., Chen, K. H., Luo, P. K., Chuang, S. H., Yu, Y. T., Tai, H. M., Chen, C. T., Lin, K. J., **Sung, H. W.***, "Engineering Nano- and Microparticles as Oral Delivery Vehicles to Promote Intestinal Lymphatic Drug Transport" Advanced Materials, 2104139, 2021. (SCI 30.85)

2. Korupalli, C., Li, H., Nguyen, N., Mi, F. L., Chang, Y., Lin, Y. J.*, **Sung, H. W.***, "Conductive Materials for Healing Wounds: Their Incorporation in Electroactive Wound Dressings, Characterization, and Perspectives" Advanced Healthcare Materials, 10(6), 2001384, 2021. (SCI 9.933)

3. Miao, Y. B., Chen, K. H., Chen, C. T., Mi, F. L., Lin, Y. J., Chang, Y., Chiang, C.S., Wang, J.T., Lin,K.J., **Sung, H. W.*** , " A noninvasive gut-to-brain oral drug delivery system for Treating Brain Tumors" Advanced Materials, 2100701, 2021(July). (SCI 30.849)

4. Chen, P.-M., Pan, W.-Y.,Luo, P.-K.,Phung, H.-N., Liu, Y.-M., Chiang, M.-C., Chang, W.-A., Tien, T.-L., Huang, C.-Y., Wu, W.-W., Chia, W.-T.*, **Sung, H.W***, " Pollen-Mimetic Metal–Organic Frameworks with Tunable Spike-Like Nanostructures That Promote Cell Interactions to Improve Antigen-Specific Humoral Immunity" ACS Nano, vol.15, pp.5775-7836, 2021. (SCI 15.881)

5. Hsieh,M.H., Wei,H.J., Chen,K.H., Wang,H.C., Yu,C.H., Lu,T.H., Chang,Y.*, **Sung, H.W***, "A fast and facile platform for fabricating phase-change materials-based drug carriers powered by chemical Marangoni effect" Biomaterials, vol.271, pp. 120748, 2021. (SCI 12.497)

6. An, Z., Wu, J., Li, S.H., Chen, S., Lu, F.L., Xu, Z.Y., **Sung, H.W**, Li, R.K., "Injectable Conductive Hydrogel Can Reduce Pacing Threshold and Enhance Efficacy of Cardiac Pacemaker" Theranostics, vol.11(8), pp3948-3960, 2021. (SCI 11.556)

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7. Korupalli, C., Li, H., Nguyen, N., Mi, F. L., Chang,Y., Lin,Y.J.*, **Sung, H.W***, "Conductive Materials for Healing Wounds: Their Incorporation in Electroactive Wound Dressings, Characterization, and Perspectives" Advanced Healthcare Materials, pp2001384, 2020. (SCI 9.933)

8. Chen, P. M., Pan, W. Y., Miao, Y. B., Liu, Y. M., Luo, P. K., Phung, H. N., Wu, W.W., Ting, Y.-H., Yeh, C.-Y., Chiang, M.-C., Chia,W.-T*., **Sung, H.W***,"Bioinspired engineering of a bacterium-like metal-organic framework for cancer immunotherapy" Advanced Functional Materials, pp 2003764, 2020. (SCI 18.808)

9. He, S., Wu, J., Li, S.H., Wang, L., Sun, Y., Xie, J.; Ramnath, D., Weisel, Richard D., Yau, Terrence M., **Sung, H.W**; Li, R.K., "The conductive function of biopolymer corrects myocardial scar conduction blockage and resynchronizes contraction to prevent heart failure," Biomaterials, vol.3, pp. 120285, 2020. (SCI 12.479)

10. Chen, K. H., Miao, Y. B., Shang, C. Y., Huang, T. Y., Yu, Y. T., Yeh, C. N., Song, H. L., Chen,C.T., Mi, F. L. , Lin, K. J., **Sung, H.W*.** ,"A bubble bursting-mediated oral drug delivery system that enables concurrent delivery of lipophilic and hydrophilic chemotherapeutics for treating pancreatic tumors in rats," Biomaterials, vol.255, pp. 120157, 2020. (SCI 12.479)

11. Lin, Y.J., Chen, C.C., Dang N., Su, H.R., Lin, K.J., Chen, H.L., Hu, Y.J., Lai, P.L., **Sung, H.W*.** ,"Biomimetic Engineering of a Scavenger-Free Nitric Oxide-Generating/Delivering System to Enhance Radiation Therapy," Small, vol 16, pp.2070126, 2020. (SCI 13.281)

12. Chen, S., Hsieh, M.H., Li, S.H., Wu, J., Weisel, R.D., Chang, Y., **Sung, H.W**.*, Li, R.K.* , "A Conductive Cell-Delivery Construct as a Bioengineered Patch that Can Improve Electrical Propagation and Synchronize Cardiomyocyte Contraction for Heart Repair," Journal of Controlled Release, vol.320, pp.73-82, 2020. (SCI 9.776)

13. Wan, W.L., Tian, B. Lin, Y.J., Korupalli, C., Lu, M.Y., Cui, Q., Wan, D.H., Chang, Y.*, **Sung, H.W.***, "Photosynthesis-Inspired H_2 Generation Using a Chlorophyll-Loaded Liposomal Nanoplatform to Detect and Scavenge Excess ROS," Nature Communications, vol.11, pp.534, 2020. (SCI 14.919)

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14. Zhang, C., Hsieh, M. H., Wu, S. Y., Li, S. H., Wu, J., Liu, S.M., Wei, H.J., Weisel, R.D., **Sung, H.W.***, Li, R.K.*, "A self-doping conductive polymer hydrogel that can restore electrical impulse propagation at myocardial infarct to prevent cardiac arrhythmia and preserve ventricular function," Biomaterials, vol.231, pp. 119672, 2019. (SCI 12.479)

15. Cui, Q., Le, T. H., Lin, Y. J., Miao, Y. B., Sung, I. T., Tsai, W. B., Chan, H.Y., Lin, Z.H.*, **Sung, H. W.***, "A self-powered battery-driven drug delivery device that can function as a micromotor and galvanically actuate localized payload release," Nano Energy, vol.66, pp. 104120, 2019. (SCI 16.88)

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17. Hsieh, M.H., Tsai, H.W., Lin, K.J., Wu, Z.Y., Hu, H.Y., Chang, Y., Wei, H.J.*, **Sung, H.W.***, "An in situ slow-releasing H2S donor depot with long-term therapeutic effects for treating ischemic diseases," Materials Science and Engineering:C, vol.104, pp. 109954, 2019 (SCI 7.06)

18. Chen, P.M., Pan, W.Y., Wu, C.Y., Yeh, C.Y., Korupalli, C., Luo, P.K., Chou, C.J., Chia, W.T.*, **Sung, H.W.***, "Modulation of tumor microenvironment using a TLR-7/8 agonist-loaded nanoparticle system that exerts low-temperature hyperthermia and immunotherapy for in situ cancer vaccination," Biomaterials, vol.15, pp. 119629, 2019. (SCI 12.479)

19. Korupalli, C., Pan, W.-Y., Yeh, C.-Y., Chen, P.-M., Mi, F.-L., Tsai, H.-W., Chang, Y., Wei, H.-J.*, **Sung, H.-W.***, "Single-injecting, bioinspired nanocomposite hydrogel that can recruit host immune cells in situ to elicit potent and long-lasting humoral immune responses," Biomaterials, vol. 216, pp. 119268, 2019. (SCI 12.479)

20. Lin, P.-Y., Chen, K.-H., Miao, Y.-B., Chen, H.-L., Lin, K.-J., Chen, C.-T., Yeh, C.-N., Chang, Y.*, **Sung, H.-W.***, "Phase-Changeable Nanoemulsions for Oral Delivery of a Therapeutic Peptide: Toward Targeting the Pancreas for Antidiabetic Treatments Using Lymphatic Transport," Advanced Functional Materials, vol.29, pp. 1809015, 2019. (SCI 18.808)

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23. Lin, P.-Y., Chiu, Y.-L., Huang, J.-H., Chuang, E.-Y., Mi, F.-L., Lin, K.-J., Juang, J.-H., **Sung, H.-W.***, Leong, K. W.*, "Oral Nonviral Gene Delivery for Chronic Protein Replacement Therapy," Advanced Science. vol.5, 1701079, 2018. (SCI 16.806)

24. Wan, W.-L., Lin, Y.-J., Shih, P.-C., Bow, Y.-R., Cui, Q., Chang, Y., Chia, W.-T.*, **Sung, H.-W.***," An In Situ Depot for Continuous Evolution of Gaseous H_2 Mediated by a Magnesium Passivation/Activation Cycle for Treating Osteoarthritis," Angew Chem Int Ed Engl. vol. 57, pp. 9875-9879, 2018. (SCI15.336)

25. Chuang, E.-Y.$^{+}$, Lin, K.-J.$^{+}$, Huang, T.-Y., Chen, H.-L., Miao, Y.-B., Lin, P.-Y., Chen, C.-T., Juang, J.-H*, **Sung, H.-W.***, An Intestinal "Transformers"-Like Nanocarrier System for Enhancing the Oral Bioavailability of Poorly Water-Soluble Drugs, ACS Nano. vol.12, pp. 6389-6397, 2018. (SCI 15.881)

26. Lin, Y.-J.$^{+}$, Chen, C.-C.$^{+}$, Chi, N.-W., Nguyen, T., Lu, H.-Y., Nguyen, D., Lai, P.-L.*, **Sung, H.-W.***, "In situ self-assembling micellar depots that can actively trap and passively release NO with long-lasting activity to reverse osteoporosis," Advanced Materials. vol.30, 1705605, 2018. (SCI 30.849)

27. Cui, Z., Ni, N.-C., Wu, J., Du, G.-Q., He, S., Yau, T.-M., Weisel, R.-D., **Sung, H.-W.**, Li, R.-K.* "Polypyrrole-Chitosan Conductive Biomaterial Synchronizes Cardiomyocytes Contraction and Improves Myocardial Electrical Impulse Propagation," Theranostics. vol. 8, pp. 2752–2764, 2018. (SCI 11.556)

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28. Lin, W.-C., Huang, C.-C., Lin, S.-J., Li, M.-J., Chang, Y., Lin, Y.-J., Wan W.-L., Shih, P.-C., **Sung, H.-W.***, "In situ depot comprising phase-change materials that can sustainably release a gasotransmitter H_2S to treat diabetic wounds," Biomaterials, vol. 145, pp.1–8, 2017. (SCI 12.479)

29. Wan, W.-L., Lin, Y.-J., Chen, H.-L., Huang, C.-C., Shih, P.-C., Bow, Y.-R., Chia, W.-T.*, **Sung, H.-W.*** "In Situ Nanoreactor for Photosynthesizing H_2 Gas to Mitigate Oxidative Stress in Tissue Inflammation," Journal of the American Chemical Society, vol. 139, pp. 12923-12926, 2017. (SCI 15.419)

30. Lin, P.-Y., Chuang, E.-Y., Chiu, Y.-H., Chen, H.-L., Lin, K.-J., Juang, J.-H., Chiang, C.-H., Mi, F.-L.*, **Sung, H.-W.*** "Safety and efficacy of self-assembling bubble carriers stabilized with sodium dodecyl sulfate for oral delivery of therapeutic proteins," Journal of Controlled Release, vol. 256, pp. 168-175, 2017. (SCI 9.776)

31. Lin, Y.-J., Huang, C.-C., Wan W.-L., Chiang, C.-H., Chang, Y., **Sung, H.-W.***, "Recent advances in CO_2 bubble-generating carrier systems for localized controlled release," Biomaterials, vol. 133, pp. 154–164, 2017. (SCI 12.479)

32. Pelaz, B., Alexiou, C., Puebla, R.A.A., Alves, F., Andrews, A.M., Ashraf, S., …, **Sung, H.-W.**, …, Parak, W.J.*, "Diverse Applications of Nanomedicine," ACS Nano, vol. 11, pp. 2313–2381, 2017. (SCI 15.881)

33. Korupalli, C., Huang, C.-C., Lin, W.-C., Pan, W.-Y., Lin, P.-Y., Wan, W.-L., Li, M.-J., Chang, Y.*, **Sung, H.-W.***, "Acidity-triggered charge-convertible nanoparticles that can cause bacterium-specific aggregation in situ to enhance photothermal ablation of focal infection," Biomaterials, vol. 116, pp. 1–9, 2017. (SCI 12.479)

34. Lu, K.-Y., Lin, P.-Y., Chuang, E.-Y., Shih, C.-M., Cheng, T.-M., Lin, T.-Y., **Sung, H.-W.***, Mi, F.-L.*, "H_2O_2-depleting and O_2-generating selenium nanoparticles for fluorescence imaging and photodynamic treatment of proinflammatory-activated macrophages," ACS Applied Materials & Interfaces, vol. 9, pp. 5158–5172, 2017. (SCI 9.229)

B. Conference Papers

1. Chen, P.-M., Pan, W.-Y., Wu, C.-Y., Yeh, C.-Y., Luo, P.-K., Liu, Y.-M., Chou, C.-J. , **Sung, H.-W.***, " Modulation of Tumor Microenvironment Using a TLR-7/8 Agonist-Laden Nanoparticle System that Combines Mild Hyperthermia and Immunotherapy for In Situ Cancer Vaccination"此篇論文榮獲 2019 國際創新藥物制放研討會暨中華民國生醫材料及藥物制放學會年會 (2019 IADDS-BCRS) 學生口頭論文競賽藥物制放組特優

2. Hsieh, M.-H.,Wu, J., Li, S.-H., Wu, S.-Y., Gao, X.-Y., Wei, H.-J., Li, R.-K., **Sung, H.-W.*** " An Injectable Self-doping Conductive Hydrogel that Improves Electrical Coupling of Isolated Cardiomyocytes, Restoring Heart Function after Myocardial Infarction"此篇論文榮獲 2018 中華民國生醫材料及藥物制放學會壁報競賽活動生醫材料組第一名

3. Hsieh, M.-H.,Wu, J., Li, S.-H., Wu, S.-Y., Gao, X.-Y., Wei, H.-J., Li, R.-K., **Sung, H.-W.*** " An Injectable Self-doping Conductive Hydrogel that Improves Electrical Coupling of Isolated Cardiomyocytes, Restoring Heart Function after Myocardial Infarction"此篇論文榮獲 2018 第 19 屆工學院研究生論文發表競賽壁報展示組佳作

4. Chen, P.-M., Pan, W.-Y, Wu ,Y.-R., Yeh, C.-Y., Yang ,Y.-Z., Luo, P.-K., Chou, C.-J., **Sung, H.-W.***, "An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy"此篇論文榮獲 2018 The 2nd International Conference on Biomedical Application of Nanomaterials, Best Poster Award in 3rd Prize

5. Hsieh, M.-H., Huang, C.-C., Hu, H.-Y., Wei, H.-J., Lin, K.-J., Chang, Y., **Sung, H.-W.***, "Exogenous Delivery of Hydrogen Sulfide by DATS-loaded PLGA Microparticles for the Treatment of Ischemic Disease"此篇論文榮獲 2017 清華大學-深圳大學高等研究院雙邊研討會論論文海報展示報告優勝獎

6. Wan, W.-L., Lin, Y.-J., Huang, C.-C., Shih, P.-C., Bow, Y.-R., **Sung, H.-W.***, "In situ Nanoreactor for Photosynthesizing H2 Gas to Mitigate Oxidative Stress in Tissue Inflammation"此篇獲 2017 年生物醫學工程科技研討會 口頭論文優勝

7. Chen, P.-M., Pan, W.-Y, Tsai, Y.-H., Wu, Y.-R., **Sung, H.-W.***, " An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy"此篇論文榮獲 2017 台灣化學工程學會年會學生組論文口頭發表競賽 傑出獎

8. Chen, P.-M., Pan, W.-Y., Tsai, Y.-H., Wu, Y.-R., **Sung, H.-W.***, "An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy"此篇論文榮獲 2017 台灣化學工程學會 64 週年年會學生組論文口頭發表競賽傑出獎

9. Lin P.-Y., Huang J.-H., Chuang E.-Y., Huang T.-G., Juang J.-H., **Sung, H.-W.***, "Nonviral Gene Delivery for Chronic Protein Replacement Therapy" 此篇論文榮獲 2017 台灣化學工程學會 64 週年年會學生組英文口頭論文競賽傑出獎

10. Lin, Y.-J., Chi, N.-W., Nguyen, T., Chen, C.-C., Lu, H.-Y., **Sung, H.-W.***, "In Situ Formation of Micellar Depots Containing Nitric Oxide Bubbles for the Treatment of Osteoporosis" 2017 CASNN (Chinese American Society of Nanomedicine and Nanobiotechnology) Poster Award

11. Wan, W.-L., Shih, P.-C., Lin, Y.-J., Bow, Y.-R., Huang, C.-C., **Sung, H.-W.***, "A H2 Bubble-Generating Nanoreactor System for Treating Inflammatory Diseases" 此篇論文榮獲 2017 年 CASNN Annual Meeting (Suzhou, China) Best Poster Award

12. Chen, P.-M., Pan, W.-Y., Tsai, Y.-H., Wu, Y.-R., **Sung, H.-W.***, "An NIR-Absorbing Nanoparticle System Loaded with TLR-7/8 Ligand for Combinational Photothermal Immunotherapy " 2017 ICBP (The 6th International Conference on Bio-based Polymers) Outstanding Poster Award : Silver Medal Award.

13. Lin P.-Y., Chiu Y.-H., Chuang E.-Y., Lin K.-J.,**Sung, H.-W.***, "Bubble Carrier Stabilized with Sodium Dodecyl Sulfate for Oral Delivery of Insulin" 此篇論文榮獲 2017 中華民國高分子學會年會學生組英文口頭論文競賽特優

C. Patents

Taiwan

1. **宋信文**,林柏諺,陳冠宏" 可同時口服傳遞疏水性小分子藥物和親水性小分子藥物的醫藥組合物" 2021年中華民國專利發明I739450 (專利權起訖日: 2021/09/11 ~ 2040/05/27)

2. **宋信文**,繆養寶,陳冠宏,"口服藥物傳遞系統及其製備方法" 2021年中華民國專利發明I727411(專利權起訖日: 2021/05/11~ 2039/08/28)

3. **宋信文**,繆養寶,陳冠宏,"口服藥物傳遞系統及其用途" 2020年中華民國專利發明J2P108043-TW(申請號)

4. 林柏諺,陳冠宏,**宋信文**,“口服釋放之醫藥組合物ORAL DRUG DELIVERY SYSTEM AND METHOD FOR FABRICATING THEREOF” 2020年中華民國專利發明第I686214.

5. **宋信文**, 林威志, 林淑娟, “ 緩釋型組成物、其製備方法及其用途, SUSTAINED-RELEASE COMPOSITION, METHOD FOR FABRICATING, AND USE THEREOF,” 2018年中華民國專利發明第I638666號.

6. **Sung, H.-W.**, Lin, Y.-J., Chi, N.-W., Wan, W.-L., “溫度反應型組成物、其製備方法及其用途/Temperature-Responsive Composition, Method for Fabricating, And Use Thereof,” 2017年中華民國專利發明第I606829號.

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7. **宋信文**,繆養寶,陳冠宏,“ ORAL DRUG COMPOSITION AND USE THEREOF,” U.S. Patent No. (申請號)J2P108043 US

8. **宋信文**,繆養寶,陳冠宏,“ ORAL DRUG DELIVERY SYSTEM AND METHOD FOR FABRICATING THEREOF,” U.S. Patent No. (申請號)J2P108042 US

9. **Sung, H. W.,** Huang, C. C., Wei-Lin, W. A. N., Hsieh, M. H., Shih, P. C., & Hu, H. Y., “Sustained-release composition, method for fabricating, and use thereof ,” (USPTO 15/672,280, filed on 8/8/2017. U.S. Patent No. 10322088, 6/18/2019)

10. **Sung, H.-W.**, Chuang, E.-Y., Lin, P.-Y., TU, Hosheng., “A pharmaceutical composition comprising a gas generating ingredient,” (USPTO EP2974721A1, filed on 7/16/2015. U.S. Patent No. 15177007.0, 1/20/2018)

11. **Sung, H.-W.**, Lin, Y.-J., Chi, N.-W., Wan, W.-L., “TEMPERATURE-RESPONSIVE COMPOSITION, METHOD FOR FABRICATING, AND USE THEREOF,” (USPTO 15/603,419, filed on 05/23/2017. U.S. Patent No. US20180161276A1, 6/14/2018)

12. **Sung, H.-W.**, Chuang, E.-Y., Lin, P.-Y., “Nano/Micro Bubbles for Drug Delivery,” (USPTO 14/537,448, filed on 11/10/2014. U.S. Patent No. 9,603,793, 3/28/2017)

13. **Sung, H.-W.**, Hsiao, C.-W., Huang, C.-C., Chung, M.-F., Liao, Z.-X., Chiang, W.-L., “Acid-Substituted Polyaniline-Grafted Hydrogel Copolymer And Use Thereof,” (USPTO 14/488,571 , filed on 9/17/2014. U.S. Patent No. 9,539,326 1/10/2017)

Other Countries

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A. Journal Papers (* Corresponding author)

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2. Lende, A.B., Bhattacharjee, S., Lu, W.Y. and **Tan, C.S.**, "Development and Characterization of a One-Pot Synthesized Fe-Au-Pd Surface Alloy Catalyst for Highly Selective Conversion of Castor Oil to Octadecane via Hydrodeoxygenation, Energy & Fuels (accepted, 2021).

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5. **Tan, C.S.**, "Research on CO_2 Capture and Utilization in NEP-II",二氧化碳循環應用化學材料技術國際研討會, Hsinchu, September 14 (2018).

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6. 陳秋風、**談駿嵩**、沈文馨、楊雅芬、黃俊源、杜萬泰，”導電油墨”，PRC Patent，(CN109575692A, 2019,4,5公開)。

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14. **談駿嵩**、游承修，“吸收氣體中一成分之裝置”，ROC Patent，I613003 (2018/2/1)。

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A. Book Chapters (* Corresponding author)

1. Wang, H.-L.; **Tsai, D.-H.*** (2019). "Self-Assembly of Noble Metal-Based Hybrid Nanostructures Using a Combination of Colloidal and Aerosol-Based Approaches" In *Targeted Nanosystems for Therapeutic Applications: New Concepts, Dynamic Properties, Efficiency, and Toxicity*. American Chemical Society, Chapter 7, pp 139-156.

B. Journal Papers (* Corresponding author)

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1. Y. S. Chen, C. M. Yang, T. T. Nguyen Hoang, **D-H Tsai*** (2021). "Porous magnesia-alumina composite nanoparticle for biodiesel production". *Fuel*. 285, 119203. (2019 IF: 5.6. Ranking 18/143)

2. T. T. Nguyen Hoang, Y. S. Lin, T. N. H. Nguyen, T. K. Le, T. K. X. Huynh, **D-H Tsai*** (2021). "Cu-ZnO@Al_2O_3 Hybrid Nanoparticle with Enhanced Activity for Catalytic CO2 Conversion to Methanol". *Advanced Powder Technology*, 32, 5, 1785-1792.

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36. 張威昌、**蔡德豪***，“新型氣溶膠分析概念作為膠體功能奈米材料開發技術”，化工會刊2017年2月號(第一期)專輯。

C. Conference Presentations

2021

1. (Invited) The 8th Asian Particle Technology Symposium (APT2021). Title: Aerosol-based ion-mobility coupling techniques for metal-organic frameworks. October 12, 2021.(hybrid mode in Osaka Convention Center, Japan)

2. (Invited) 4th International Symposium on Green & Sustainable Technology 2021 (ISGST 2021). Title: Metal-organic framework-derived hybrid nanostructures as high-performance catalysts. October 6, 2021. (online presentation)

3. Pacifichem 2021 Congress. Title: Development of biofunctional nanomaterial colloid using gas-phase electrophoresis method. December 18, 2021. (online presentation)

4. 2021台灣化工學會67週年慶祝大會邀請演講。題目：Aerosol-based ion-mobility coupling techniques for metal-organic frameworks。2022年1月7日於高雄展覽館。

2020

5. (Invited) Industrial Technology Research Institute (ITRI) Workshop on Nanotechnology and Applications. Title: Quantifying Functional Nanoparticles using Aerosol-based Ion Mobility-Coupling Technique. October 15, 2020. Hsinchu, Taiwan.

2019

6. Okinawa Colloids 2019。發表論文題目: Hybrid nanoparticles for energy and photocatalytic。2019年11月7日於日本沖繩萬國津梁館會議中心。

7. (Invited) 2019 ACCIS亞洲膠體與界面學會年會。發表論文題目: Development of new colloidal nanomaterials: surface functionalization and colloidal stability。2019年9月26日於尼泊爾加德滿都Tribhuvan University

8. 2019美國化學學會秋季年會。發表論文題目: Quantifying hyaluronic acid and metal-organic framework for biomedical applications using gas-phase electrophoresis。August 28, 2019於美國加州聖地牙哥會議中心。

9. 11th Asian Aerosol Conference (AAC) 2019 亞洲氣溶膠會議。發表論文題目: Metal-organic frameworks and gas-phase encapsulation of CuO nanocrystals for highly active catalysis。May 30, 2019於香港城市大學。

2018

10. (Invited) Cross-strait Conference, Taiyuan, Shanxi. Title: Gas-Phase Synthesis of Functional Nanoparticles for Energy Application. August 4, 2018.

11. 2018 台灣化工學會64週年慶祝大會邀請演講。題目：Surface Functionalization and Colloidal Stability of Hybrid Nanomaterials using a Combination of Colloidal- and Aerosol-based Approaches。2018年11月10日於國立雲林科技大學。

12. 2018 International Aerosol Conference. Title: A Facile Aerosol-based Synthesis of Cu-Ce-O Hybrid Nanoparticles for Synergistic Catalysis of Methane Combustion. Sep 3, 2018. St. Louis, MO. USA.

13. 國立清華大學-馬來西亞拉曼大學化工系聯合雙邊會議邀請演講。題目：A Facile Gas-Phase Synthesis of Hybrid Nanoparticles as Heterogeneous Catalysts。2018年10月1日於馬來西亞拉曼大學。

2017

14. 2017台灣化工學會63週年慶祝大會邀請演講。題目：Aerosol-based analytical methods for nanomaterial colloids。2016年11月26日於國立台北科技大學。

15. 2017美國化學學會秋季年會。題目：Surface PEGylation to silver nanoparticles: Kinetics of simultaneous surface dissolution and molecular desorption。2017年8月23日於美國華府會議中心。

16. 2017美國化學學會秋季年會。題目：Facile gas-phase self-assembly of noble metal-decorated hybrid nanoparticles for biomedical and photocatalytic applications。2017年8月24日於美國華府會議中心。

17. 2017亞洲膠體與界面學會年會。題目：Characterization of Hybrid Nanomaterial Colloids using a Gas-phase Ion Mobility-coupled Approach: Kinetics in Assembly and Colloid Stability。2017年8月9日於馬來西亞吉隆坡成功時代廣場會議中心。

18. 2017 Nano Materials for Energy Conversion Workshop。題目：Synthesis and Characterization of Functional Nanocatalysts for Energy Applications。2017年5月4日於越南胡志明市理科大學。

D. Patents

1. **蔡德豪***、陳育伸、楊哲銘、阮黃清竹、陳家穎、張鴻銘。“丙二醇甲醚的合成方法“。 中華民國發明專利，ROC Patent # I755128 (2022)
2. **蔡德豪***、張宏彥、賴冠宏、林致遠、李浚瑀、賈志成、黃春利、張鴻銘 (2021)。METHOD FOR FABRICATING HETEROGENEOUS NICKEL-BASED CATALYST ON ALUMINUM OXIDE SUPPORT, HETEROGENEOUS NICKEL-BASED CATALYST ON ALUMINUM OXIDE SUPPORT AND METHOD FOR SYNTHESIZING POLYETHERAMINE。美國發明專利，#11141715。
3. **蔡德豪***、張宏彥、賴冠宏、林致遠；李浚瑀、賈志成、黃春利、張鴻銘。非匀相鎳系氧化鋁載體觸媒的製備方法、其製備之非匀相鎳系氧化鋁載體觸媒及合成聚醚胺的方法。中華民國發明專利，ROC Patent # I677374 (2019).
4. **蔡德豪***、張威昌，”石墨烯材料的數量表面積的定量方法”，中華民國發明專利，ROC Patent # I666441 (2019)
5. **Tsai, D-H***; Chang, W. C. (2020). Quantitative method of number surface area of graphene material. US Patent: #10,670,505。
6. **蔡德豪***、林致遠、周芳群、梁騰云 (國立清華大學)，”還原態觸媒的製備方法、其製備之還原態觸媒、其用途以及合成氣的製造方法”，中華民國發明專利，ROC Patent # I655967 (2019)。

E. Other

1. 科技部107年度吳大猷先生紀念獎
2. 日本粉粒體學會2018 Advanced Powder Technology Outstanding International Contribution Award。2019年10月於日本大阪國際會議中心獲獎。
3. 台灣化工學會107年度化工傑作獎
4. 期刊編輯，Advanced Powder Technology (Elsevier, IF=4.83)。2018至今。
5. 科技部優秀年輕學者計畫。2018至今。
6. 經理編輯，台灣化工會誌。2018-2019。
7. 獲選國立成功大學優秀青年校友(2021年11月)

Publications of Hsing-Yu Tuan (段興宇)

A. Journal Papers (* Corresponding author)

2021

1. Che-Bin Chang, Kuan-Ting Chen and **Hsing-Yu Tuan** (2021, Sep). Large-scale synthesis of few-layered copper antimony sulfide nanosheets as electrode materials for high-rate potassium-ion storage. *Journal of Colloid and Interface Science*, 608, 984-994. (SCI, IF: 8.128). 本人為通訊作者.

2. Kuan-Ting Chen, Yi-Chun Yang, Lian-Ming Lyu, Ming-Yen Lu, and **Hsing-Yu Tuan** (2021, Jun). In situ formed robust submicron-sized nanocrystalline aggregates enable highly-reversible potassium ion storage. *Nano Energy*, 88, 106233. (SCI, IF: 17.881). 本人為通訊作者.

3. Yi-Yen Hsieh, Kuan-Ting Chen, and **Hsing-Yu Tuan** (2021, May). A synergetic SnSb-amorphous carbon composites prepared from polyesterification process as an ultrastable potassium-ion battery anode . *Chemical Engineering Journal* , 420, 130451. (SCI, IF: 13.273). 本人為通訊作者.

4. Kuan-Ting Chen, Shaokun Chong, Lingling Yuan, Yi-Chun Yang, **Hsing-Yu Tuan** (2021, Apr). Conversion-alloying dual mechanism anode: Nitrogen-doped carbon-coated Bi2Se3 wrapped with graphene for superior potassium-ion storage. *Energy Storage Materials*, 39, 239-249. (SCI, IF: 17.789). 本人為通訊 作者.

5. Che-Bin Chang, Chun-Yu Tsai, Kuan-Ting Chen, and **Hsing-Yu Tuan** (2021, Mar). Solution-Grown Phosphorus-Hyperdoped Silicon Nanowires/Carbon Nanotubes Bilayer Fabric as a High-performance Lithium-ion Battery Anode. *ACS Applied Energy Materials* , 4, 3160-3168. (SCI, IF: 6.024). 本人為通訊作 者.

6. Kuan-Ting Chen, Yi-Chun Yang, Yuan-Hsing Yi, Xiang-Ting Zheng, **Hsing-Yu Tuan** (2021, Mar). A carbon ink for use in thin, conductive, non peelable, amphiphilic, antioxidant, and large-area current collector coating with enhanced lithium ion battery performance. *Journal of Colloid and Interface Science*, 598, 155-165. (SCI, IF: 8.128). 本人為通訊作者.

7. Chun-Yu Tsai, Chao-Hung Chang, Tzu-Lun Kao, Kuan-Ting Chen, **Hsing-Yu Tuan** (2021, Jan). Shape matters: SnP0.94 teardrop nanorods with boosted performance for potassium ion storage. *Chemical Engineering Journal*, 417, 128552 . (SCI, IF: 13.273). 本人為通訊作者.

2020

8. Xiang-Ting Zheng, Kuan-Ting Chen, Yi-Yen Hsieh and **Hsing-Yu Tuan** (2020, Dec). Ultrafine Antimony Nanocrystals/Phosphorus Pitaya-Like Nanocomposites as Anodes for High-Performance Sodium-Ion Batteries. *ACS Sustainable Chemistry & Engineering* , 50, 18535-18544. (SCI, IF: 8.198). 本人為通訊作者.

9. Sheng-Bor Huang, Yi-Yen Hsieh, Kuan-Ting Chen and **Hsing-Yu Tuan** (2020, Nov). Flexible nanostructured potassium-ion batteries. *Chemical Engineering Journal*. (SCI, IF: 13.273). 本人為通訊作者.

10. Cheng-Ying Chan, Chao-Hung Chang and **Hsing-Yu Tuan** (2020, Sep). Synthesis of raspberry-like antimony-platinum (SbPt) nanoparticles as highly active electrocatalysts for hydrogen evolution reaction. *Journal of Colloid and Interface Science*, 584, 729-737. (SCI, IF: 8.128). 本人為通訊作者.

11. Kuan-Ting Chen and **Hsing-Yu Tuan** (2020, Sep). Bi–Sb Nanocrystals Embedded in Phosphorus as High-Performance Potassium Ion Battery Electrodes. *ACS Nano*, 14, 11648-11661. (SCI, IF: 15.881). 本人為通訊作者.

12. Hsuan-Peng Lin, Kuan-Ting Che, Che-Bin Chang, **Hsing-Yu Tuan** (2020, Jul). Aluminum phosphide as a high-performance lithium-ion battery anode. *Journal of Power Sources*, 465, 228262. (SCI, IF: 9.127). 本人為通訊作者.

13. Cheng-Chieh Chuang, Yi-Yen Hsieh, Wei-Chung Chang and **Hsing-Yu Tuan** (2020, May). Phosphorus-sulfur/graphene composites as flexible lithium-sulfur battery cathodes with super high volumetric capacity. *Chemical Engineering Journal*, 387, 123904. (SCI, IF: 13.273). 本人為通訊作者.

14. Cheng-Ying Chan, Chao-Hung Chang and **Hsing-Yu Tuan** (2020, May). Colloidal synthesis of porous red phosphorus nanoparticles as a metal-free electrocatalyst for the hydrogen evolution reaction. *Chemical Communications*, 56, 2937-2940. (SCI, IF:6.222). 本人為通訊作者.

15. Kuo-Lung Wang, Kuan-Ting Chen, Yuan-Hsing Yi, Yi-Hao Hung, **Hsing-Yu Tuan** and Masaki Horie (2020, Jan). High-Performance Lithium Ion Batteries Combining Submicron Silicon and Thiophene-Terephthalic Acid-Conjugated Polymer Binders. *ACS Sustainable Chem. Eng*, 8, 1043-1049. (SCI, IF:8.198). 本人為通訊作者.

2019

16. Kuan-Ting Chen, Wei-Chung Chang, Shu-Chen Lu, Po-Yuan Yang and **Hsing-Yu Tuan** (2019, Dec). Facile Synthesis of Cu Nanocrystals with Morphology Evolution from Transitional Truncated Octahedra to Octahedra. *Journal of Nanomaterials*, 2019, 1-7. (SCI, IF:2.986). 本人為通訊作者.

17. Cheng-Chieh Chuang, Hsun-Chen Chu, Sheng-Bor Huang, Wei-ShunChang, **Hsing-Yu Tuan** (2019, Jul). Laser-induced plasmonic heating in copper nanowire fabric as a photothermal catalytic reactor. *Chemical Engineering Journal*, 7, 122285. (SCI, IF: 13.273). 本人為通訊作者.

18. Kuan-Ting Chen, Wei-Chung Chang, Hong-Jie Yang , Chun-Yu Tsai , Sheng-Bor Huang , **Hsing-Yu Tuan** (2019, Jun). Free standing Si (Ge) nanowire/Cu nanowire composites as lithium ion battery anodes. *Journal of the Taiwan Institute of Chemical Engineers*. (SCI, IF: 5.876). 本人為通訊作者.

19. Jee-Yee Chen, Shao-Lou Jheng, Cheng-Ying Chan, **Hsing-Yu Tuan** (2019, May). Morphology controlled synthesis of Pd2Ge nanostructures and their shape-dependent catalytic properties for hydrogen evolution reaction. *International Journal of Hydrogen Energy*, 44, 12958. (SCI, IF: 5.816). 本人為通訊作者.

20. Suh-Ciuan Lim, Cheng-Ying Chan , Kuan-Ting Chen and **Hsing-Yu Tuan** (2019, May). The shape-controlled synthesis of gallium–palladium (GaPd2) nanomaterials as high-performance electrocatalysts for the hydrogen evolution reactio. *Nanoscale*, 11, 8518. (SCI, IF: 7.79). 本人為通訊作者.

21. Jee-Yee Chen, Suh-Ciuan Lim, Chun-Hong Kuo, and **Hsing-Yu Tuan** (2019, Apr). Sub-1 nm PtSn ultrathin sheet as an extraordinary electrocatalyst for methanol and ethanol oxidation reactions. *Journal of Colloid and Interface Science*, 545, 54-62. (SCI, IF: 8.128). 本人為通訊作者.

22. Yu-Ju Chen, Yi-Rui Chen, Cheng-Hsuan Chiang, Kuo-Lun Tung, Tsung-Kuang Yeh and **Hsing-Yu Tuan** (2019, Apr). Monodisperse ordered indium–palladium nanoparticles: synthesis and role of indium for boosting superior electrocatalytic activity for ethanol oxidation reaction. *Nanoscale*, 11, 3336. (SCI, IF: 7.79). 本 人為通訊作者.

23. Wei-Chung Chang, Jen-Hsuan Wu, Kuan-Ting Chen, **Hsing-Yu Tuan**. (2019, Mar). Red Phosphorus Potassium-Ion Battery Anodes. *Advanced Science*, 2019, 6, 1801354. (SCI, IF: 16.806 前封面故事). 本人為通訊作者.

24. Suh-Ciuan Lim, Cheng-Ying Chan, Kuan-Ting Chen, **Hsing-Yu Tuan** (2019, Feb). Synthesis of popcorn-shaped gallium-platinum (GaPt3) nanoparticles as highly efficient and stable electrocatalysts for hydrogen evolution reaction. *Electrochimica Acta*, 297, 288-296. (SCI, IF: 6.901). 本人為通訊作者.

25. Wei-Chung Chang, Shih-Pin Lu, Hsun-Chen Chu, and **Hsing-Yu Tuan** (2019, Jan). Lithium-Ion Battery Anodes of Stacked Nanowire Laminate for Ultrahigh Areal Capacities. *ACS Sustainable Chem. Eng*, 7(1), 156. (SCI, IF: 8.198). 本人 為通訊作者.

2018

26. Suh-Ciuan Lim, Wen-Fu Lo, Po-Yuan Yang, Shu-Chen Lu, Anneli Joplin, Stephan Link, Wei-Shun Chang and **Hsing-Yu Tuan** (2018, Dec). Au@CdSe heteroepitaxial nanorods: An example of metal nanorods fully covered by a semiconductor shell with strong photo-induced interfacial charge transfer effects. *Journal of Colloid and Interface Science*, 532, p143. (SCI, IF: 8.128). 本人為通訊作者.

27. Suh-Ciuan Lim, Ming-Cheng Hsiao, Ming-De Lu, Yung-Liang Tung and **Hsing-Yu Tuan** (2018, Sep). Synthesis of germanium–platinum nanoparticles as high-performance catalysts for spray-deposited large-area dye-sensitized solar cells (DSSC) and the hydrogen evolution reaction (HER). *Nanoscale*, 10, 16657.(SCI, IF: 7.79). 本人為通訊作者.

28. Ching-Yu Wang, Yuan-Hsing Yi, Wei-Chung Chang, Tzu-Lun Kao, **Hsing-Yu Tuan** (2018, Aug). Multi-walled carbon nanotube-wrapped SiP2 as a superior anode material for lithium-ion and sodium-ion batteries. *Journal of Power Sources*, 399, p49. (SCI, IF: 9.127). 本人為通訊作者.

29. Kuan-Wei Tseng, Sheng-Bor Huang, Wei-Chung Chang and **Hsing-Yu Tuan** (2018, Jul). Synthesis of Mesoporous Germanium Phosphide Microspheres for High-Performance Lithium-Ion and Sodium-Ion Battery Anodes. *Chemistry of Materials*, 30, 4440. (SCI, IF: 9.811). 本人為通訊作者.

30. Jee-Yee Chen, Shao-Lou Jheng and **Hsing-Yu Tuan** (2018, May). Synthesis of nickel germanide (Ge12Ni19) nanoparticles for durable hydrogen evolution reaction in acid solutions. *Nanoscale*, 10, 11072. (SCI, IF: 7.79). 本人為通訊作者.

31. Kuan-Chen Lin, Mei-Wei Lin, Mu-Nung Hsu, Guan Yu-Chen, Yu-Chan Chao, **Hsing-Yu Tuan**, Chi-Shiun Chiang and Yu-Chen Hu (2018, Apr). Graphene oxide sensitizes cancer cells to chemotherapeutics by inducing early autophagy events, promoting nuclear trafficking and necrosis. *Theranostics*, 8, p2477. (SCI, IF: 11.556).

32. Shao-Lou Jheng , Jee-yee Chen, **Hsing-Yu Tuan**. (2018, Apr). Solution-liquid-solid growth of CuInTe2 nanowires as lithium-ion battery anodes. *Materials and Design*, 149, p113. (SCI, IF: 5.469). 本人為通訊作者.

33. Chiu-Yen Wang , Fang-Wei Yuan , Yu-Chen Hung , Ya-Wen Su , **Hsing-Yu Tuan** (2018, Feb). In-situ TEM and XRD analysis of microstructures changes in solution-grown copper silicide nanowires array for field emitters. *Journal of Alloys and compounds*, 735, 2373. (SCI, IF: 5.316). 本人為通訊作者.

34. Chien-Ming Lai, Tzu-Lun Kao, **Hsing-Yu Tuan** (2018, Jan). Si nanowires/Cu nanowires bilayer fabric as a lithium ion capacitor anode with excellent performance. *Journal of Power Sources,*, 379, p261. (SCI, IF: 9.127). 本人為通訊作者.

2017

35. Li-Chu Chin, Yuan-Hsing Yi, Wei-Chung Chang, **Hsing-Yu Tuan** (2017, Dec). Significantly improved performance of red phosphorus sodium-ion anodes with the addition of iron. *Electrochimica Acta*, 266, p178. (SCI, IF: 6.901). 本人為通訊作者.

36. Tzu-Lun Kao and **Hsing-Yu Tuan** (2017, Nov). Polymer-mediated metallophilic interactions for gram-scale production, high-yield (~90%) synthesis of ultrathin bismuth nanowires.. *Chemical Communications*, 10 (7), 12020. (SCI, IF: 6.222).本人為通訊作者.

37. Wei-Chung Chang, Tzu-Lun Kao, Yow Lin and **Hsing-Yu Tuan** (2017, Oct). A Flexible all inorganic nanowire bilayer mesh as a high-performance lithium-ion battery anode. *Journal of Materials Chemistry A*, 10, 22662. (SCI, IF: 12.732). 本人為通訊作者.

38. Hsun-Chen Chu and **Hsing-Yu Tuan** (2017, Apr). High-performance lithium-ion batteries with 1.5 μm thin copper nanowire foil as a current collector. *Journal of Power Sources*. (SCI, IF: 9.127). 本人為通訊作者.

39. Wei-Chung Chang, Kuan-Wei Tseng, and **Hsing-Yu Tuan** (2017, Feb). Solution Synthesis of Iodine-Doped Red Phosphorus Nanoparticles for Lithium-Ion Battery Anodes. *Nano Letters*, 17 (2), pp 1240–1247. (SCI, IF: 11.189). 本人為 通訊作者

40. Jee-Yee Chen , Li-Chu Chin , Guo-An Li and **Hsing-Yu Tuan** (2017, Jan). Zinc diphosphide nanowires: bismuth nanocrystal-seeded growth and their use as high-capacity lithium ion battery anodes. *CrystEngComm*, 2017, 19, 975-981. (SCI, IF: 3.545). 本人為通訊作者.

41. Meng-Hsun Hsieh, Guo-An Li, Wei-Chung Chang and **Hsing-Yu Tuan** (2017, Jan). A germanium nanoparticles/molybdenum disulphide (MoS2) nanocomposite as a high-capacity, high-rate anode material for lithium-ion batteries. *Journal of Materials Chemistry A*, 2017, 5, 4114-4121. (SCI, IF: 12.732). 本人為通訊作者.

42. Suh-Ciuan Lim, Hsuan-Peng Lin, Wei-Lun Tsai, Hao-Wu Lin, Yao-Tsung Hsu and **Hsing-Yu Tuan** (2017, Jan). Binary halide, ternary perovskite-like, and perovskite-derivative nanostructures: hot injection synthesis and optical and photocatalytic properties. *Nanoscale*, 2017, 9, 3747-3751. (SCI, IF: 7.79). 本人 為通訊作者.

Publications of Jane Wang (王潔)

A. Book Chapters (* Corresponding author)

1. **Wang, J.**, Borenstein, J. T. "Chapter 28: Micro and Nano Patterning Technologies," In: Biology and Engineering of Stem Cell Niches (A. Vishwakarma & J. Karp ed.). Boston, MA, Academic Press (2017), pp375-390.

B. Journal Papers (* Corresponding author)

2021

1. Chang, P.-Y., **Wang, J**., Li, S.-Y., Suen, S.-Y.*, "Biodegradable Polymeric Membranes for Organic Solvent/Water Pervaporation Applications", *Membranes*, 2021, 11, 970.

2. Huang, H.-C., Sung, Y.-C., Li, C.-P., Wang, D., Chao, P.-., Tseng, Y.-T., Liao, B.-W., Cheng, H.-T., Hsu, F.-F., Huang, C.-C., Chen, Y.-T., Liao, Y.-H., Hsieh, H. T., Shih, Y.-C., Liu, I.-J., Wu, H.-C., Lu, T.-T.,* **Wang, J.***, Chen, Y.*, "Reversal of pancreatic desmoplasia by a tumour stroma-targeted nitric oxide nanogel overcomes TRAIL resistance in pancreatic tumours". *Gut*, 2021, 0:1–13. 10.1136/gutjnl-2021-325180

3. Wang, C.-C., Chen, J.-Y., **Wang, J.***, "The selection of photoinitiators for photopolymerization of biodegradable polymers and its application in digital light processing additive manufacturing". *Journal of Biomaterials Research Part A*, 2021, 110:204–216.

4. Jiang, W.-C., Hsu, W.-Y., Ao-Ieong, W.-S., Wang, C.-Y., **Wang, J.**, Yet, S.-F.* (2021, Jul). "A novel engineered vascular construct of stem cell-laden 3D-printed PGSA scaffold enhances tissue revascularization", *Biofabrication*, 2021, 13, 045004.

5. Ao-Ieong, W.-S., Chien, S.-T., Jiang, W.-C., Yet, S.-F., **Wang, J.***, "The Effect of Heat Treatment toward Glycerol-Based, Photocurable Polymeric Scaffold: Mechanical, Degradation and Biocompatibility". *Polymers*, 2021, 13, 1960.

6. Chang, C.-T., Chen, Y.-T., Hsieh, Y.-K., Girsang, S. P., Wang, R. S., Chang, Y.-C., Shen, S.-H., Shen, C. R., Lin, T.-P., Wan, D., **Wang, J**.*,"Dual-functional antibiofilm polymer composite for biodegradable medical devices", *Materials Science and Engineering: C*, 2021, 123, 111985.

2020

7. Chiang, M.-T., Wang, H.-L., Han, T.-Y., Hsieh, Y.-K., **Wang, J.**, Tsai, D.-H., "Assembly and Detachment of Hyaluronic Acid on a Protein-Conjugated Gold Nanoparticle," *Langmuir*, 2020, 36, 14782-14792.

8. Wang, W.-H., Huang, C.-W., Tsou, E.-Y., Ao-Ieong, W.-S., Hsu, H.-C., Wong, D. S.-H., **Wang, J.**, "Characterization of Degradation Behavior of Poly(Glycerol Maleate) Films in Various Aqueous Environments," *Polymer Degradation and Stability*, 2020, 183, 109441.

9. Chang, C.-T., Chen, H.-T., Chen, Y.-M., Wan, D., Shen, S.-H., **Wang, J.**, "3D-printed radiopaque polymer composites for the *in situ* monitoring of biodegradable medical implants," *Applied Materials Today*, 2020, 20, 100771.

10. Wang, C.-C., Shih, T.-Y., Hsieh, Y.-T., Huang, J.-L., and **Wang, J.***, "L-Arginine Grafted Poly(Glycerol Sebacate) Materials:An Antimicrobial Material for Wound Dressing," *Polymer*, 2020, 12(7), 1457.

11. Hsieh, Y.-K., Hung, P.-H., Huang, C.-W., Chuang, K.-C., **Wang, J.***, "Study on the Degradation of Biodegradable Poly (Glycerol Maleate) (PGM) Microbeads Polymer Degradation and Stability," *Polymer Degradation and Stability*, 2020, 179, 109223.

12. Teng, C.-L., Chen, J.-Y., Chang, T.-L., Hsiao, S.-K., Hsieh, Y.-K., Villalobos Gorday, K. A., Cheng, Y.-L., and **Wang, J.**, "Design of photocurable, biodegradable scaffolds for liver lobule regeneration via digital light processing-additive manufacturing," *Biofabrication*, 2020, 12(3):035024.

2019

13. Sung, Y.-C., Jin, P.-R., Chu, L.-A., Hsu, F.-F., Wang, M.-R., Chang, C.-C., Chiou, S.-J., Qiu, J.T., Gao, D.-Y., Lin, C.-C., Chen, Y.-S., Hsu, Y.-C., **Wang, J.**, Wang, F.-N., Yu, P.-L., Chiang, A.-S., Wu, A.Y., Ko, J.J., Lai, C.P., Lu, T.-T. & Chen, Y.* "Delivery of nitric oxide with a nanocarrier promotes tumour vessel normalization and potentiates anti-cancer therapies," *Nature Nanotechnology*, **2019**, 14, 1160–1169.

14. Hsiao,M.-H., Ye,H.-F., Liu, T.-J., and **Wang, J. *, "**Drug Loading on Microneedles," *Advances in Chemical Engineering and Science*, 2019, 9, 204-222.

2018

15. Chen, J.-Y., HWang, J. V., Ao-Ioeng, W.-S., Lin, Y.-C., Hsieh, Y.-K., Cheng, Y.-L., **Wang, J.** *, "Study of physical and degradation properties of 3D-printed biodegradable, photocurable copolymers, PGSA-co-PEGDA and PGSA-co-PCLDA," *Polymers*, **2018**, 10, 1263.

16. Lin, L.-K., **Wang, J.** , Liu*,Y.-L., "Effective Synthesis Route for Linear and Cross-Linked Biodegradable Polyesters Using Aliphatic Meldrum's Acid Derivatives as Monomers," ACS Omega, **2018**, 3(4), 4641-4646

17. Sung,Y.-C., Liu,Y.-C. , Chao,P.-H. , Chang, C.-C., Jin, P.-R., Lin,T.-T., Lin,J.-A., Cheng,H.-T., **Wang,J.,** Lai,C. P., Chen,L.-H., Wu,A.-Y., Ho,T.-L., Chiang,T., Gao,D.-Y., D. Duda,G. , Chen*,Y. ,"Combined delivery of sorafenib and a MEK inhibitor using CXCR4-targeted nanoparticles reduces hepatic fibrosis and prevents tumor development," Theranostics, **2018**, 8(4), 894-905

18. Hsieh, Y.-K., Kaiser, G., Hsiao, S.G., Hsu, K.-P., Wang, T.-H., **Wang, J.***, "Contact Guidance on Laser-Patterned Biodegradable Polymeric Material", *Journal of Materials Chemistry B* **2018,** *6*, 3684-3691

19. Hsieh, Y.-K., Chang, C.-T., Jen, I.-H., Pu, F.-C., Wan, D. and**Wang, J.***, "Using Gold Nanoparticles (AuNPs) as an Additive to Investigate the Drug Embedding and Releasing Performance in Poly(Glycerol Sebacate)," *ACS Applied Nano Materials*, **2018**, *1(9)*, 4474-4482

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20. Hsieh, Y.-K., Chen, H.-C., Huang, W.-L., Hsu,K.-P., Kaiser, G., Wang, T.-H., **Wang, J.***, "Fabrication of Biodegradable Microfluidic Scaffolds Using Laser Ablation", *Polymers*, **2017**, 9(7):242.

21. Wang,F.-S., Wang,T.-F., Lu,H.-H., Ao-Ieong,W.-S., **Wang, J.**, Chen,H.-L., Peng*,C.-H., "Highly Stretchable Free-Standing Poly(acrylic acid)-block-poly(vinyl alcohol) Films Obtained from Cobalt-Mediated Radical Polymerization," *Macromolecules*, **2017**, 50(16), 6054-6063

22. Yeh, C. W., Wang, L. W., Wu, H. C., Hsieh, Y.-K., **Wang, J.**, Chen, M. H., Wang, T. W. "Development of biomimetic micro-patterned device incorporated with neurotrophic gradient and supportive Schwann cells for the applications in neural tissue engineering," *Biofabrication*, **2017**, 9(1):015-024.

23. Wang, T.H., Yen, Y.-J., Dong, Y.C., Hsieh, Y.-K., **Wang, J.***, "Size effect of calcium-humic acid non-rigid complexes on the fouling behaviors on NF membrane: An LA-ICP-MS study", *Colloids Surf. A*, **2017**, 513: 335-347.

C. Conference Presentations

2019

1. Soo, B.C., Ao-Ieong, W.-S., and **Wang, J.*** (Dec 2019) "Biodegradable Ocular Implants for Anti-glaucoma Drug Delivery," The 16th Pacific Polymer Conference, Singapore.

2. Chang, J.-Y., Chang, Y.-M., Villalobos Gorday, K. A., and **Wang, J.*** (Dec 2019) "The Application of 3D Printing of Biodegradable Polymers toward Vasculature Regeneration" 2019 Materials Research Society Fall Meeting, Boston, USA

3. **Wang, J.*** (Nov 2019) "Drug Delivery to the Inner Ears—What Happened to My Super Star Dream" The 25th Symposium of Young Asian Biological Engineer's Community, YABEC 2019, Seoul, South Korea, (Invited Talk)

4. Chang, C.-T., Soo, B.C., Chen, Y.-J., Hsieh, Y.-K., Wan, D., and **Wang, J.*** (Oct 2019) "The Investigation of the Drug Embedding and Releasing Performance in Glycerol-Based, Biodegradable Polymers Using Gold Nanoparticles" The 6th Federation of Asian Polymer Societies Polymer Congress (FAPS 2019), Taipei, Taiwan.

5. **Wang, J.*** (Oct 2019) "The Development and Characterization of Biodegradable, DLP-Printable, Glycerol-Based Copolymers"Korea-Taiwan Joint Symposium: Emerging Technology in Polymer Science at the 2019 Fall Meeting of the Polymer Society of Korea, Jeju Island, South Korea, (Invited Talk)

6. **Wang, J.*** (Jul 2019)"The Fabrication of Biodegradable Lobule-Like Scaffolds for Liver Regeneration via Additive Manufacturing." The 14th Asian Congress on Biotechnology, ACB 2019, New Taipei City, Taiwan, Jul 2019

7. Chang, C.-T., Soo, B.C., Chen, T.-Y., Wan, D., and **Wang, J.*** (Jun 2019) "Use of Gold Nanoparticles to Investigate the Drug Embedding and Releasing Performance in Glycerol-Based, Biodegradable Polymers." The 10th International Conference on Materials for Advanced Technologies (ICMAT 2019), Singapore.

8. Chang, C.-T., Hsieh, Y.-K., Chen, T.-Y., Wan, D., and **Wang, J.*** (Jun 2019) "The Investigation of Releasing Profile of Gold Nanoparticles (AnNPs) Embedded in Biodegradable Polymeric Scaffolds," Global Chemistry Congress (GCC-2019), Rome, Italy, Jun 2019.

2018

9. **Wang, J.*** (Nov. 2018) Polymeric Tissue Engineering Scaffolds via Additive Manufacturing," The 24th Symposium of Young Asian Biological Engineer's Community, YABEC 2018, Taipei City, Taiwan (Invited Talk).

10. Teng,C.-L., Hsiao,S.-K., Ao-Ieong,W.-S., Hsieh,Y.-K., **Wang, J.*** (Jul, 2018)"The Fabrication of Glycerol-Based Biodegradable "The Fabrication of Glycerol-Based Biodegradable Polymeric Scaffolds for Liver Regeneration via Additive Manufacturing", International Symposium on PRecision Engineering and Sustainable Manufacturing (PRESM2018), Sapporo, Japan.

2017

11. **Wang, J.*** (Nov. 2017) "The Study of Phorocurable, Biodegradable Polymeric Materials and the Effects of 3D Printing toward the Mechanical Properties." Materials Research Society Fall Conference, Boston, MA, USA.

12. Chang, C.-T., Hsieh, Y.-K., Jen, I.-H., Pu, F.-C., Wan D., and **Wang, J.*** (Nov. 2017) "The Investigation the Releasing Profile of Gold Nanoparticles (AuNPs) Embedded in Biodegradable Polymeric Scaffolds" 18th International Union of Materials Research Societies-International Conference in Asia, IUMRS-ICA 2017, Taipei City, Taiwan. (Invited Talk)

13. Lai, P.-L., Huang, S.-C., Yeh, J.-R., **Wang, J.*** (Oct. 2017), "The Synthesis of Biodegradable Polymer-Mineral Composite and Design of Porous Bone Substitute" The 9th Sino-US Joint Conference on Chemical Engineering (SUCE 2017), Beijing, China.(Invited Talk)

14. Hsieh, Y.-K., Hsu , K.-P., **Wang, J.*** (Aug. 2017), "Laser Ablation of Biodegradable Polymer for the Study of Cell Contact Guidance Behavior in Skin and Vasculature Regeneration" 2017 International Symposium of Biotechnology on Biomaterials, Stem cells and Tissue Engineering (ISBBST 2017), New Taipei City, Taiwan.(Invited Talk)

15. **Wang, J.*** (May. 2017), Chen, J.-Y., Ao-Ieong, W.-S., "Synthesis of Glycerol-Based Biodegradable Polymer for Tissue Engineering" The 6th International Conference on Bio-based Polymers (ICBP2017), Taoyuan, Taiwan .(Invited Talk)

16. **Wang, J.*** (Jan. 2017), "Surface Modification of Biodegradable Polymeric Material via Laser Ablation for Vasculature Regeneration." 2017 International Symposium on Regenerative Medicine, Seoul, South Korea.(Invited Talk)

2016

17. Ao-Ieong,W.-S., Hsieh, Y.-K., **Wang, J. *** (Nov. 2016), "The Application of a Photocurable, Biodegradable Polymer in Additive Manufacturing." 14th International Conference on Frontiers of Polymers and Advanced Materials (ICFPAM 2016), Daejeon, South Korea.(Invited Talk)

18. Hsieh, Y.-K., Hsu, K.-P., **Wang, J.*** (Sep. 2016), "Surface Modification with Laser Ablation for the Study of Cell Contact Guidance Behavior in Skin and Vasculature Regeneration." 2016 Tissue Engineering and Regenerative Medicine International Society-AP, New Taipei City, Taiwan.(Invited Talk)

19. Ao-Ieong,W.-S., Hsieh, Y.-K., **Wang, J. *** (Oct. 2016), "Synthesis and Construction of GlycerolBased Biodegradable Composite Bone Substitute for Bone Tissue Engineering" 14th International Union of Materials Research Societies International Conference on Advanced Materials Jeju, South Korea. (Invited Talk)

20. Ao-Ieong,W.-S., Hsieh, Y.-K., **Wang, J. *** (Sep. 2016) "Glycerol-Based Photocrosslinkable Biodegradable Polymeric Material for 3D Printing and Additive Manufacturing. " Taiwan-Japan Bilateral Polymer Symposium 2016 Hsinchu, Taiwan.

D. Patents

1. **王潔**、周更生、徐松年"生物可分解的聚酯型彈性體之製備方法", 中華民國發明專利**I 568768.** (專利有效期間: 2017/02~2035/12)

2. **王潔**、鄭逸琳、陳怡文、謝明佑"可積層製造的生物可降解光聚合高分子複合材料及其應用", 中華民國發明專利**I 644801.** (專利有效期間: 2018/12~ 2037/08)

3. 鄭逸琳、陳怡文、謝明佑、**王潔**、陳定閒、許家寧"光固化裝置使用之可調波長曝光模組", 中華民國新型專利**M 565120.** (專利有效期間: 2018/08~ 2028/05)

E. Other

Awards:

1. 107學年度國立清華大學校傑出教學獎, 2018/08-2019/06

2. 104學年度國立清華大學工學院傑出教學獎, 2015/08-2016/06

3. 科技部補助大專校院延攬特殊優秀人才措施獎勵, 2013/02-2014/02

4. 清華大學激勵優秀新聘助理教授獎勵, 2013/02-2016/02

Committees of International Conferences:

1. The 2020 Taiwan Institute of Chemical Engineers Annual Conference and Taiwan-Czech-Korean Trilateral International Conference (TwIChE 2020), Hsinchu, Taiwan, Oct 2020 (session organizer, session chair, conference MC)

2. The 6th Federation of Asian Polymer Societies Polymer Congress (FAPS 2019), Taipei, Taiwan, Oct 2019 (session chair, conference MC)

3. The 14th Asian Congress on Biotechnology, ACB 2019, New Taipei City, Taiwan, Jul 2019 (conference MC, organizing committee)

4. The 10th International Conference on Materials for Advanced Technologies (ICMAT 2019), Singapore, Jun 2019 (session organizer)

5. The 24th Symposium of Young Asian Biological Engineer's Community (YABEC 2018), Nov 2018, Taipei City, Taiwan

6. The 9th Sino-US Joint Conference on Chemical Engineering (SUCE 2017), Oct 2017, Beijin, China

7. 2017 International Symposium of Biotechnology on Biomaterials, Stem cells and Tissue Engineering (ISBBST 2017), Aug 2017, New Taipei City, Taiwan

8. Taiwan-Japan Bilateral Polymer Symposium 2016, Organization Committee, Hsinchu, Taiwan, Sep 7-10, 2016.

9. Tissue Engineering and Regenerative Medicine International Society-Asia Pacific Chapter Meeting, Student and Young Investigator Session Organizing Chair & Conference Emcee, New Taipei City, Taiwan, Sep 3-6, 2016.

10. The 5th Asian Biomaterials Congress (ABMC5), Organization Committee, Taipei, Taiwan, May 6-9, 2015.

Publications of Tzu-Chien Wei (衛子健)

A. Journal Papers

After serving as an associate professor in National Tsing Hua University

All SCI journals IF 2018; *: corresponding author)

(1) 通訊及第一作者期刊論文 Corresponding or First-Authored Journal Papers

2021

1. Pylnev, Mikhail, Ana Maria Barbisan, and **Tzu-Chien Wei**. "Effect of wettability of substrate on metal halide perovskite growth." ***Applied Surface Science*** ,2021,541,148559 (IF=6.182,Rank= 27/155)

2. Ching-Chin Chen, Jia-Sian Chen, Vinh Son Nguyen, **Tzu-Chien Wei**, Chen-Yu Yeh," Double Fence Porphyrins that are Compatible with CoII/III Electrolyte for High Efficiency Dye-Sensitized Solar Cells"**,*Angewandte Chemie International Edition***, 2021, 60, 4886-4893.(IF=12.959,Rank=15/177)

3. Pylnev, Mikhail, Tzu-Sen Su, and **Tzu-Chien Wei**. "Titania augmented with TiI4 as electron transporting layer for perovskite solar cells." *Applied Surface Science* 549 (2021): 149224. (IF=6.707,Rank= 1/21)

4. Wang, Wei-Yen, Yu-Hsiang Kao, Tzu-Yi Yang, Yu-Lun Chueh, and **Tzu-Chien Wei**. "Adhesive Wet Metallization on TiO2-Coated Glass." *Journal of The Electrochemical Society* 168, no. 4 (2021): 042506. (IF=4.316,Rank= 5/21)

5. Su, Tzu-Sen, et al. "Characterization on Highly Efficient Perovskite Solar Cells Made from One-Step and Two-Step Solution Processes." *Solar RRL* 5.7 (2021): 2100109. (IF=8.582,Rank= 14/114)

6. Peng, Shiuan-Ying, Tzu-Sen Su, Cheng-An Chen, Kai-Wen Chuang, **Tzu-Chien Wei**, and Ying-Chih Liao. "Recrystallized Perovskite Thin Film via Intense Pulse Light Sintering for Vertical Gradient Band Gap Perovskite Solar Cells." *ACS Applied Energy Materials* 4, no. 12 (2021): 14240-14248. (IF=6.024,Rank= 87/334)

7. Lu, Man Ning, Tzu-Sen Su, Mikhail Pylnev, Yean-San Long, Teng-Chun Wu, Min-An Tsai, and **Tzu-Chien Wei**. "Stepwise optimizing photovoltaic performance of dye-sensitized cells made under 50-lux dim light." *Progress in Photovoltaics: Research and Applications* 29, no. 5 (2021): 533-545. (IF=7.953,Rank= 21/160)

8. Nguyen, De, Tuan Van Huynh, Vinh Son Nguyen, Phuong-Lien Doan Cao, Hai Truong Nguyen, **Tzu-Chien Wei**, Phuong Hoang Tran, and Phuong Tuyet Nguyen. "Choline chloride-based deep eutectic solvents as effective electrolytes for dye-sensitized solar cells." *RSC Advances* 11, no. 35 (2021): 21560-21566. (IF=3.361,Rank= 81/178)

9. Wubie, Gebremariam Zebene, Man-Ning Lu, Mekonnen Abebayehu Desta, Hulugirgesh Degefu Weldekirstos, Mandy M. Lee, Wen-Ti Wu, Sie-Rong Li, **Tzu-Chien Wei**, and Shih-Sheng Sun. "Structural Engineering of Organic D–A–π–A Dyes Incorporated with a Dibutyl-Fluorene Moiety for High-Performance Dye-Sensitized Solar Cells." *ACS Applied Materials & Interfaces* 13, no. 20 (2021): 23513-23522. (IF=9.229,Rank= 44/334)

2020

10. Tsung-Yu Hsieh, Mikhail Pylnev, Emilio Palomares, and **Tzu-Chien Wei**, "Exceptional Long Electron Lifetime of Methylammonium Lead Iodide Perovskite Solar Cell Made from Aqueous Lead-Nitrate Precursor", ***Advanced Functional Materials, (Accepted)*** (IF = 15.621, Rank = 5/148).

11. Kannankutty, Kala; Chen, Ching-Chin; Nguyen, Vinh Son; Lin, Yu-Cheng; Chou, Hsien-Hsin; Yeh, Chen-Yu; **Wei, Tzu-Chien***, "Tert-butylpyridine Coordination with [Cu(dmp)2]2+/+ Redox Couple and its Connection to the Stability of the Dye-sensitized Solar Cell", ***ACS Applied Materials & Interfaces, Proof corrected***, 2020,12,5812-5819 (IF = 8.456, Rank = 27/293).

12. Su,Tzu-Sen,FelixThomasEickemeyer,MichaelA.Hope,Farzaneh Jahanbakhshi,Marko Mladenović,Jun Li,Zhiwen Zhou,Aditya Mishra,Jun-Ho Yum,Dan Ren,Anurag Krishna,Olivier Ouellette,**Tzu-Chien Wei**,Hua Zhou,Hsin-Hsiang Huang,Mounir Driss Mensi, Kevin Sivula, Shaik M. Zakeeruddin, Jovana V. Milić, Anders Hagfeldt, Ursula Rothlisberger, Lyndon Emsley, Hong Zhang*, and Michael Grätzel*,"Crown Ether Modulation Enables over 23% Efficient Formamidinium-Based Perovskite Solar Cells." ***Journal of the American Chemical Society*** ,2020,142,19980-19991.(IF=14.612,Rank=13/177)

13. Vinh Son Nguyen, Ting-Kuang Chang, Kala Kannankutty, Jia-Ling Liao, Yun Chi, **Tzu-Chien Wei**, 2020, "Novel Ruthenium Sensitizers Designing for Efficient Light Harvesting under Both Sunlight and Ambient Dim Light", ***Solar RRL***, 4, 2000046 (IF = 7.527, Rank = 14/112)

14. Yu-Hsuan Chen, Vinh Son Nguyen, Hsien-Hsin Chou, Yogesh S. Tingare, **Tzu-Chien Wei**, Chen-Yu Yeh, "Anthracene Organic Sensitizer with Dual Anchors for Efficient and Robust Dye-Sensitized Solar Ce*lls",* ***ACS Applied Energy Mate*rials**, 2020, 3, 5479-5486 (IF = 4.473, Ranking = 39/112).

2019

15. Peng Zhai, Tzu-Sen Su, Tsung-Yu Hsieh, Wei-Yen Wang, Lixia Ren, Jiayi Guo, **Tzu-Chien Wei**, "Toward clean production of plastic perovskite solar cell: Composition-tailored perovskite absorber made from aqueous lead nitrate precursor", ***Nano Energy***, 2019, 65, 104036. (IF = 15.548, Rank = 6/148).

16. Tzu-Sen Su, **Tzu-Chien Wei**, "Co-Electrodeposition of Sn-Doped TiO2 Electron-Transporting Layer for Perovskite Solar Cells", ***Phys. Status Solidi A***, 2019. (Early View). (IF = 1.606, Rank = 91/148).

17. Tzu-Sen Su, Han-Yan Tsai, Kala Kannankutty, Chien-Tien Chen, Yun Chi, **Tzu-Chien Wei**, "New Spiro Phenylpyrazole/dibenzosuberene Derivatives as Hole Transporting Material for Perovskite Solar Cells" ***Solar RRL***, 2019, 3, 10, 1900143. (New journal)

18. Kuan-Ting Wang, Wei-Yen Wang, **Tzu Chien Wei**, "Photomask-Free, Direct Selective Electroless Deposition on Glass by Controlling Surface Hydrophilicity." ***ACS Omega***, 2019, 4, 4, 7706-7710. (IF = 2.584, Rank = 76/172).

19. Tsung-Yu Hsieh, Tzu-Sen Su, Masashi Ikegami, **Tzu-Chien Wei**, Tsutomu Miyasaka. "Stable and Efficient Perovskite Solar Cells Fabricated using Aqueous Lead Nitrate Precursor: Interpretation of the Conversion Mechanism and Renovation of the Sequential Deposition" ***Materials Today Energy***, 2019, 14, 100125. (New journal)

2018

20. Mulu Berhe Desta, Nguyễn Sơn Vinh, CH. Pavan Kumar, Sumit Chaurasia, Wei-Ti Wu, Jiann T. Lin, **Tzu-Chien Wei** and Eric Wei-Guang Diau, "Pyrazine-incorporating panchromatic sensitizers for dye sensitized solar cells under one sun and dim light", ***Journal of Materials Chemistry A***, 2018,6, 13778-13789. (IF = 10.733, Rank = 6/103).

21. Krishnan Shanmugam Anurathaa, Hsiao-Shan Peng, Yaoming Xiao, Tzu-Sen Su, **Tzu-Chien Wei**, Jeng-Yu Lin "Electrodeposition of Nanostructured TiO2 Thin Film as an Efficient Bifunctional Layer for Perovskite Solar Cells" ***Electrochimica Acta,*** 2018,295, 662-667. (IF = 5.383, Rank = 5/26).

22. Kamani Sudhir K. Reddy, Yu-Chieh Liu, Hsien-Hsin Chou, Kannankutty Kala, **Tzu-Chien Wei**, and Chen-Yu Ye. "Synthesis and Characterization of Novel β-Bis(N,N-diarylamino)-Substituted Porphyrin for Dye-Sensitized Solar Cells under 1 sun and Dim Light Conditions" ***ACS Applied Materials & Interfaces***, 2018,10 (46), 39970–39982. (IF = 8.456, Rank = 27/293).

23. Wei-Yen Wang, Kannankutty Kala, **Tzu-Chien Wei**, "Solvent Dependent Adhesion Strength of Electroless Deposited Ni–P Layer on an Amino-Terminated Silane Compound-Modified Si Wafer" ***Langmuir***, 2018,34(45), 13597-13602. (IF = 3.683, Rank = 76/293).

24. Tzu-Sen Su, Yao-Shan Wu, Yung-Liang Tung, **Tzu-Chien Wei**, "One-pot Electrodeposition of Compact Layer and Mesoporous Scaffold for Perovskite Solar Cells" ***ACS Applied Energy Materials***, 2018,1, 2429-2433. (New journal)

25. Tzu-Sen Su, Tsung-Yu Hsieh**, Tzu-Chien Wei**, "Electrodeposited TiO2 Film with Mossy Nanostructure for Efficient Compact Layer in Scaffold Type Perovskite Solar Cell" ***Solar RRL***, 2018, 2, 1700120. (New journal)

2017

26. Hsien-Hsin Chou, Yu-Chieh Liu, Guanjie Fang, Qiao-Kai Cao, **Tzu-Chien Wei**, Chen-Yu Yeh. "Structurally Simple and Easily Accessible Perylenes for Dye-sensitized Solar Cells Applicable to Both One Sun and Dim-light Environments" ***ACS Applied Materials & Interfaces***, 2017, 9, 37786–37796. (IF = 8.456, Rank = 27/293).

27. Chin-Wei Hsu, Wei-Yen Wang, Kuan-Ting Wang, Hou-An Chen, **Tzu-Chien Wei**, "Manipulating the Adhesion of Electroless Nickel-phosphorus Film on Silicon Wafers by Silane Compound Modification and Rapid Thermal Annealing" ***Scientific Reports***, 2017, 7, 9656. (IF = 4.011, Rank = 15/69).

28. Yang Wang, Tzu-Sen Su, Han-Yan Tsai, **Tzu-Chien Wei**, Yun Chi. "Spiro-Phenylpyrazole/Fluorene as Hole-Transporting Material for Perovskite Solar Cells" ***Scientific Reports***, 2017, 7, 7859. (IF = 4.011, Rank = 15/69).

29. Ssu-Yu Lin, Tzu-Sen Su, Tsung-Yu Hsieh, Pei-Chia Lo and **Tzu-Chien Wei**, "Efficient Plastic Perovskite Solar Cell with a Low-Temperature Processable Electrodeposited TiO2 Compact Layer and a Brookite TiO_2 Scaffold" ***Advanced Energy Materials***, 2017, 7, 1700169. (IF = 24.884, Rank = 3/148).

30. Yogesh S. Tingare, Nguyễn Sơn Vinh, Hsien-Hsin Chou, Yu-Chieh Liu, Yean San Long, Teng-Chun Wu, **Tzu-Chien Wei**, Chen-Yu Yeh. "New Acetylene-bridged 9,10-conjugated Anthracene Sensitizers: Application in Outdoor and Indoor Dye-sensitized Solar Cells" ***Advanced Energy Materials***, 2017, 1700032. (IF = 24.884, Rank = 3/148).

31. Tsung-Yu Hsieh, Chi-Kai Huang, Tzu-Sen Su, Cheng-You Hong, **Tzu-Chien Wei**, "Crystal Growth and Dissolution of Methylammonium Lead Iodide Perovskite in Sequential Deposition: Correlation between Morphology Evolution and Photovoltaic Performance" ***ACS Applied Materials & Interfaces,*** 2017,9 (10), 8623–8633. (IF = 8.456, Rank = 27/293).

32. Yu-Chieh Liu, Peng Zhai, Man-Ning Lu, Chih-Chi Lee, Kamani Sudhir K. Reddy, Yogesh Tingare, Chen-Yu Yeh and **Tzu-Chien Wei**, "Platinum-Free Counter Electrode Using Polymer-Capped Graphene Nanoplatelets for Cobalt(II)/(III)-Mediated Porphyrin-Sensitized Solar Cells" ***Energy Technology***, 2017,5, 756. (IF = 3.163, Rank = 49/103)

(2) 共同作者期刊論文 Co-authored SCI Journal Papers

2019

1. Thu Anh Pham Phan, Nghi Phuong Nguyen, Le Thi Nguyen, Phu Hoang Nguyen, Tien Khoa Le, Tuan Van Huynh, Torben Lund, De-Hao Tsai, **Tzu-Chien Wei**, Phuong Tuyet Nguyen, "Direct experimental evidence for the adsorption of 4-tert-butylpyridine and 2,2-bipyridine on TiO2 surface and their influence on dye-sensitized solar cells performance", ***Applied Surface Science***, 2019, 144878, (IF = 5.155, Rank = 1/20).

2. Phuong Tuyet Nguyen, Thuy-Duy Thi Nguyen, Vinh Son Nguyen, Diem Thi-Xuan Dang, Hung Minh Le, **Tzu-Chien Wei**, Phuong Hoang Tran, "Application of deep eutectic solvent from phenol and choline chloride in electrolyte to improve stability performance in dye-sensitized solar cells", ***Journal of Molecular Liquids***, 2019,277, 157-162. (IF = 4.561, Rank = 7/36).

3. Chiang, TH., Chen, CH., **Tzu-Chien Wei**, "Characterization of UV-curable adhesives containing acrylate monomers and fluorosurfactant and their performance in dye-sensitized solar cells in long-term thermal stability tests". ***J Appl Polym Sci***, 2019,136, 47948. (IF = 2.188, Rank = 35/87).

2018

4. Chih-Wen Chang, Zai-Wen Kwang, Tsung-Yu Hsieh, **Tzu-Chien Wei**, Shih-Yuan Lu. "High Performance Perovskite Solar Cells Fabricated from Porous PbI2-xBrx Prepared with Mixture Solvent Pore Generation Treatment" ***Electrochimica Acta***, 2018,292(1), 399-406. (IF = 5.383, Rank = 5/26)

5. Yu-Ze Chen, Yen-Ting You, Pin-Jung Chen, Dapan Li, Teng-Yu Su, Ling Lee, Yu-Chuan Shih, Chia-Wei Chen, Ching-Chen Chang, Yi-Chung Wang, Cheng-You Hong, **Tzu-Chien Wei**, Johnny C. Ho, Kung-Hwa Wei, Chang-Hong Shen, and Yu-Lun Chueh. "Environmentally and Mechanically Stable Selenium 1D/2D Hybrid Structures for Broad-Range Photoresponse from Ultraviolet to Infrared Wavelengths" ***ACS Applied Materials & Interfaces***, 2018,10 (41), 35477–35486. (IF = 8.456, Rank = 27/293)

6. Zai-Wen Kwang, Chih-Wen Chang, Tsung-Yu Hsieh, **Tzu-Chien Wei**, Shih-Yuan Lu. "Solvent-Modulated Reaction between Mesoporous PbI_2 Film and CH_3NH_3I for Enhancement of Photovoltaic Performances of Perovskite Solar Cells" ***Electrochimica Acta***, 2018, 266, 118-129. (IF = 5.383, Rank = 5/26).

2017

7. Chia-Yuan Chen, Zih-Hong Jian, Shih-Han Huang†, Kun-Mu Lee, Ming-Hsuan Kao, Chang-Hong Shen, Jia-Min Shieh, Chin-Li Wang, Chiung-Wen Chang, Bo-Zhi Lin, Ching-Yao Lin, Ting-Kuang Chang, Yun Chi, Cheng-Yu Chi, Wei-Ting Wang, Yian Tai, Ming-De Lu, Yung-Liang Tung, Po-Ting Chou, Wen-Ti Wu, Tahsin J. Chow, Peter Chen , Xiang-Hao Luo, Yuh-Lang Lee, Chih-Chung Wu, Chih-Ming Chen, Chen-Yu Yeh, Miao-Syuan Fan, Jia-De Peng, Kuo-Chuan Ho, Yu-Nan Liu, Hsiao-Yi Lee, Chien-Yu Chen, Hao-Wu Lin, Chia-Te Yen, Yu-Ching Huang, Cheng-Si Tsao, Yu-Chien Ting, **Tzu-Chien Wei** and Chun-Guey Wu "Performance Characterization of Dye-Sensitized Photovoltaics Under Indoor Lighting" ***J. Phys. Chem. Lett.***, 2017,8 (8), 1824–1830. (IF = 7.329, Rank = 4/36).

8. Ren-Hao Guo, Ching-Fang Liu, **Tzu-Chien Wei** and Chi-Chang Hu. "Electrochemical behavior of CO2 reduction on palladium nanoparticles: Dependence of adsorbed CO on electrode potential". ***Electrochem. Commun***, 2017, 80, 24-28. (IF = 4.197, Rank = 7/26).

B. 專利 (近五年所獲得之專利)

請填入近五年所獲得之專利。「類別」請填入代碼：(A)發明專利(B)新型專利(C)新式樣專利。

類別	專利名稱	國別	專利號碼	發明人	專利權人	專利期間
A	擴散阻障結構、導電疊層及其製法	中華民國	I669209	**衛子健** / 王偉彥	國立清華大學	2019/8/21-2038/9/27
A	扩散阻障结构、导电迭层及其制法	中國大陸	CN110970393B	**衛子健** / 王偉彥	衛子健	2021/7/6-2038/9/28
A	SELF-ADSORBED CATALYST COMPOSITION, METHOD FOR PREPARING THE SAME AND METHOD FOR MANUFACTURING ELECTROLESS PLATING SUBSTRATE	美國	10828624	**衛子健** / 高育祥	國立清華大學	2020/11/10-2039/1/5
A	自吸附觸媒組成物、自吸附觸媒組成物的製造方法以及無電鍍基板的製造方法	中華民國	I672175	**衛子健** / 高育祥	國立清華大學	2019/9/21-2037/10/19
A	METHOD FOR PREPARING PEROVSKITE CRYSTAL	美國	10883193	**衛子健** / 鄧克頎	國立清華大學	2021/1/5-2038/6/16
A	鈣鈦礦晶體的製備方法	中華民國	I630293	**衛子健** / 鄧克頎	國立清華大學	2018/7/21-2037/5/18
A	钙钛矿晶体的制备方法	中國大陸	CN108950689B	**衛子健** / 鄧克頎	衛子健	2020/12/4-2037/5/19
A	使用高附著性觸媒的無矽烷無電鍍金屬沉積方法及其生成物	中華民國	I608124	許晉偉 / 王偉彥 / **衛子健**	國立清華大學	2017/12/11-2036/9/11

類別	專利名稱	國別	專利號碼	發明人	專利權人	專利期間
A	SUBSTRATE SURFACE METALLIZATION METHOD AND SUBSTRATE HAVING METALLIZED SURFACE MANUFACTURED BY THE SAME	美國	9875984	**衛子健** / 陳志銘 / 潘贈傑 / 賴奎璋 / 吳中瀚 / 陳奎伯 / 歐乃天 / 洪承佑	國立清華大學	2018/1/23-2035/12/3
A	SUBSTRATE SURFACE METALLIZATION METHOD AND SUBSTRATE HAVING METALLIZED SURFACE MANUFACTURED BY THE SAME	美國	9514965	**衛子健** / 陳志銘 / 潘贈傑 / 賴奎璋 / 吳中瀚 / 陳奎伯 / 歐乃天 / 黃桂武	國立清華大學	2016/12/6-2035/12/3
A	金屬化基板表面的方法及具有金屬化表面的基板	中華民國	I540222	**衛子健** / 陳志銘 / 潘贈傑 / 賴奎璋 / 吳中瀚 / 陳奎伯 / 歐乃天 / 黃桂武	國立清華大學	2016/7/1-2034/12/4

Publications of David Shan Hill Wong (汪上曉)

A. Books Chapters (* Corresponding author)

2017

1. Chen MT, **Wong DSH**, & Tan CS: The Challenge of Reducing the Size of an Absorber Using a Rotating Packed Bed. Process Systems and Materials for CO_2 Capture: Modelling, Design, Control and Integration, 399.
2. **Wong DSH**, & Jang SS (2017). Plantwide Design and Operation of CO_2 Capture Using Chemical Absorption. Process Systems and Materials for CO_2 Capture: Modelling, Design, Control and Integration, 427.

B. Journal Papers (* Corresponding author)

2021

1. Wang ZJ, Zheng Y*, **Wong DSH**, Wang Y, Yang WD: Stationary Mapping based Generalized Monitoring Scheme for Industrial Processes with Mixed Operational Stages. IEEE Transactions on Instrumentation and Measurement, in press.
2. Kang JL, Chen CJ, Wu CH, **Wong DSH***, Jang SS, Tan CS: Dynamic modeling of the absorption of acetic acid in rotating packed bed. Journal of the Taiwan Institute of Chemical Engineers, in press.
3. Liu JL*, **Wong DSH**, Chen DS: Energy-saving performance of the process modifications for carbon capture by diluted aqueous ammonia. Journal of the Taiwan Institute of Chemical Engineers, in press.
4. Chen ZH, Zhang T, Zheng Y*, **Wong DSH**, Deng ZH: Fully Decoupled Control of the Machine Directional Register in Roll-to-Roll Printing System. IEEE Transactions on Industrial Electronics, 68(10), 10007-10018 (2021).
5. Cuia CT*, Zhang XD, Lyu H, Wang SJ, Sun JS, Qu YP, Wu WC, Bo CM, **Wong DSH**, Zhang QL: Process intensification in ternary distillation via comparative grassroots and retrofit designs: A case study of distilling an industrial multicomponent C6 alkane mixture in caprolactam processing. Chemical Engineering and Processing- Process Intensification, 164, 108423-108444 (2021).

6. Nguyen HLQ, **Wong DSH***: Integration of rich and lean vapor recompression configurations for aqueous ammonia-based CO_2 capture process. Chemical Engineering Research and Design, 169, 86-96 (2021).

7. Yang XY, **Wong DSH**, Zheng Y*, Zhang Y, Yang W, Kang JL*: A universal LPC health monitoring method for rolling element bearings with ADSCI feature. Measurement, 176, 108969 (2021).

8. Hsiao YD, Kang JL*, **Wong DSH***: Development of Robust and Physically Interpretable Soft Sensor for Industrial Distillation Column Using Transfer Learning with Small Datasets. Processes, 9(4), 667-678 (2021).

9. Yu CH, Lin YJ, **Wong DSH**, Bruno JC, Chen CC*: Modeling fluid phase equilibria of carbon dioxidemethanol binary system. Fluid Phase Equilibria, 529, 112866-112874 (2021).

10. Kang JL*, Wang CC, **Wong DSH***, Jang SS, Wang CH: Digital twin model and dynamic operation for a plant-scale solid oxide fuel cell system. Journal of the Taiwan Institute of Chemical Engineers, 118, 60-67 (2021).

11. Chang JJ, **Wong DSH***, Huang CH, Kang JL, Hsu HH, Lin ST: Towards a universal digital chemical space for pure component properties prediction. Fluid Phase Equilibria , 527(1), 112829-112838 (2021).

12. Wang WH, Huang CW, Tsou EY, Ao-Ieong WS, Hsu HC, **Wong DSH**, Wang Jane*: Characterization of degradation behavior of poly(glycerol maleate) films in various aqueous environments. Polymer Degradation and Stability, 183, 109441-109448 (2021).

2020

13. Wang ZJ, Zheng Y*, **Wong DSH***: Trajectory based operation monitoring of transition procedure in multimode process. Journal of Process Control, 96, 67-81.

14. Zheng Y, Liu L*, Zhou W, Yang WD, **Wong DSH**: Between-class difference analysis based multidimensional RBC for multivariate fault isolation of industrial processes. Journal of the Taiwan Institute of Chemical Engineers, 115, 1-12 (2020).

15. Liu JL*, **Wong DSH**, Chen DS: Energy-saving performance of advanced stripper configurations for CO_2 capture by ammonia based solvents. Journal of the Taiwan Institute of Chemical Engineers, 113, 273-284 (2020).

16. Huang SH, Kang JL*, **Wong DSH**, Jang SS*, Lin CA: Particle-Scavenging prediction in sieve plate scrubber via dimension reduction in computational fluid dynamics. Chemical Engineering Research and Design, 160, 540-550 (2020).

17. Kang JL*, Liu KT, **Wong DSH**, Jang SS, Tsai DH: Multi-Scale Modeling and Study of Aerosol Growth in an Amine-based CO_2 Capture Absorber. Environments, 7(8), 58-72 (2020).

18. Tseng ST*, Yao YC, **Wong DSH**: The effects of model misspecification on shelf-life prediction of nano-sols under pH acceleration. Quality Technology & Quantitative Management, 17(4), 383-398 (2020).

19. Chiang HL, Chen YS, Sun YA, **Wong DSH**, Tsai DH*: Aerosol Spray Controlled Synthesis of Nano catalyst using Differential Mobility Analysis coupled to Fourier-Transform Infrared Spectroscopy. Industrial & Engineering Chemistry Research, 59(24), 11187-11195 (2020).

20. Chou CH, Wu HB, Kang JL*, **Wong DSH**, Yao Y, Chuang YC, Jang SS, Ou J DY: Physically Consistent Soft-Sensor Development Using Sequence-to-Sequence Neural Networks. IEEE Transactions on Industrial Informatics, 16(4), 2829-2838 (2020).

21. Wang SJ*, Lu CY, Huang SH, **Wong DSH**: Reactive vapor-recompression distillation for green hexamethylene-1,6-dicarbamate synthesis. Chemical Engineering and Processing Process Intensification, 149, 107827-107836 (2020).

2019

22. Nguyen HLQ, **Wong DSH***: Eliminating Steam Requirement of Aqueous Ammonia Capture Process by Lean Solution Flash and Vapor Recompression. Process Integration and Optimization for Sustainability, 3(3), 307-319 (2019).

23. Chen YH, **Wong DSH**, Chen YC, Chang CM and Chang S*: Design and Performance Comparison of Methanol Production Processes with Carbon Dioxide Utilization. Energies, 12(22), 4322-4339(2019).

24. Zambare AS, Ou JDY, **Wong DSH**, Yao CW and Jang SS*: Controlling the product selectivity in the conversion of methanol to the feedstock for phenol production. RSC Advances, 9, 23864-23875 (2019).

25. Chang JJ, Kang JL, **Wong DSH***, Chou CH, Hsu HH, Huang CH, Lin ST: Machine Learning of Molecular Classification and Quantum Mechanical Calculations. Computer Aided Chemical Engineering, 46, 787-792 (2019).

26. Kang JL, Ciou YC, Lin DY, **Wong DSH***, Jang SS: Investigation of hydrodynamic behavior in random packing using CFD simulation. Chemical Engineering Research and Design, 147, 43-54 (2019).

27. Chen ZH, Zheng Y*, Zhang T, **Wong DSH**, Deng ZH: Modeling and Register Control of the Speed-Up Phase in Roll-to-Roll Printing Systems. IEEE Transactions on Automation Science and Engineering, 16(3), 1438-1449 (2019).

28. Liu Y, Hseu BF, Gao ZL, **Wong DSH**, Yao Y*: Dynamic Profile Monitoring for Flooding Prognosis in Packed Columns. Chemical Engineering Technology, 42(6), 1232-1239 (2019).

29. Wang HY, Pan HTH*, **Wong DSH** and Tan F: An Extended State Observer-Based Run to Run Control for Semiconductor Manufacturing Processes. IEEE Transactions on Semiconductor Manufacturing, 32(2), 154-162 (2019).

30. Hsu CM, Wang SJ*, Chen YT, **Wong DSH**: Novel separation process design for non-phosgene dimethylhexane-1,6-dicarbamate synthesis by reacting dimethyl carbonate with 1,6-hexanediamine. Journal of the Taiwan Institute of Chemical Engineers, 97, 54-65 (2019).

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31. Chen Z, Zheng Y*, Zhang T, **Wong DSH**, Deng ZH: Modeling and Register Control of the Speed-Up Phase in Roll-to-Roll Printing Systems. IEEE Transactions on Automation Science and Engineering, 16(3), 1438-1449 (2018).

32. Chuang YC, Chen T, Yao Y, **Wong DSH***: Transfer learning for efficient meta-modeling of process simulations. Chemical Engineering Research & Design, 138, 546-553 (2018).

33. Kang JL*, Ciou YC, Lin DY, Cheng CH, **Wong DSH**, Jang SS: Hydrodynamic Behavior of Helical Rings Random Packing Using CFD Simulation. Computer Aided Chemical Engineering, 44, 817-822 (2018).

34. Shi L, Wang SJ*, **Wong DSH***, Huang KJ, Lee EK, Jang SS: Plant-wide process design of producing dimethyl carbonate by indirect alcoholysis of urea. Computer Aided Chemical Engineering 44, 115-120 (2018).

35. Wang SJ*, **Wong DSH***, Lim IJQ, Chen YT, Huang CC: Design and Control of a Novel Plant-Wide Process for Epichlorohydrin Synthesis by Reacting Allyl Chloride with Hydrogen Peroxide. Industrial Research & Engineering Chemistry, 57(20), 6926-6936 (2018).

2017

36. Shi L, Wang SJ*, **Wong DSH**, Huang KJ*: Novel Process Design of Synthesizing Propylene Carbonate for Dimethyl Carbonate Production by Indirect Alcoholysis of Urea. Industrial & Engineering Chemistry Research, 56 (40), 11531-11544 (2017).

37. Kajero OT, Thorpe RB, Yao Y, **Wong DSH**, & Chen T*: Meta-model based calibration and sensitivity studies of CFD simulation of jet pumps. Chemical Engineering & Technology, 40(9), 1674–1684 (2017).

38. Wang SJ*, **Wong DSH**, Jang SS, & Huang SH: Novel plant-wide process design for producing dichlorohydrin by glycerol hydrochlorination. Journal of the Taiwan Institute of Chemical Engineers, 73: 50-61 (2017).

39. Yao YC, Tseng ST*, & **Wong DSH**: Shelf-Life Prediction of Nano-Sol via pH Acceleration. Journal of Quality Technology, 49(1), 46-63 (2017).

40. Sun K, Huang SH, **Wong DSH**, & Jang SS*: Design and application of a variable selection method for multilayer perceptron neural network with LASSO. IEEE transactions on neural networks and learning systems, 28(6), 1386-1396 (2017).

41. Chen SW*, Chu AH, & **Wong DSH**: Interfacial reactions at the joints of CoSb 3-based thermoelectric devices. Journal of Alloys and Compounds, 699, 448-454 (2017).

42. Chamchan N, Chang JY, Hsu HC, Kang JL, **Wong DSH***, Jang SS, & Shen JF: Comparison of rotating packed bed and packed bed absorber in pilot plant and model simulation for CO_2 capture. Journal of the Taiwan Institute of Chemical Engineers, 73, 20-26 (2017).

43. Shi L, Wang SJ*, **Wong DSH**, & Huang K*: Novel Process Design of Synthesizing Propylene Carbonate for Dimethyl Carbonate Production by Indirect Alcoholysis of Urea. Industrial & Engineering Chemistry Research, 56(40), 11531-11544 (2017).

44. Kajer, OT, Chen T, Yao Y, Chuang YC, & **Wong DSH***: Meta-modelling in chemical process system engineering. Journal of the Taiwan Institute of Chemical Engineers, 73, 135-145 (2017).

45. Liu JL*, **Wong DSH**, Jang SS, & Shen JF: Energy-saving design for regeneration process in large-scale CO_2 capture using aqueous ammonia. Journal of the Taiwan Institute of Chemical Engineers, 73, 12-19 (2017).

C. Conference Presentations

2021

1. 戴瑋德, 江振峯, **汪上曉***, 姚遠, 鄭西顯, 莊曜禎, 區迪頤: Comparison of Different Forms of Sequence-to-Sequence Models Obtained by Training with Open-Loop Operation data of a Vapor Recompression Distillation Tower. Symposium on Thermodynamics and Process Systems Engineering, May 14-15, 2021, Nanto, Taiwan.

2. 張博勛, **汪上曉***, 鄭西顯: Using 2-Furoic Acid as a Raw Material to Produce High Values 2,5-Furandicarboylic Acid. Symposium on Thermodynamics and Process Systems Engineering, May 14-15, 2021, Nanto, Taiwan.

3. 陳靜蓉, **汪上曉***, 鄭西顯, 康嘉麟: Experiment and Modeling of the Absorption of Acetic Acid in Rotating Packed Bed. Symposium on Thermodynamics and Process Systems Engineering, May 14-15, 2021, Nanto, Taiwan.

2020

4. Frias JM, Wang SJ*, **Wong DSH**, Chou CH, Jang SS, Lee EK: Floating Pressure Control of Vapor Recompression Distillation in Propane Propylene Separation. The 30th European Symposium on Computer Aided Process Engineering (ESCAPE 30, Virtual Symposium), August 31- September 2, 2020, Milano, Italy.

5. Wang SJ*, **Wong DSH**, Chen YZ, Lee EK: Intensified Green Process for Synthesizing Non-phosgene Hexamethylene-1,6-dicarbamate. The 30th European Symposium on Computer Aided Process Engineering (ESCAPE30), Virtual Symposium, August 31- September 2, 2020, Milano, Italy.

6. Kang JL*, Wang CC, Chang PH, **Wong DSH**, Jang SS, Wang CH: Modeling of The Solid Oxide Fuel Cell Considering H_2 and CO Electrochemical Reactions. The 30th European Symposium on Computer Aided Process Engineering (ESCAPE30), Virtual Symposium, August 31- September 2, 2020, Milano, Italy.

2019

7. Chou CH, Kang JL, Wu HB, **Wong DSH***, Chuang YC, Yao Y, Ou JDY, Jang SS: Soft-sensor Development Using Sequence to Sequence Conversation Models. 18th Asian Pacific Confederation of Chemical Engineering Congress (APCChE 2019), Sapporo, Japan.

8. Hsu CM, Wang SS*, **Wong DSH**, Lee EK: Heat-integrated process design for green hexamethylene-1,6-dicarbamate synthesis. 18th Asian Pacific Confederation of Chemical Engineering Congress (APCChE 2019), Sapporo, Japan.

9. Chang JJ, **Wong DSH***, Chou CH, Kang JL, Hsu HH, Huang CH, Lin ST: Machine Learning of Molecular Classification and Quantum Mechanical Calculations. 18th Asian Pacific Confederation of Chemical Engineering Congress (APCChE 2019), Sapporo, Japan.

10. Chang JJ, Kang JL, **Wong DSH***, Chou CH, Hsu HH, Huang CH and Lin ST: Machine Learning of Correlation Between Molecular Structure and Solvation Characteristics. Foundations of Process Analytics and Machine learning (2019 FOPAM), Raleigh, NC, USA.

11. Hsiao YD, Chou CH, Wu HB, Kang JL, **Wong DSH***, Yao Y, Chuang YC, Jang SS and Ou JDY: Physically Consistent Data-Driven Soft-Sensor Development. Foundations of Process Analytics and Machine learning (2019 FOPAM), Raleigh, NC, USA.

12. **Wong DSH***, Kang JL, Chang JJ, Chou CH, Hsu HH, Huang CH and Lin ST: Machine Learning of Molecular Classification and Quantum Mechanical Calculations. 29th European Symposium on Computer Aided Process Engineering ESCAPE-29), Eindhoven, The Netherlands.

13. Shieh SS*, Jang SS and **Wong DSH**: Development of Guidelines for Optimal Operation of A Cogeneration System. 29th European Symposium on Computer Aided Process Engineering (ESCAPE-29), Eindhoven, The Netherlands.

14. Chou CH, Kang JL*, Nabera A, **Wong DSH***, Jang SS: Development of Nonparametric Dynamic Model with Generalization Capability Using Deep learning. The 8th International Symposium on Design, Operation, and Control of Chemical Processes (PSE ASIA 2019), Thailand, Bangkok.

15. Hsu CM, Wong SJ*, Chen YT, **Wong DSH**, Lee EK, Jang SS: Design of Non-Phosgene Dimethylhexane-1,6-Dicarbamate Synthesis Process Using Dimethyl Carbonate. The 8th International Symposium on Design, Operation, and Control of Chemical Processes (PSE ASIA 2019), Thailand, Bangkok.

2018

16. Cheng CH, Kang JL, Tsai DH, **Wong DSH***, Lee EK, Jang SS: Comparison of MEA Slip in Capturing Carbon Dioxide by Rotating Packed Bed and Packed Bed. 6th International Symposium on Processes Intensification, Taipei, ROC.

17. **Wong DSH***: Big data, artificial intelligence, and smart manufacturing, lessons learned from semiconductor manufacturing and perspective from chemical process industry. 25th Regional symposium on chemical engineering (RSCE 2018), Manila, Philippine.

18. Cheng YH, **Wong DSH***, Lee EK: Microwave Enhancement of Direct Epoxidation of Bisphenol A Diallyl Ether (BADAE) Into Bisphenol A DiGlycidyl Ether (BADGE). 6th International Symposium on Processes Intensification, Taipei. ROC.

19. Cheng CH, Kang JL, Tsai DH, **Wong DSH***, Jang SS, Tan CS: Effect of Aerosol on MEA Slip in Capturing Carbon Dioxide. 2018 AIChE Annual meeting, Pittsburgh, PA, US.

20. Nguyen HLQ, **Wong DSH***: Techno-Economic Assessment of CO_2 and SOx Capture Process By Dilute Aqueous Ammonia. 2018 AIChE Annual Meeting, Pittsburgh, PA, US.

21. Kang JL*, Ciou YC, Lin DY, Cheng CH, **Wong DSH** , Jang SS: Hydrodynamic Behaviour of Helical Rings Random Packing Using CFD Simulation. Process Systems Engineering, PSE 2018, San Diego, US.

22. Shi L, Wang SJ*, **Wong DSH**, Huang KJ, Lee EK, Jang SS: Plant-wide Process Design of Producing Dimethyl Carbonate by Indirect Alcoholysis of Urea. Process Systems Engineering (PSE 2018), San Diego, US.

23. Wang SJ*, **Wong DSH**, Lee EK: Design and Control of a Reactive Distillation Process for Synthesizing Propylene Carbonate from Indirect Alcoholysis of Urea. 10th IFAC Symposium on Advanced Control of Chemical Processes, Shenyang, China.

2017

24. Kang JL, Huang SH, Liu GT, **Wong DSH*,** Jang SS: Modeling Amine Aerosol Growth in CO_2 Capture Absorption Process. In Computer Aided Chemical Engineering. 27th European Symposium on Computer-Aided Process Engineering (ESCAPE), Barcelona, Spain.

25. Huang CC, Wang SJ*, **Wong DSH**: Design and control of a plant-wide process for the production of epichlorohydrin. 6th International Symposium on Advanced Control of Industrial Processes (AdCONIP), Taipei, Taiwan.

26. Huang CC, Wang SJ*, **Wong DSH**: Plant-wide design and control of an epichlorohydrin synthesis process by reacting allyl chloride and hydrogen peroxide. 27th European Symposium on Computer-Aided Process Engineering (ESCAPE), Barcelona, Spain.

27. Kang JL, Chen WF, **Wong DSH*,** Jang SS: Evaluation of gas-liquid contact area and liquid holdup of random packing using CFD simulation. 6th International Symposium on Advanced Control of Industrial Processes (AdCONIP), Taipei, Taiwan.

28. Kang JL, Chen WF, Ciou YC, **Wong DSH**, Jang, SS: Investigation of Hydrodynamic Behaviour in random packing using CFD simulation. 27th European Symposium on Computer-Aided Process Engineering (ESCAPE), Barcelona, Spain.

D. Patents

以氨水進行二氧化碳捕捉後再生氨水之方法及以氨水進行二氧化碳捕捉之方法	中華民國/中華人民共和國/美國	I 695734/ 201910378135.4/ 16/676797	霍安、**汪上曉**	2020/4
二氧化碳捕捉系統與方法	中華民國	I 626080	霍安、**汪上曉**、鄭西顯	2018/6
以氯丙烯與雙氧水反應生產環氧氯丙烷的製造裝置及製造方法	中華民國	I 622584	王聖潔、黃建智、李恩各、**汪上曉**、鄭西顯	2018/5

聚氨酯樹脂的製備方法	中華民國/中華人民共和國/美國	I 663188/ 201710805574.X/ 15/798401	**汪上曉**、陳幹男、楊秉霖、杜安邦、李恩各	2019/6
含鹽甘油廢水處理系統與方法	中華民國/中華人民共和國/美國	I 636967/ 201710523679.6/ 10,364,162	莊世晟、鄭西顯、**汪上曉**、王聖潔、李恩各	2018/10
氣體中的目標成分的捕獲裝置與捕獲方法	中華民國	I 614058	**汪上曉**、泰爾馬蒂亞斯、游承修、康嘉麟、鄭西顯	2018/2
碳五產物分離裝置	中華民國	I 572706	**汪上曉**、徐筱靜、區迪頤、王聖潔	2017/3~ 2035/8

E. Others

1. 執行科技部產學大聯盟「前瞻技術產學合作計畫 以再生原料為基礎之新世代綠色化工技術」計畫，成效卓著，獲長春集團頒發特殊貢獻獎 (2019)
2. 化工年會壁報論文競賽優勝(2019)
3. 化工年會壁報論文競賽佳作(2019)
4. Journal of the Taiwan Institute of Chemical Engineers, Deputy Editor
   (2018 IF=3.849, JCR Engineering, Chemical 24/137,Q1)
   台灣化學工程學會會誌副總編輯 (2015~2018)

Publications of Yuan Yao (姚 遠)

A. Book Chapters (* Corresponding author)

2021

1. Ya Wen, **Yuan Yao** (2021). Autism Spectrum Disorders: the mitochondria connection. In: Andreas M. Grabrucker, editor. *Autism Spectrum Disorders*. Brisbane (AU): Exon Publications; 2021. ISBN: 978-0-6450017-8-5.

B. Journal Papers (* Corresponding author)

2021

1. Kaixin Liu, Kai-Lun Huang, Stefano Sfarra, Jianguo Yang, Yi Liu*, **Yuan Yao*** (2021). Factor analysis thermography for defect detection of panel paintings. *Quantitative InfraRed Thermography Journal*, doi: 10.1080/17686733.2021.2019658.

2. Ching-Mei Wen, Stefano Sfarra, Gianfranco Gargiulo, **Yuan Yao*** (2021). Thermographic data analysis for defect detection by imposing spatial connectivity and sparsity constraints in principal component thermography. *IEEE Transactions on Industrial Informatics*, 17(6), 3901-3909.

3. Hongying Deng, Keyun Yang, Yi Liu*, Shengchang Zhang, **Yuan Yao*** (2021). Actively exploring informative data for smart modeling of industrial multiphase flow processes. *IEEE Transactions on Industrial Informatics*, 17(12), 8357-8366.

4. Kaiyi Zheng, **Yuan Yao*** (2021). Automatic three-dimensional reconstruction of subsurface defects by segmenting ultrasonic point cloud. *Journal of the Taiwan Institute of Chemical Engineers*, 120, 24-32.

5. Jian-Guo Wang, Hui-Min Shao, **Yuan Yao***, Jian-Long Liu, Shi-Wei Ma (2021). A personalized feature extraction and classification method for motor imagery recognition. *Mobile Networks and Applications*, 26, 1359–1371.

6. Kai-Lun Huang, Stefano Sfarra, Ching-Mei Wen, **Yuan Yao***, Chunhui Zhao (2021). Exploratory factor analysis for defect identification with active thermography. *Measurement Science and Technology*, 32(4), 114010.

7. Kaixin Liu, Yuwei Tang, Weiyao Lou, Yi Liu*, Jianguo Yang, **Yuan Yao*** (2021). A thermographic data augmentation and signal separation method for defect detection. *Measurement Science and Technology*, 32(4), 045410.

8. Katherine Tu, Clemente Ibarra-Castanedo, Stefano Sfarra*, **Yuan Yao***, Xavier P. V. Maldague (2021). Multiscale analysis of solar loading thermographic signals for wall structure inspection. *Sensors*, 21(8), 2806.

9. Kaixin Liu, Zhengyang Ma, Yi Liu*, Jianguo Yang, **Yuan Yao*** (2021). Enhanced defect detection in carbon fiber reinforced polymer composites via generative kernel principal component thermography. *Polymers*, 13(5), 825.

10. Kaixin Liu, Stefano Perilli, Arsenii O. Chulkov, **Yuan Yao**, Mohammed Omar, Vladimir Vavilov, Yi Liu*, Stefano Sfarra* (2021). Defining the thermal features of sub-surface reinforcing fibres in non-polluting thermo–acoustic insulating panels: a numerical–thermographic–segmentation approach. *Infrastructures*, 6(9), 131.

2020

11. Yi Liu, Han-Sheng Chen, Haibin Wu, Yun Dai, **Yuan Yao***, Zhengbing Yan* (2020). Simplified Granger causality map for data-driven root cause diagnosis of process disturbances. *Journal of Process Control*, 95, 45–54.

12. Yi Liu, Chao Yang, Mingtao Zhang, Yun Dai, **Yuan Yao*** (2020). Development of adversarial transfer learning soft sensor for multi-grade processes. *Industrial & Engineering Chemistry Research*, 59(37), 16330-16345.

13. Ching-Mei Wen, Stefano Sfarra, Gianfranco Gargiulo, **Yuan Yao*** (2020). Thermographic data analysis for defect detection by imposing spatial connectivity and sparsity constraints in principal component thermography. *IEEE Transactions on Industrial Informatics*, DOI: 10.1109/TII.2020.3010273.

14. Le Zhou, Yao-Chen Chuang, Shao-Heng Hsu, **Yuan Yao***, Tao Chen* (2020). Prediction and uncertainty propagation for completion time of batch processes based on data-driven modeling. *Industrial & Engineering Chemistry Research*, 59, 14374–14384.

15. Kaixin Liu, Yingjie Li, Jianguo Yang, Yi Liu*, **Yuan Yao*** (2020). Generative principal component thermography for enhanced defect detection and analysis. *IEEE Transactions on Instrumentation and Measurement*, 69(10), 8261-8269.

16. Haibin Wu, Kaiyi Zheng, Stefano Sfarra, Yi Liu, **Yuan Yao*** (2020). Multiview learning for subsurface defect detection in composite products: a challenge on thermographic data analysis. *IEEE Transactions on Industrial Informatics*, 16(9), 5996-6003.

17. Yi Liu, Kaixin Liu, Jianguo Yang, **Yuan Yao*** (2020). Spatial-neighborhood manifold learning for nondestructive testing of defects in polymer composites. *IEEE Transactions on Industrial Informatics*, 16(7), 4639-4649.

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C. Conference Presentations

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D. Patents

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A. Journal Papers (* Corresponding author)

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