1. Personal details

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Nationality: Singaporean
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School Website: Asst Prof Edison Ang Huixiang | Academic Profile | DR-NTU | Research | NTU Singapore;
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Publons
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2. Employment History

Nanyang Technological University of Singapore Jan 2021 to present
Natural Sciences and Science Education
National Institution of Education, Singapore 639798, Singapore
Assistant Professor

- Teaching MLS923 Separation and Analytical Chemistry, AAY40C and MLS924 Materials Chemistry, QSS50C Physical Science for Primary Science, AAY20E Experimental Techniques in Chemistry, MLS921 Critical Inquiry, AAY40B Academic Exercise: Chemistry, QED50P Group Endeavours In Service Learning, URECA NE9015, INS2212 Chemistry Lab Safety Course for Beginning Teachers and AGE08J Chemistry in daily life.
- Starting up own laboratory and doing research related to 2D nanomaterials, nanotechnology education, upcycling waste, 3D printing and applications for bio-sensor, membrane technology, energy storage, and catalysis.

Nanyang Technological University of Singapore Jul 2019 to Jan 2021
Natural Sciences and Science Education
National Institution of Education, Singapore 639798, Singapore
Post-doctoral

- Teaching MLS923 Separation and Analytical Chemistry, AAY40C and MLS924 Materials Chemistry, QSS50C Physical Science for Primary Science, AAY20E Experimental Techniques in Chemistry, and MLS921 Critical Inquiry
- Starting up own laboratory and doing research related to 2D nanomaterials, nanotechnology education, and applications for biosensor, membrane technology, energy storage, and catalysis.

Technical University of Munich Jul 2018 to Aug 2018
Department of Chemistry
Technical University of Munich, 85748 Garching, Munich
Visiting Scholar (for 2 weeks)- Supervisor: Prof Hinrichsen, Kai-Olaf

- Working on collaboration project on computational fluid dynamics and membrane distillation.
  (Supervisor Prof Hinrichsen, Kai-Olaf)
- Discussed work on the materials and application system and learnt to do computational fluid dynamics study on fluidic system.

Nanyang Technological University of Singapore Sep 2017 to Jun 2019
School of Chemical and Biomedical Engineering
Nanyang Technological University, Singapore 637459, Singapore
Research Fellow-Supervisor: Prof Chew Jia Wei

- Synthesis and characterization of two-dimensional (2D) materials for organic solvent nanofiltration
- Characterized 2D nanomaterials with TEM, SEM, AFM, XPS, contact angle, zeta potential and FTIR
- Using dead-end module for separation testing

National University of Singapore Sep 2016 to Sep 2017
Department of Chemical & Biomolecular Engineering
National University of Singapore, Singapore 117585, Singapore
Research Fellow-Supervisor: Prof Hong Liang

- Synthesis and characterization of two-dimensional materials for water purification
- Characterized 2D nanomaterials with TEM, SEM, AFM, XPS, contact angle, zeta potential and FTIR
- Using dead-end and cross-flow modules for separation testing

Nanyang Technological University of Singapore Jan 2013 to Feb 2017
School of Materials Science and Engineering
Nanyang Technological University, Singapore 639977, Singapore
PhD Researcher (PhD Program)-Supervisor: Prof Alex Yan Qingyu

- Rational-design of transition metal-based electrocatalysts for high energy storage devices
- Characterized of nanostructures using TEM, SEM, AFM, XRD, XPS, ^{1}H NMR and ICP-OES
- Worked on application on Li-O_2 batteries, Li-ion batteries, supercapacitors, and water splitting reaction

Nanyang Technological University of Singapore Jan 2013 to Jul 2016
School of Materials Science and Engineering
Nanyang Technological University, Singapore 639977, Singapore
Teaching Assistant

- Laboratory teaching in materials synthesis and characterization
- Developed projects and guided undergraduate students for their final year project

Agency for Science, Technology and Research Jun 2012 to Nov 2012
Institute of Materials Research and Engineering
3, Research Link, Singapore 117602
Student Researcher (Final Year Project)-Supervisor: Prof SUBRAMANIAN Tamil Selvan

- Development of multifunctional nanoparticles for bio-imaging and targeted drug delivery applications
- Synthesized nanocrystals that have fluorescence properties such as quantum dots and upconversion nanoparticles
- Used those nanocrystals for cancer cell testing

Agency for Science, Technology and Research Jun 2006 to Sep 2006
Institute of Chemical and Engineering Sciences
1 Pesek Road, Jurong Island, Singapore 627833

Student Researcher (Industrial Attachment)-Supervisor: Dr Armando Borgna

- Synthesized nano-catalysis and for ethanol reforming and fischer-tropsch processes. Aimed to improve the percentage product conversion at low temperature as to reduce cost in industrial processes
- Characterized the nanomaterials and reaction with TEM, FTIR, BET, XRD, XPS, XRF, GC, HPLC and TPR

3. Education

Nanyang Technological University of Singapore Jan 2013 to Feb 2017
School of Materials Science and Engineering
Nanyang Technological University, Singapore 639977, Singapore
Doctor of Philosophy of Interdisciplinary Graduate School

- Specialized in Nanomaterial Fabrication for Electrocatalysis and Energy Storage

Nanyang Technological University of Singapore Aug 2009 to Feb 2013
School of Physical and Mathematical Sciences
Nanyang Technological University, Singapore 637371, Singapore
Degree of Bachelor of Science in Chemistry and Biological Chemistry

- Concentrated in Materials Chemistry and Analytical Chemistry

Temasek Polytechnic Jul 2004 to Jun 2007
Department of Chemical Engineering
Temasek Polytechnic, Singapore 529757, Singapore
Diploma in Chemical Engineering

- Grade of qualification: cGPA 3.58/4.00

Specialized in Analytical Instrumental Analysis and Current Good Manufacturing Practice

4. Publication list

Total citation 2609; **h-index 23; i10-index 43**, 52/66 publications in **Tier 1** journals. Highest impact factor: **33.250**, highest citation: 301. **6 Patents**.

1. Xin Yao, Xiaohui Song*, Fan Zhang, Jian Ma, Hao Jiang, Lulu Wang, Yongchao Liu, **Edison Huixiang Ang**, and Hongfa Xiang* "Enhancing cellulose-based separator with polyethyleneimine and polyvinylidene fluoride-hexafluoropropylene interpenetrated 3D network for lithium metal batteries" ChemElectroChem, 2022 (Just Accepted). **(Citation: 0; Impact Factor: 4.509)**
2. Xiao-Tong Wang, Zhen-Yi Gu, **Edison Huixiang Ang**, Xin-Xin Zhao, Xing-Long Wu*, and Yichun Liu* "Prospects for Managing End-of-Life Lithium-Ion Batteries: Present and Future" Interdisciplinary Materials, 2022 (Just Accepted).
3. **Edison Huixiang Ang*** "Chemistry of Two-Dimensional Nanomaterials for Energy Storage and Membrane Technology" Video Proceedings of Advanced Materials, 2022, 3, 202203250.
4. Marliyana Aizudin, Ronn Goei, Amanda Jiamin Ong, Yong Zen Tan, Shun Kuang Lua, Rafeeque Poolamuri Pottammel, Hongbo Geng, Xing-Long Wu, Alfred ling Yoong Tok*, and **Edison Huixiang Ang*** "Sustainable Development of Graphitic Carbon Nanosheets from Plastic Wastes with Efficient Photothermal Energy Conversion for Enhanced Solar Evaporation" Journal of Materials Chemistry A, 2022 (Just Accepted). **(Citation: 0; Impact Factor: 12.732)**

5. Kai-Yang Zhang, Zhen-Yi Gu, **Edison Huixiang Ang,** Jin-Zhi Guo, Xiao-Tong Wang, Yinglin Wang*, and Xing-Long Wu* "Advanced Polyanionic Electrode Materials for Potassium-Ion Batteries: Progresses, Challenges and Application Prospects" Materials Today, Q1 2022 (Just Accepted) **(Citation: 0; Impact Factor: 31.041)**
6. Jitao Geng, Zhihua Jin, Wenjing Qian, Marliyana Aizudin, Quan Liu, **Edison Huixiang Ang*** and Hongbo Geng* "Realizing ultra-fast lithium-ion batteries with super long-term cycling performance based on titanium carbide/3D interconnected porous carbon" , ChemNanoMat, Q2, 2022 (Just Accepted) **(Citation: 0; Impact Factor: 3.154)**
7. Jie Cheng, Wenlong Tu, **Edison Huixiang Ang**, Marliyana Aizudin, Fu Yang*, Xinwei Zhou, Dawei Yu, Fanghua Li, Zengjing Guo, and Yiyan Song* "Achieving reinforced broad-spectrum and sustained antimicrobial efficacy by Nickel-doping AlOOH nanoflower accommodated with uniform silver nanospecies" Colloids and Surfaces A: Physicochemical and Engineering Aspects, Q2, 2022, 641, 128488. **(Citation: 0; Impact Factor: 4.539)**
8. Feng Xu, Yanping Zhou, Xingwu Zhai, Hongjian Zhang, Haodong Liu, **Edison Huixiang Ang**, Yufei Lu, Zhentao Nie, Min Zhou, and Jixin Zhu* "Ultrafast universal fabrication of metal-organic complex nanosheets by joule heating engineering" Small Methods, 2021, 6(1), 2101212. **(Citation: 0; Impact Factor: 14.188)**
9. Chenrui Zhang, Jingrui Shang, Huilong Dong, **Edison Huixiang Ang***, Linlin Tai, Marliyana Aizudin, Xuhong Wang*, Hongbo Geng*, and Hongwei Gu* "Modulation of MoS_2 interlayer dynamics by in situ N-doped carbon intercalation for high-rate sodium-ion half/full batteries" Nanoscale, 2021, 13, 18322. **(Citation: 0; Impact Factor: 7.790)**
10. Chunfa Lin, Fengqiang Qi, Huilong Dong, Xiao Li, Chunping Shen, **Edison Ang Huixiang**, Yuqiang Han, Hongbo Geng* and Cheng Chao Li* "Suppressing vanadium dissolution of V_2O_5 via in situ polyethylene glycol intercalation towards ultralong lifetime room/low-temperature zinc-ion batteries" Nanoscale, Q1, 2021, 13, 17040-17048. **(Citation: 0; Impact Factor: 7.790)**
11. Mengting Liu, Wanyu Zhang, Ping Xu, Wenlong Tu, **Edison Ang Huixiang**, Yue Zhang, Jie Cheng, Miao Wang, Rongrong Du, Xia Yang, Fu Yang*, Dawei Yu, Aihua Yuan and Yiyan Song* "Hierarchically structured Ag modified nanosilica constructed by micelle modification tactics delivers integrated catalytic and antibacterial activity" Journal of Alloys and Compounds, Q1, 2021, 892, 162202. **(Citation: 0; Impact Factor: 4.65)**
12. Hai-Yue Yu, Xiao-Tong Wang, Hao-Jie Liang, Zhen-Yi Gu, Ping Nie, Hao-Yu Wang,* Jin-Zhi Guo,* **Edison Huixiang Ang*** and Xing-Long Wu "Waste Utilization of Crab Shell: 3D Hierarchically Porous Carbon Towards High-Performance Na/Li Storage" New Journal of Chemistry, Q2, 2021, 45, 19439-19445. (Citation: 0; Impact Factor 3.285)
13. Kai-Di Du, **Edison Huixiang Ang**, Xing-Long Wu* and Yichun Liu "Progresses in Sustainable Recycling Technology of Spent Lithium-Ion Batteries" Energy & Environmental Materials, Q1, 2021 (Just Accepted). **(Citation: 0; Impact Factor: 15.122)**
14. Yisha Wang, Ruixuan Chen, **Edison Huixiang Ang**, Yan Yan*, Ying Ding, Longwei Ke, Yan Luo, Kun Rui, Huijuan Lin and Jixin Zhu* "Carbonitridation Pyrolysis Synthesis of Prussian Blue Analogue-Derived Carbon Hybrids for Lithium-Ion Batteries" Advanced Sustainable Systems, Q1, 2021, 5(12), 2100223. **(Citation: 0; Impact Factor: 6.434)**
15. Demudu Badu Gorle, Srikanth Ponnada, Maryam Sadat Kiai, Kishore Kumar Nair, Annapurna Nowduri, Hendrik Christoffel Swart, Edison Huixiang Ang and Karuna Kar Nanda "Review on recent progress in metal-organic frameworks-based materials for fabricating electrochemical glucose sensors" Journal of Materials Chemistry B, Q2, 2021, 9, 7927-7954. **(Citation: 0; Impact Factor: 6.788)**

16. Jitao Geng, Shiyu Zhang, **Edison Huixiang Ang**, Jia Guo, Zhihua Jin, Xiao Li, Yafei Cheng*, Huilong Dong* and Hongbo Geng* "Modulating the kinetics of CoSe2 yolk-shell spheres via nitrogen doping with high pseudocapacitance toward ultra-high-rate and high-energy density sodium-ion half/full batteries" Materials Chemistry Frontiers, Q1, (Just Accepted). **(Citation: 0; Impact Factor: 6.788)**
17. Lei Zhang, Huilong Dong, Huaixin Wei, **Edison Huixiang Ang**, Jun Yang*, Xiaowei Miao*, Hongbo Geng* and Xiaobing Zuo "Interface and structure engineering of bimetallic selenides towards high-performance sodium-ion half/full batteries" Journal of Power Sources, Q1, 506, 230216 **(Citation: 0; Impact Factor: 8.247)**
18. Xiao-Tong Wang, Yang Yang, Jin-Zhi Guo, Zhen-Yi Gu, **Edison Huixiang Ang**, Zhong-Hui Sun, Wen-Hao Li, Hao-Jie Liang and Xing-Long Wu "An advanced cathode composite design for co-utilization of cations and anions in lithium batteries" Journal of Materials Science & Technology, Q1, (In press) **(Citation: 0; Impact Factor: 6.155)**
19. Xu Han, **Edison Huixiang Ang**, Chengyan Zhou, Fengyaun Zhu, Xiaoli Zhang, Hongbo Geng, Xueqin Cao, Junwei Zheng and Hongwei Gu "Dual carbon-confined Sb2Se3 nanoparticles with pseudocapacitive properties for high-performance lithium-ion half/full batteries." Dalton Transactions, (In press) **(Citation: 0; Impact Factor: 4.174)**
20. Jianping Yan, **Edison Huixiang Ang**, Yang Yang, Yufei Zhang, Minghui Ye, Wencheng Du, and Cheng Chao Li "High-voltage zinc-ion batteries: design strategies and challenges" Advanced Functional Materials, (In-press)
21. Dong Chen, Weijin Yang, Yu Jiang, **Edison Huixiang Ang**, Yuezhan Feng, Xianhong Rui, and Yan Yu "Fast and reversible Na intercalation in Nsutite-type VO_2 Hierarchitectures" Advanced Materials Interfaces, (Just Accepted) **(Citation: 0; Impact Factor: 4.948)**
22. Qifei Li, Xiangxiang Ye, Yu Jiang, **Edison Huixiang Ang**, Weiling Liu, Yuezhan Feng, Xianhong Rui, Yan Yu "Superior potassium and zinc storage in K-doped VO_2(B) spheres". Materials Chemistry Frontiers, (Just Accepted). **(Citation: 0; Impact Factor: 6.788)**
23. Guang Su, Shufeng Chen, Huilong Dong, Yafei Cheng, Quan Li, Huaixin Wei, **Edison Huixiang Ang**, Hongbo Geng, Chengchao Li* "Tuning the electronic structure of layered vanadium pentoxide by pre-intercalation of potassium ions for superior room/low-temperature aqueous zinc-ion batteries. Nanoscale (Just Accepted). **(Citation: 97; Impact Factor: 7.790)**
24. Song Huang, **Edison Huixiang Ang,** Yang Yang, Yufei Zhang, Minghui Ye, Cheng Chao Li* "Transition metal phosphides: new generation cathode host/separator modifier for Li-S batteries" Journal of Material Chemistry A, 2021,**9**, 7458-7480 **(Citation: ; Impact Factor: 11.301)**
25. Dao-Sheng Liu, Yinglin Mai, Shufeng Chen, Sucheng Liu, **Edison Huixiang Ang,** Minghui Ye, Yang Yang, Yufei Zhang, Hongbo Geng, Cheng Chao Li* "A 1D-3D interconnected δ-MnO_2 nanowires network as high-performance and high energy efficiency cathode material for aqueous zinc-ion batteries" Electrochimica Acta, (Just Accepted). (Citation: 0; **Impact Factor: 6.215**)
26. Haoliang Chen, Siling Cheng, Dong Chen, Yu Jiang, **Edison Huixiang Ang**, Weiling Liu, Yuezhan Feng, Xiangong Rui*, and Yan Yu* "Vanadate-based electrodes for rechargeable batteries" Materials Chemistry Frontiers, (Just Accepted). **(Citation: 0; Impact Factor: 6.788)**
27. Pengfei Zhang, Yaoda Liu, Tingting Liang, **Edison Huixiang Ang**, Xu Zhang, Fei Ma*, Zhengfei Dai* "Nitrogen-doped carbon wrapped Co-Mo_2C dual mott-schottky nanosheets with large porosity for efficient water electrolysis" Applied Catalysis B-Environmental (Just Accepted) **(Citation: 0; Impact Factor: 14.47)**

28. Yufei Zhang, **Edison Huixiang Ang**, Yang Yang, Minghui Ye, Wencheng Du, Chengchao Li* "Interlayer chemistry of layered electrode materials in energy storage devices" Advanced Functional Materials (Just Accepted) **(Citation: 0; Impact Factor: 16.836)**
29. Dan Yang, Dong Chen, Yu Jiang, Edison Huixiang Ang, Yuezhan Feng, Xianhong Rui*, Yan Yu* "Carbon-based materials for all-solid-state zinc-air batteries" Carbon Energy (Just Accepted) (**Impact Factor: NA)**.
30. Yufei Lu, Hongjian Zhang, **Edison Huixiang Ang**, Zhentao Nie, Haodong Liu, Yuhang Du, Congying Han, Jixin Zhu* and Wei Huang* "In-situ self-catalyzed growth of bimetallic nanoparticles/carbon nanotubes: a flexible binder-free electrocatalyst for high-performance oxygen evolution reaction" Materials Today Physics, (Just Accepted) **(Citation: 0; Impact Factor: 10.443)**
31. Yao Zhang, **Edison Huixiang Ang (co-1st author)**, Khang Ngoc Dinh, Kun Rui, Huijuan Lin, Jixin Zhu* and Qingyu Yan* "Recent advances in vanadium-based cathode materials for rechargeable zinc-ion batteries" Materials Chemistry Frontiers, 06/10/2020. **(Citation: 0; Impact Factor: 6.788)**
32. Wencheng Du, **Edison Huixiang Ang**, Yang Yang, Yufei Zhang, Minghui Ye and Chengchao Li* "Challenges in material and structure design of zinc anode toward high-performance aqueous zinc-ion batteries" Energy & Environmental Science, 07/09/2020. **(Citation: 0; Impact Factor: 33.250)**
33. Wenjin Yang, Dong Chen, Maozhu Zeng, Yuqi She, Xuliang Lin, **Edison Huixiang Ang**, Chunshuang Yan, Yanlin Qin* and Xianhong Rui* "Rational design of vanadium chalcogenides for sodium-ion batteries" Journal of Power Sources, 05/09/2020. **(Citation: 0; Impact Factor: 8.247)**
34. Licheng Wei, **Edison Huixiang**, Yang Yang, Yanlin Qin*, Yufei Zhang*, Minghui Ye, Qi Liu and Cheng Chao Li* "Recent advances of transition metal based bifunctional electrocatalysts for rechargeable zinc-air batteries" Journal of Power Sources, 19/08/2020. **(Citation: 1; Impact Factor: 8.247)**
35. Fu Yang*, Liu Zhou, Shuying Gao, Xuyu Wang, Jin Chen*, Aihua Yuan, and **Edison Huixiang Ang*** "Combining two active states of FeO_x in-situ in molecular sieve to deliver enhanced catalytic activity via creating special configuration and synergy" Journal of Alloys and Compounds, 30/6/2020. **(Citation: 0; Impact Factor: 4.65)**
36. Bo Wang, **Edison Huixiang Ang**, Yang Yang, Yufei Zhang, Minghui Ye, Qi Liu and Cheng Chao Li* "Post-Lithium Ion Battery Era: Recent Advances in Rechargeable Potassium-Ion Batteries" Chemistry - A European Journal, 8/6/2020. **(Citation: 0; Impact Factor: 4.857)**
37. Bo Wang, **Edison Huixiang Ang**, Yang Yang, Yufei Zhang, Hongbo Geng, Minghui Ye, and Cheng Chao Li* "Interlayer engineering of molybdenum trioxide towards high-capacity and stable sodium ion half/full batteries" Advanced Functional Materials, 27/5/2020. **(Citation: 4; Impact Factor: 16.836)**
38. **Edison Ang Huixiang***, Jialiu Zeng, Gomathy Sandhya Subramanian, Vijila Chellappan, Thankiah Sudhaharan, Parasuraman Padmanabhan, Balázs Zoltán Gulyás, and Subramanian Tamil Selvan* "Silica-Coated Mn-Doped ZnS Nanocrystals for Cancer Theranostics" ACS Applied Nano Materials, 6/3/2020. **(Citation: 1; Impact Factor: TBA)**
39. Wencheng Du, Jinfei Xiao, Hongbo Geng, Yang Yang, Yufei Zhang, **Edison Huixiang Ang**, Minghui Ye and Cheng Chao Li* "Rational-design of polyaniline cathode using proton doping strategy by graphene oxide for enhanced aqueous zinc-ion batteries" Journal of Power Sources, 29/2/2020. **(Citation: 8; Impact Factor: 8.247)**
40. **Edison Ang Huixiang***, Sadiye Velioğlu, Chew Jia Wei* "Tunable affinity separation enables ultrafast solvent permeation through layered double hydroxide membranes"

Journal of Membrane Science, 1/12/2019. **(Citation: 2; Impact Factor: 7.183)**

41. **Edison Huixiang Ang***, Jia Wei Chew* "Two-dimensional transition-metal dichalcogenides-based membrane for ultrafast solvent permeation" Chemistry of Materials, 22/11/2019. **(Citation: 1; Impact Factor: 9.567)**
42. Liyan Wang, Sheng-qi Guo*, Yantao Chen, Meilan Pan, **Edison Huixiang Ang**, Zhi-hao Yuana* "A Mechanism Investigation of how the Alloying Effect Improves the Photocatalytic Nitrate Reduction Activity of Bismuth Oxyhalide Nanosheets" ChemPhotoChem, 20/9/2019. **(Citation: 2; Impact Factor: 3.077)**
43. **Edison Huixiang Ang**, Khang Ngoc Dinh, Xiaoli Sun, Ying Huang, Jun Yang, Zhili Dong, Xiaochen Dong, Wei Huang, Zhiguo Wang, Hua Zhang,* and Qingyu Yan* "Highly efficient and stable hydrogen production in all pH range by two-dimensional structured metal-doped tungsten semicarbides" Science Partner Journal, 2/5/2019. **(Citation: 17; Impact Factor: 11.036)**
44. Yingying Cao, Kaiming Geng, Hongbo Geng, **Huixiang Ang**, Jie Pei, Yayuan Liu, Xueqin Cao, Junwei Zheng, and Hongwei Gu "Metal-Oleate complex-Derived Bimetallic Oxides Nanoparticles Encapsulated in 3D Graphene Networks as Anodes for Efficient Lithium Storage with Pseudocapacitance" Nano-Micro Letters, 1/3/2019. **(Citation: 3; Impact Factor: 12.264)**
45. Yong Zen Tan, **Edison Ang Huixiang*** and Chew Jia Wei* "Metallic spacer for membrane distillation" Journal of Membrane Science, 15/2/2019. **(Citation: 8; Impact Factor: 7.183)**
46. Yingying Cao, Yidong Lu, **Edison Huixiang Ang**, Hongbo Geng,* Xueqin Cao,* Junwei Zheng and Hongwei Gu* "MOFs derived uniform Ni nanoparticles encapsulated in carbon nanotubes grafted on rGO nanosheet as bifunctional materials for lithium-ion batteries and hydrogen evolution reaction" Nanoscale 18/7/2019. **(Citation: 8; Impact Factor: 7.790)**
47. **Edison Ang Huixiang***, Yong Zen Tan and Chew Jia Wei* "3D plasmonic spacer enables highly efficient solar-enhanced membrane distillation of seawater" Journal of Materials Chemistry A, 28/3/2019. **(Citation: 9; Impact Factor: 11.301)**
48. Yayuan Liu, Hongbo Geng*, **Edison Huixiang Ang**, Xueqin Cao, Junwei Zheng, Hongwei Gu* "Hierarchical Nanotubes Constructed by Co_9S_8/MoS_2 Ultrathin Nanosheets Wrapped with Reduced Graphene Oxide for Advanced Lithium Storage" Chemistry–An Asian Journal, 10/12/2018. **(Citation: 2; Impact Factor: 3.690)**

49. Jie Pei, Hongbo Geng*, **Edison Huixiang Ang**, Lingling Zhang, Huaixin Wei, Xueqin Cao, Junwei Zheng, and Hongwei Gu* "Controlled synthesis of hollow $C@TiO_2@MoS_2$ hierarchical nanospheres for high-performance lithium-ion batteries" Nanoscale, 20/8/2018. **(Citation: 28; Impact Factor: 7.790)**
50. Hou Wang, Yan Wu, Mingbao Feng, Wenguang Tu, Tong Xiao, Ting Xiong, **Huixiang Ang**, Xingzhong Yuan, and Jia Wei* "Visible-light-driven removal of tetracycline antibiotics and reclamation of hydrogen energy from natural water matrices and wastewater by polymeric carbon nitride foam" Water Research, 21/7/2018. **(Citation: 149; Impact Factor: 9.130)**
51. Jie Pei, Hongbo Geng, **Huixiang Ang**, Lingling Zhang, Huaixin Wei, Xueqin Cao, JunWei Zheng, and Hongwei Gu* "Three-dimensional nitrogen and sulfur co-doped holey-reduced graphene oxide frameworks anchored with MoO_2 nanodots for advanced rechargeable lithium-ion batteries" Nanotechnology, 26/4/2018. **(Citation: 6; Impact Factor: 3.551)**
52. **Huixiang Ang** and Liang Hong* "Engineering Defects into Nickel-Based Nanosheets for Enhanced Water Permeability" Journal of Materials Chemistry A, 13/9/2017.

(Citation: 3; Impact Factor: 11.301)

53. **Huixiang Ang** and Liang Hong* "Polycationic Polymer-Regulated Assembling of 2D MOF Nanosheets for High-Performance Nanofiltration" ACS Applied Materials & Interfaces, 28/7/2017 **(Citation: 56; Impact Factor: 8.758)**
54. Yan Lu, **Huixiang Ang (co-1st author)**, Qingyu Yan,* and Eileen Fong* "Bio-inspired synthesis of hierarchically porous MoO_2/Mo_2C nanocrystals decorated N-doped carbon foam for lithium-oxygen batteries" Chemistry of Materials. 23/8/2016. **(Citation: 63; Impact Factor: 9.567)**
55. **Huixiang Ang**, Michel Bosman, Ramesh Thamankar, Muhammad Faizal B. Zulkifli, Swee Kuan Yen, Anushya Hariharan, Thankiah Sudhaharan,* and Subramanian Tamil Selvan* "Highly Luminescent Heterostructured Copper-Doped Zinc Sulfide Nanocrystals for Application in Cancer Cell Labeling" ChemPhysChem, 18/8/2016. **(Citation: 12; Impact Factor: 3.020)**
56. **Huixiang Ang**, Huanwen Wang, Bing Li, Yun Zong, Xuefeng Wang, Qingyu Yan* "3D Hierarchical Porous Mo_2C for Efficient Hydrogen Evolution" Small, 14/4/2016. **(Citation: 70; Impact Factor: 11.459)**
57. Huanwen Wang, Yu Zhang, **Huixiang Ang**, Yongqi Zhang, Hui Teng Tan, Yufei Zhang, Yuanyuan Guo, Joseph B. Franklin, Xing Long Wu, Madhavi Srinivasan*, Hong Jin Fan* and Qingyu Yan* "A High-Energy Lithium-Ion Capacitor by Integration of a 3D Interconnected Titanium Carbide Nanoparticle Chain Anode with a Pyridine-Derived Porous Nitrogen-Doped Carbon Cathode" Advanced Functional Materials, 3/3/2016. **(Citation: 250; Impact Factor: 16.836)**
58. Hongbo Geng, **Huixiang Ang**, Xianguang Ding, Huiteng Tan, Guile Guo, Genlong Qu, Yonggang Yang, Junwei Zheng, Qingyu Yan* and Hongwei Gu* "Metal coordination polymer derived mesoporous Co_3O_4 nanorods with uniform TiO_2 coating as advanced anodes for lithium ion batteries" Nanoscale, 5/1/2016. **(Citation: 54; Impact Factor: 7.790)**
59. Guilue Guo, Xin Yao, **Huixiang Ang**, Huiteng Tan, Yu Zhang, Yuanyuan Guo, Eileen Fong*, and Qingyu Yan* "Using Elastin Protein to Develop Highly Efficient Lithium-O_2 Battery Cathodes", Nanotechnology, 11/12/2015, **(Citation: 4; Impact Factor3.551)**.
60. **Huixiang Ang**, Hui Teng Tan, Zhi Min Luo, Yu Zhang, Yuan Yuan Guo, Guilue Guo, Hua Zhang, and Qingyu Yan* "Hydrophilic Nitrogen and Sulfur Co-doped Molybdenum Carbide Nanosheets for Electrochemical Hydrogen Evolution" Small, 3/11/2015. **(Citation: 104; Impact Factor: 11.459)**
61. **Huixiang Ang**, Wenyu Zhang, Hui Teng Tan, Hongyu Chen, Qingyu Yan* "Copper oxide supported on platinum nanosheets array: High performance carbon-free cathode for lithium-oxygen cells" Journal of Power Sources, 30/10/2015. **(Citation: 12; Impact Factor: 8.247)**
62. Guilue Guo, Thi Hong Anh Truong, Huiteng Tan, **Huixiang Ang**, Wenyu Zhang, Chen Xu, Xianghong Rui, Zhaolong Hu, Eileen Fong,* and Qingyu Yan* "Platinum and Palladium Nanotubes Based on Genetically Engineered Elastin–Mimetic Fusion Protein-Fiber Templates: Synthesis and Application in Lithium-O_2 Batteries" Chemistry An Asian Journal, 24/6/2014. **(Citation: 10; Impact Factor: 3.690)**
63. Wenyu Zhang, Jixin Zhu, **Huixiang Ang**, Haibo Wang, Huiteng Tan, Dan Yang, Chen Xu, Ni Xiao, Bing Li, Wei Ling Liu, Xin Wang, Huey Hoon Hng, and Qingyu Yan* "Fe-based metallopolymer nanowallbased composites for Li-O_2 battery cathode" ACS Applied Materials & Interfaces, 28/5/2014. **(Citation: 8; Impact Factor: 8.758)**
64. Cheng Chao Li, Wenyu Zhang, **Huixiang Ang**, Hong Yu,Bao Yu Xia, Xin, Wang,Yan Hui Yang, Yang Zhao,Huey Hoon Hng and Qingyu Yan* "Compressed hydrogen gas-

induced synthesis of Au-Pt core/shell nanoparticle chains towards high performance catalysts for Li-O_2 batteries" Journal of Materials Chemistry A, 8/5/2014. **(Citation: 35; Impact Factor: 11.301)**

65. Chen Xu, Shengjie Peng, Chaoliang Tan, **Huixiang Ang**, Huiteng Tan, Hua Zhang and Qingyu Yan* "Ultrathin S-doped $MoSe_2$ nanosheets for efficient hydrogen evolution" Journal of Material Chemistry A, 11/2/2014. **(Citation: 254; Impact Factor: 11.301)**
66. Wenyu Zhang,Jixin Zhu, **Huixiang Ang**,Yi Zeng, Ni Xiao,Yiben Gao, Weiling Liu, Huey Hoon Hng and Qingyu Yan* "Binder-free graphene foams for O_2 electrodes of Li-O_2 batteries" Nanoscale, 1/8/2013. **(Citation: 97; Impact Factor: 7.790)**

5. Patents

1. Ng Yi Xun, Marliyana BINTE AIZUDIN and **Edison Huixiang Ang** "Upcycling of Plastic Wastes for Rechargeable Zinc-ion Batteries" Singapore Patent Application No. Singapore Patent Application No. 10202113908P (Filed on 14th Dec 2021)
2. Suman Devi, Nicholas Ng Poh Huat, Muhammad Haikal Bin Mahmod Fadzuli, Ng Yi Xun, Moon Seung Ki and **Edison Huixiang Ang** "3D-Printing Membrane for Dye Removal from Wastewater" Singapore Patent Application No. 10202112559R (Filed on 11th Nov 2021)
3. Marliyana BINTE AIZUDIN and **Edison Huixiang Ang** "Upcycling of Plastic Wastes to High Value Carbon for Photothermal Evaporator" Singapore Patent Application No. 10202112372U (Filed on 8th Nov 2021)
4. Suman Devi, **Edison Huixiang Ang**, Nicholas Ng Poh Huat and Moon Seung Ki "Graphene-CNT-MnO_2 Ink Formulation for 3D Printing Rechargeable Zinc-Air Batteries" Singapore Patent Application No. 10202105941S (Filed on 3rd Jun 2021)
5. Suman Devi, **Edison Huixiang Ang**, Nicholas Ng Poh Huat and Moon Seung Ki "Graphene-CNT Ink Formulation for 3D Printing Rechargeable Zinc-Ion Batteries" Singapore Patent Application No. 10202105356S (Filed on 21st Mar 2021)
6. Yong Zen Tan, **Edison Huixiang Ang**, Jia Wei Chew and Anthony Gordon Fane "Inductively Heated Electrically Conductive Spacers to Enhance Membrane Distillation" Singapore Patent Application No. 10201902404S (Filed on 18th Mar 2019)

1. Awards

2. Young Editorial Board Member of Springer Nature Publisher, Journal of Leather Science and Engineering, 2022. Recognize outstanding early career researchers and engage them in a path towards editorial work.
3. Early Career Editorial Board Member of Elsevier Publisher, Chemical Engineering Journal (Impact Factor: 16.744), 2022. Early Career Editorial Board (ECEB) to recognize outstanding early career researchers and engage them in a path towards editorial work.
4. Emerging Investigators of Royal Society of Chemistry Publisher, Journal of Materials Chemistry A (Impact factor: 12.732), 2022. This theme issue highlighting 2022's rising stars of materials chemistry research and gathers the very best work from materials chemists in the early stages of their independent career.
5. **Edison Huixiang Ang** (PI) LETTER OF AWARD for Sustainable Development of Two-Dimensional-based Membrane through Upcycling of Plastics Wastes (S$99,895.20) Project ID: 6264 (Awarded 1st Nov 2022 to 31st Oct 2024)
6. **Edison Huixiang Ang** (PI) LETTER OF AWARD for Membrane Disinfection of Water. Funded by NRF (S$246,400.00) Project ID: NRF-MP-2022-0001 (Awarded 19th Sep 2022 to 18th Sep 2024)

7. Young Scientist Award. Awarded by International Association of Advanced Materials to outstanding early career scientists in the field of science, engineering, and technology, 2022.
8. Vebleo Fellow Award. Awarded to researcher or scientist who has prominence and leadership in the field of science, engineering, and technology, 2021.
9. Outstanding ASIAN Science Diplomat Award. Awarded to Outstanding Scientists and Engineers in Southeast Asia, 2021.
10. **Edison Huixiang Ang** (PI) LETTER OF AWARD for Development of Low-Cost Carbon-based Membrane Separator for Zinc-Sulfur Batteries. Funded by NIE (S$99,990.00) Project ID: RI 1/21 EAH (Awarded 3rd Feb 2022)
11. **Edison Huixiang Ang** (PI) and Kah Wee Ang (Co-PI) LETTER OF AWARD for A 3D Printed Micro-thermoelectric Module for Urban Farming Applications. Funded by NAMIC/NTUitive (S$17,610.00) Project ID: 2020050 (Awarded on 7th Dec 2021)
12. Peter Lee (PI), Lee Yew Jin (Co-PI) and **Edison Huixiang Ang** (Co-PI) LETTER OF AWARD for Development of an Online Teaching, Learning and Assessment Cell Culture Laboratory Practical Package for Undergraduate and Graduate Students – Funded by I3G (S$98,370) Project ID: I3G 15/21/PL (Awarded on 29th Nov 2021)
13. **Edison Huixiang Ang** (PI) LETTER OF AWARD for Zinc-ion Batteries: A Quest Beyond Conventional Lithium-ion Batteries – Funded by NIE (S$44,536.16) Project ID: NIE-SUG4/20AHX (Awarded on 19th Apr 2021)
14. **Edison Huixiang Ang** (PI) and Moon Seung Ki (Co-PI) LETTER OF AWARD for Printing Membrane for Industrial Wastewater Treatment – Funded by NAMIC/NTUitive (S$24,000) Project ID: 2020042 (Awarded on 1st Jan 2021)
15. **Edison Huixiang Ang** (PI) and Moon Seung Ki (Co-PI) LETTER OF AWARD for 3D-Printed Electrode for High-Energy Rechargeable Batteries – Funded by NAMIC/NTUitive (S$24,000) Project ID: 2020043 (Awarded on 1st Jan 2021)
16. Moon Seung Ki (PI) and **Edison Huixiang Ang** (Co-PI) LETTER OF AWARD for 3D-Printing Technology for Flexible Rechargeable Batteries – Funded by NAMIC/NTUitive (S$24,960) Project ID: 2020027 (Awarded on 18th Aug 2020)
17. Awarded Tsinghua Fellowship. Awarded to top 5% candidate with outstanding research proposal. Award includes research grant and allowance that worth S$120,000. The prestigious Tsinghua Fellowship supports and promotes young and outstanding researchers to realize their full potential in their respective areas of specialization, 2018.

6. Honors (Invited Editorial Board Member/Peer Reviewer/Judge/Scientific Committee Member/Certificate)

1. Invited as **Peer Reviewer** for Renewable and Sustainable Energy Reviews (Impact Factor: 16.799)
2. Invited as **Peer Reviewer** for Chemosphere (Impact Factor: 8.943)
3. Invited as **Peer Reviewer** for Applied Energy (Impact Factor: 11.446)
4. Invited as **Peer Reviewer** for Materials Today Chemistry (Impact Factor: 7.613)
5. Invited as **Youth Editorial Board Member** for Journal of Leather Science and Engineering (Impact Factor: N.A)
6. Invited as **Peer Reviewer** for Process Safety and Environmental Protection (Impact Factor: 6.158)
7. Invited as **Editorial Board Member** of Chemical Engineering Journal (Impact Factor: 16.744) (May 2022 to present)
8. Invited as **Peer Reviewer** for Environmental Geochemistry and Health (Impact

Factor: 4.609)

9. Invited as **Peer Reviewer** for ACS Applied Energy Materials (Impact Factor: 6.024)
10. Invited as **Peer Reviewer** for Journal of Agricultural and Food Chemistry (Impact Factor: 5.104)
11. Invited as **Peer Reviewer** for Batteries & Supercaps (Impact Factor: 7.093)
12. Invited as **Peer Reviewer** for ChemElectroChem (Impact Factor: 4.590)
13. Invited as **Peer Reviewer** for Applied Catalysis B: Environmental (Impact Factor: 24.319)
14. **Assessor** for Research Paper of the Nanyang Research Programme (NRP) / Nanyang Research Programme Junior Researcher (NRPjr) projects (2022)
15. **Member** of AIChE from 11 Feb 2022 to 31 Dec 2022.
16. Invited as **Scientific Committee Member** of International Conference on Nanomaterials & Nanotechnology (2022) organized by International Association of Advanced Materials
17. Invited as **Peer Reviewer** for Separation and Purification Reviews (Impact Factor: 9.636)
18. Invited as **Peer Reviewer** for Advanced Materials (Impact Factor: 27.398)
19. Invited as **Peer Reviewer** for Advanced Functional Materials (Impact Factor: 16.836)
20. Invited as **Peer Reviewer** for Chemical Engineering Journal (Impact Factor: 10.652)
21. Invited as **Peer Reviewer** for ACS Applied Materials & Interfaces (Impact Factor: 8.758)
22. Invited as **Peer Reviewer** for ChemSusChem (Impact Factor: 7.804)
23. Invited as **Peer Reviewer** for Electrochemical Science Advances (Impact Factor: N.A)
24. Invited as **Peer Reviewer** for Applied Surface Science Advances (Impact Factor: N.A)
25. Invited as **Chemistry Judge** for Science Mentorship Programmes (SMP) Project Judging, 2019.
26. Invited as **Chemistry Committee** for Singapore Science and Engineering Fair (SSEF), 2020.
27. Received social and behavioral research certificate from CITI program (completion date 08/02/2020. Expiration date: 07/02/2023)
28. **Member** of Institutes of Higher Learning of Singapore Membrane Consortium, 2021
29. **Member** of Institutes of Higher Learning of Singapore Battery Consortium, 2020

7. Featured on News

1. https://impact.youthopia.sg/impact_post/impact-0560-from-doing-poorly-in-science-to-becoming-a-science-professor/
2. https://mp.weixin.qq.com/s/HbPV-zpfaQeFsnfJuOh9Vw
3. https://mp.weixin.qq.com/s/5rYf4254m_Er_lVjRw0MIA
4. https://mp.weixin.qq.com/s/TtT7l_nWexeIMjP64t2dyA
5. https://mp.weixin.qq.com/s/Lb0zwbLOxPdCS6HR0DoNYQ
6. https://mp.weixin.qq.com/s/jd5dnXn5cjHAAd8Z1u46Bw
7. https://mp.weixin.qq.com/s/1VZYyBsjxozSiey_Q_exow?from=singlemessage