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Research Interests

Porous Carbon, Biomass Pyrolysis, Electric Double Layer Capacitor, Hybrid Capacitor, Sodium Ion Battery

Publications

1. Mark Daniel G.de Luna, Louie Angelo D.Cruz, Wei-Hsin Chen, Bo-Jhih Lin, **Tzu H. Hsieh**, "Improving the stability of diesel emulsions with high pyrolysis bio-oil content by alcohol co-surfactants and high shear mixing strategies". *Energy* **141** (2017) 1416.
2. Wei-Hsin Chen, Chao-Wen Wang, Gopalakrishnan Kumar, Patrick Rousset, **Tzu-Hsien Hsieh**, "Effect of torrefaction pretreatment on the pyrolysis of rubber wood sawdust analyzed by Py-GC/MS". *Bioresource Technology* **259** (2018) 469.
3. Lin, Bo-Jhih, Chen, Wei-Hsin, **Hsieh, Tzu-Hsien**, Ong, Hwai Chyuan, Show, Pau Loke, Naqvi, Salman Raza, "Oxidative reaction interaction and synergistic index of emulsified pyrolysis bio-oil/diesel fuels". *Renewable Energy* **136** (2019) 223-234.
4. Rasu Muruganantham, **Tzu-Hsien Hsieh**, Wei-Ren Liu, Chia-Her Lin, "Bio-oil Derived Hierarchical Porous Hard Carbon from Rubber Wood Sawdust via a Template Fabrication Process as Highly Stable Anode for Sodium-Ion Batteries". *Materials Today Energy* **14** (2019) 100346.
5. Wei-Hsin Chen, Chao-Wen Wang, Hwai Chyuan Ong, Pau Loke Show, **Tzu-Hsien Hsieh**, "Torrefaction, pyrolysis and two-stage thermodegradation of hemicellulose, cellulose and lignin". *Fuel* **258** (2019) 11616.
6. Yong Yang Gan, Wei-Hsin Chen, Hwai Chyuan Ong, Heng-Kuang Sheen, Jo-Shu Chang, **Tzu-Hsien Hsieh**, Tau Chuan Ling, "Effects of dry and wet torrefaction pretreatment on microalgae pyrolysis analyzed by TG-FTIR and double-shot Py-GC/MS". *Energy* **210** (2020) 11857.
7. Wei-Hsin Chen, Ching-Lin Cheng, Kuan-Ting Lee, Su Shiung Lam, Hwai Chyuan Ong, Yong Sik Ok, Samrand Saeidi, Amit K Sharma, **Tzu-Hsien Hsieh**, "Catalytic level identification of ZSM-5 on biomass pyrolysis and aromatic hydrocarbon formation". *Chemosphere* **271** (2021) 129510.
8. Tai-Feng Hung, **Tzu-Hsien Hsieh**, Feng-Shun Tseng, Lu-Yu Wang, Chang-Chung Yang, Chun-Chen Yang, "High-Mass Loading Hierarchically Porous Activated Carbon Electrode for Pouch-Type Supercapacitors with Propylene Carbonate-Based Electrolyte" *Nanomaterials* **11** (2021) 785.
9. **Tzu-Hsien Hsieh**, Hao-Lun Wang, Guan-Tin Yu, Guang-Meng Huang, Jarm-Horng Lin, "Mesopore dominant activated carbon from spent coffee grounds for high-performance electrochemical capacitors in organic electrolyte" *Journal of Environmental Chemical Engineering* **9** (2021) 106418.