

Credentials (IOS Researcher)



MUHD FIRDAUS KASIM

BSc. (Hons.) Chemistry (Analysis Forensic
(UiTM, Malaysia)

PhD, (UiTM, Malaysia)

Current roles and responsibilities:

1. Senior Lecturer, Faculty of Applied Sciences, UiTM, Malaysia.
2. Fellow Researcher at Centre for Functional Materials & Nanotechnology, Institute of Science, UiTM, Malaysia.

Honors Awards & Showcase

- Invention, Innovation and Design Expo IIDEX 2013 (Gold Award)
- Invention, Innovation and Design Expo IIDEX 2013 (Silver Award)
- Invention, Innovation and Design Expo IIDEX 2014 (Gold Award)
- Invention, Innovation and Design Expo IIDEX 2016 (Gold Award)
- Invention, Innovation and Design Expo IIDEX 2017 (Silver Award)

Selected Journals & Publications

- "Band gap narrowing and widening of ZnO nanostructures and doped materials", Nanoscale research Letters, (2015) 10:346
- "Elucidation of the highest valence band and lowest conduction band shifts using XPS for ZnO and Zn_{0.99}Cu_{0.01}O band gap changes", Results in Physics 6 (2016) 217–230
- "Band Gap Narrowing of 2-D Ultra-Thin MgO Graphene-Like Sheets" ECS Journal of Solid State Science and Technology, 2016.
- "Band gap widening and quantum tunnelling effects of Ag/MgO/p-Si MOS structure" Material Research Express 3 (2016).
- "Characteristics of Ti and Fe doped LiCo_{0.6}Ni_{0.4}O₂ cathode materials for Li-ion rechargeable batteries", Mater. Res. Express (2017).
- "Catalytic gasification of oil palm frond biomass in supercritical water using MgO supported Ni, Cu and Zn oxides as catalysts for hydrogen production", International Journal of Hydrogen Energy, 2017.
- "Substitutional Doping of Li in Li[LixNi_{0.7-x}Co_{0.2}Fe_{0.1}]O₂ Cathode Materials and the Effects on Structure, Oxidation States and Electrochemical Processes", Mater. Res. Express (2018).

Research Grant

- Materials Characterization and Electrochemical Performance of LiMn(2-x)Ti_xO₄.
- Structural Stability of Partial Substitutional Ti in LiMn₂O₄ Cathode Materials.
- Enhancing The performance of SnO₂ Anodes with Graphene Additives in Li-ion Cells.
- Preparation of Biochar Solid Acid Catalyst For Low Cost Biodiesel Production from Palm Fatty Acid Distillate.
- The Crystal Structure of LiCo_{0.3}Ni_{0.3}Mn_{0.3}Ti(1-x)Sn_xO₂ Cathode Materials.
- Synthesis, Characterization and Band Gaps of ZnO and Zn(1-x)Mn_xO Nanomaterials.
- Studies of charge-discharge properties LiCo_{0.3}Ni(0.7-x)Ti_xO₂ cathode materials and their chemical configuration.