

# Credentials (IOS Researcher)



## AB MALIK MARWAN BIN ALI

BSc. (Hons.) Physics (Malaya, Malaysia)  
MSc. PM. Phill Advanced Material, (Malaya Malaysia)  
PhD Advanced Materials , (UiTM, Malaysia)

### Current roles and responsibilities:

1. Deputy Head, Centre for Functional Materials & Nanotechnology, Institute of Science
2. Senior Lecturer, Faculty of Applied Sciences
3. Coordinator Program BSc. Physics, Faculty of Applied Sciences, UiTM

### Honors Awards & Showcase:

1. International Invention, Innovation & Technology Exhibition (ITEX) – 1 Gold
2. Invention, Innovation & Design Exposition – 1 Grand Award, 1 Diamond, 2 Gold, 2 Silver, 2 Bronze
3. British Inventor Society (BIS) – 1 Gold
4. Malaysia Technology Expo (MTE) – 1 Silver & 1 Bronze

## Selected Journals & Publications

- “Understanding the electronic transition of normal spinel structure of Co<sub>3</sub>O<sub>4</sub> using GGA+U calculations”, International Journal of Engineering and Technology (UAE), (2018) 121-125
- “Electrochemical properties of polymer electrolytes treated with 6PPD on 30% poly(Methyl methacrylate) grafted natural rubber”, Malaysian Journal of Analytical Sciences (2018) 491-498
- “Filler and polymer interactions in polymethyl methacrylate/50% epoxidized natural rubber/silicon dioxide nanocomposites”, Malaysian Journal of Analytical Sciences (2018)
- “Effect of ionic liquid incarceration during free radical polymerization of PMMA on its structural and electrical properties”, Ionics, (2017) 295-301
- “Dielectric behaviour of UV-crosslinked sulfonated poly (ether ether ketone) with methyl cellulose (SPEEK-MC) as proton exchange membrane”, International Journal of Hydrogen Energy, (2017) 9284-9292
- Optical transition, excitation, and emission properties of poly(N-vinylcarbazole) blended with poly(vinylidene fluoride-co-hexafluoropropene) and polyvinylpyrrolidone”, Acta Physica Polonica A 127, (2015) 1430-1433

## Research Grant

- Electrical properties of plasticized solid polymer electrolytes dispersed with zinc sulphide for dye sensitized polymer solar cell – **RM112,000.00**
- Development of Prototyped Rechargeable lithium Air Batteries Employing Bio-Derived Cellulose and Rubber Derivatives Based Gelled and Solid Polymer Electrolytes - **RM243,000.00**
- Upconversion mechanism of rare-earth doped gd<sub>2</sub>o<sub>3</sub>:m (m=er<sup>3+</sup>, yb<sup>3+</sup>) dye-sensitized solar cells – **RM79,000.00**
- Structural and Electrical Studies on Semiconductor Dispersed Composite Cellulose based Polymer Electrolytes – **RM60,000.00**
- Interaction mechanism of zns/cdse semiconducting quantum dot in recombination process of dssc – **RM108,200.00**
- Electron transport mechanism of graphene-zinc oxide semiconductor in electron injection of dye-sensitized solar cells – **RM108,200.00**
- Lattice expansion of ba(ce,zr)o<sub>3</sub> ceramics electrolyte at intermediate temperatures-d proton conductor - **RM100,000.00**

## Consultancy

- Magna Value Sdn. Bhd.

## Articles & Books

- **CHAPTER IN BOOK** - Compatibility and thermal properties of poly(ethylene oxide) and natural rubber-grafted-poly(methylmethacrylate) blends in Applied Chemistry and Chemical Engineering, Volume 4: Experimental Techniques and Methodical Developments, Apple Academic Press, 2017
- **CHAPTER IN BOOK** - Thermal properties and intermolecular interaction of binary polymer blends of poly(ethylene oxide) and poly(n-butyl methacrylate) in Applied Chemistry and Chemical Engineering, Volume 4: Experimental Techniques and Methodical Developments, Apple Academic Press, 2017