

JOSEPHINE LIEW YING CHYI**Ph.D. (Universiti Putra Malaysia)**

Senior Lecturer (Dr.)
 Department of Physics
 Universiti Putra Malaysia
 Tel:03-89466231
 Fax:03-89454454
 josephine@upm.edu.my


EXPERTISE
 MATERIALS SCIENCE

Dr. Josephine Liew Ying Chyi is currently a senior lecturer at Department of Physics, Faculty of Science, UPM. She is also an Interim Research Associates at Materials Synthesis and Characterization Laboratory (MSCL) in Institute of Advanced Technology, ITMA, UPM. Her major research involves synthesis, characterization and utilization of chalcogenide semiconductor materials for solar cell and light emitting diode applications. Her works involve synthesizing polycrystalline chalcogenide semiconductor via various methods of preparation and characterizing the resulting materials in powder and thin film. The characterization involved structural, morphological, electrical, optical and thermal properties of the synthesized chalcogenide semiconductor materials. She joined the School of Chemistry, University of Birmingham, UK in 2015 – 2017 as a Postdoctoral Research Fellow where she focused on synthesizing organic-inorganic perovskite nanoparticles for solar cell and LED application. She has contributed more than 50 research articles in journals and proceedings. Currently she is a life member of Malaysian Solid State Science and Technology (MASS) and Malaysia Society for Non Destructive Testing (MSNT)

Current research interests:

- **Synthesize:**

Nanosize compound, nanosize composites and quantum dots chalcogenide semiconductor through chemical and physical technique.

Metal organic framework

Organic-Inorganic perovskite nanoparticles

Optimization of thin film for solar cell devices, LED and thermoelectric power generator.

- **Characterization:**

Electrical properties (electron-phonon transport properties, conduction mechanism)

Thermal properties (photothermal and photoacoustic)

Optical properties (linear and nonlinear optics, UV-Vis Spectroscopy, FTIR, Raman Spectroscopy, PL)

Structural properties (XRD, SEM, TEM, EDX, AFM)

Degradation studies

Defect and impurities (charge carrier traps) studies

- **Development and modification:**

Thermoelectric power measurement setup

Thermal conductivity measurement setup

Heat capacity measurement setup

Thermal diffusivity measurement setup

Electrical Conductivity measurement setup

LINK TO POSTGRADUATE FIELD OF STUDY:**ADDITIONAL INFORMATION:**