


**ASSOC. PROF. DR. CHEN SOO KIEN**

Research Associate, Nanomaterials Synthesis and Characterisation Laboratory

Expertise: Superconductivity, pyrochlores, magnetic materials

Email: : chensk@upm.edu.my

Phone: +603.9769.6668

 Google Scholar: [Link](#)  
 Scopus Author ID: [57212412296](#)

 ResearchGate : [Link](#)


ORCID

## RESEARCH HIGHLIGHTS

### 1. Magnesium Diboride ( $\text{MgB}_2$ ) superconductor

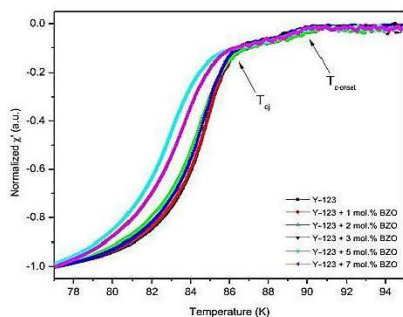
Materials processing and chemical modification for enhancing critical current density, especially at 20 K.

### 2. Fe-based superconductor – Doped FeTe, FeSe, FeS

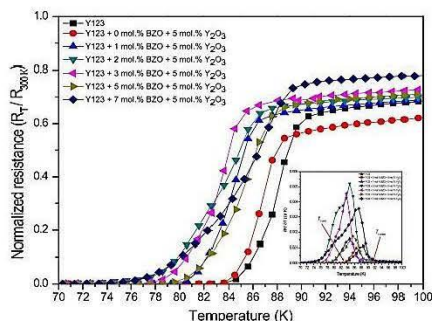
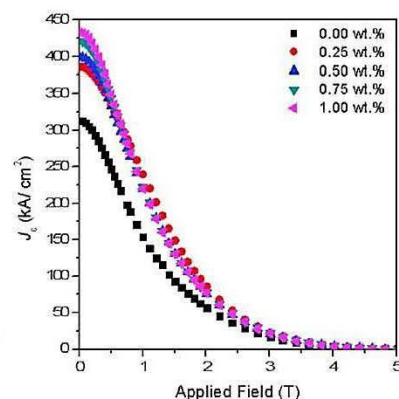
Synthesis and characterization, compositional non-stoichiometry, and phase formation.

### 3. High temperature superconductor - $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$

Chemically engineered flux pinning for enhancing critical current density.



Real part of ACS for Y-123 + x mol.% of BZO samples


 Normalized resistance versus temperature of Y-123 with co-addition of 5.0 mol%  $\text{Y}_2\text{O}_3$  + x mol% of BZO

 Field dependence of critical current densities at 20 K for  $\text{MgB}_2$  co-added with x wt.%  $\text{Dy}_2\text{O}_3$ ; x wt.%  $\text{La}_2\text{O}_3$ 

#### Selected recent publication:

- N. M. Hapipi et al., Enhancement of critical current density for  $\text{MgB}_2$  prepared using carbon encapsulated Boron with co-addition of  $\text{Dy}_2\text{O}_3$  and  $\text{La}_2\text{O}_3$ , *Ceramics International* **46** 23041 2020.
- N. M. Hapipi et al., AC susceptibility of  $\text{BaZrO}_3$  nanoparticles added  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  prepared via coprecipitation method, *Journal of Superconductivity and Novel Magnetism* **32** 1191, 2019.
- N. M. Hapipi et al., Superconductivity of  $\text{Y}_2\text{O}_3$  and  $\text{BaZrO}_3$  nanoparticles co-added  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  bulks prepared using co-precipitation method, *Journal of Materials Science: Materials in Electronics* **29** 18684, 2018.