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**EXPERTISE**

SUPERCONDUCTIVITY/ GROWTH OF  
NANO MATERIALS

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Assoc. Prof. Dr. Chen is with the Superconductor and Thin Films Group, at the Department of Physics, Faculty of Science, Universiti Putra Malaysia. His research mainly focuses on various types of superconducting materials.

**Current research interests:****• High Temperature Superconductor**

YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-d</sub> or YBCO is a material which is being actively developed world wide into second generation (2G) superconductor for a wide range of electrical and electronic applications. In our lab, we are interested in processing the material in order to enhance its critical parameters. This is done by employing various conditions such as mechanical milling, heat treatment and chemical doping. We also concern the ways the material is prepared such as using the solid state reaction method as well as the wet chemical methods including sol-gel and co-precipitation techniques.

**• Medium Temperature Superconductor**

The discovery of superconductivity in Magnesium Diboride (MgB<sub>2</sub>) in 2001 has revived the interest on monoxide based superconductor research. In our lab, a number of work has been undertaken including studying the effects of Mg-nonstoichiometric, heat-treatment conditions as well as chemical doping on the superconducting properties of the material.

**• Low Temperature Superconductor (FeTe based)**

FeTe based superconductors possess the simplest crystal structure among the iron-based superconducting materials. At the moment, we are optimizing the phase formation and superconducting transition temperature of the Se and S doped FeTe compounds.

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