

## **CURRICULUM VITAE**

**Assoc Prof Dr Chia Chin Hua**

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**Current Position:** Associate Professor

### **Specialisation:**

Magnetic nanomaterials, nanocomposite, fine chemicals from lignocellulosic biomass



### **Qualifications**

- PhD, Material Science, UKM, 2007
- BSc (Hons), Material Science, UKM, 2003
- STPM, Sekolah Tinggi Kluang, Johor, 2000

### **Areas of Research**

- Magnetic nanomaterials – iron oxide and ferrite nanoparticles (high density data storage and magnetic polymer nanocomposites for targeted drug delivery).
- Nanocomposites (cellulose and chitosan hydrogels containing silver-graphene oxide nanocomposites for biomedical applications).
- Fine chemicals from lignocellulosic biomass.
- Bio-adsorbents from biomass (natural fibres and minerals) for removal of heavy metal ions and dyes from wastewater (Batch and fixed-bed column studies)

## Research/Consultation/Expansion

- Study on the electronic stabilization, mechanism and kinetics of the in situ nano magnetic particle in Beta glucopyranose chain- Modification of DVLO theory.
- Preparation of magnetic paper via in situ process.
- Biofuel from biomass: structure determination of separated chemical component obtained from solvolysis and hydrotreatment of biomass using metal oxide catalyst.
- Preparation of Bioactive paper containing chitosan and silver nanoparticles using layer-by-layer assembly approach.
- Novel magnetic properties of graphene oxide.
- Characterisation of Green Phenol Derived from Oil Palm Fibre Biomass and Oil Palm Lignin via Fast Solvolysis Process for The Production of Green Phenolic Adhesives.
- Rubber Toughened Epoxy Reinforced Kenaf Pulped Fiber for Automotive Components.
- Surface Modified Superparamagnetic Iron Oxide Nanoparticles (SPIONs) Conjugated Cisplatin with Thermoresponsive Polymer as Magnetic Anticancer Drug Delivery Vehicle.
- Application of biomimetic nanocatalyst in the hydrolysis of palm kernel cake (PKC) for the production of mannose and oligomannan.
- Antibacterial Regenerated Cellulose Products loaded with Silver nanoparticles, Graphene Oxide and Nanocrystalline Cellulose.
- Fabrication and Characterisation of Super Toughened Regenerated Cellulose-Graphene Fibre.
- KENAF: SUSTAINABILITY MATERIALS IN AUTOMOTIVE INDUSTRY.
- Development of Phenolic Resin (PR) made from Liquefied Oil Palm Empty Fruit Bunch Fibre for the Prototype Products of Moulded PR and PR Adhesives.
- Advanced Palm-Fibre Composites (PFCs) For The Aerospace Industries.
- Kinetics and mechanism of acid hydrolysis of oil palm empty fruit bunch fibres into levulinic acid.
- KNOWLEDGE TECHNOLOGY TRANSFER (KTP) UTILIZATION OF LIQUEFIED GREEN PHENOLIC RESIN IN GREEN COMPOSITES OF FRONT AND REAR OF COACH BODY PARTS.
- Role of Ti, Al, Cu and Zn doping on photoelectrochemical water-splitting of hematite ( $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>) nanostructure.
- Decoration of silver nanoparticles on graphene and graphene oxide using a continuous flow microfluidic system.

- THE CONVERSION OF SAP OIL PALM TRUNK INTO METHYL LEVULINATE BY USING CATALYSTS.

#### **Award**

- Book Prize of University (UKM) 2003
- The Best presenter of National Symposium of Polymer Malaysia
- Bronze medal - Preparation of magnetic Pulp via In situ process, Expo Research and Innovation UKM
- Silver Medal – 19th. International Invention, Innovation & Technology Exhibition (ITEX 2008), Kuala Lumpur: Nano Cobalt Ferrites Magnetic Paper
- Bronze Medal - Malaysia Technology Expo (MTE 2009), Kuala Lumpur: Green Molded Liquefied Soda Lignin Filled with EFB.
- Bronze Medal - Malaysia Technology Expo (MTE 2009), Kuala Lumpur: Magnetic Rubber Wood
- Bronze Medal - Malaysia Technology Expo (MTE 2009), Kuala Lumpur: Solvolysis of Wood Oil Using Nano Iron Oxide Catalyst
- Silver Medal - 20th International Invention, Innovation & Technology Exhibition (ITEX 2009), Kuala Lumpur: Nano Ferrites Magnetic Paper Via in Situ Synthesis Method
- Bronze Medal – 20th International Invention, Innovation & Technology Exhibition (ITEX 2009), Kuala Lumpur: Green Technology for Green Materials
- Silver Medal – Water Malaysia 2009, Kuala Lumpur: Novel Nano-structured ZnO Based Photocatalyst Material for Organic Degradation in Waste Water Treatment System
- Bronze medal – Hari Inovasi Nuklear Malaysia 2009: Ultraviolet Light (UV) Photo-induced Magnetic Nano-catalyst for Detoxification of Organic Pollutant in Waste Water Treatment System
- 1Gold Medal – 21th International Invention, Innovation & Technology Exhibition (ITEX 2010), Kuala Lumpur: Novel Bi- Functional Nano-photocatalyst Material – Green, Advanced and Effective Purifier
- Anugerah Penyelidik Muda 2010 (UKM) - Sijil Penghargaan
- Bronze medal – Pemacuan Kecemerlangan Warisan Ilmu UKM: Chemically Treated Kenaf Core Fibres for The Removal of Heavy Metal Ions and Hazardous Dye from Aqueous Solution.
- Anugerah Penyelidik Muda, Anugerah Kualiti FST 2011

- Anugerah Penyelidik Muda 2012, Anugerah Inovasi UKM ke-7, Universiti Kebangsaan Malaysia
- Excellent Service Award (UKM) 2013
- Silver Medal – 24th International Invention, Innovation & Technology Exhibition (ITEX 2014), Kuala Lumpur: Graphene oxide cellulose beads
- Silver Medal – 24th International Invention, Innovation & Technology Exhibition (ITEX 2014), Kuala Lumpur: Green Phenolic Resin for Glass Fiber Composites
- Young Scientist Award – Persatuan Sains & Teknologi Keadaan Pepejal Malaysia / Malaysian Solid State Science and Technology Society (MASS)