

ZULHELMI BIN ISMAIL

Dipl.-Ing. (Mechanical Eng.), M. Eng. (Manufacturing Eng.)

Tel: 013-616 6919**Email:** zulhelmii@ump.edu.my

Position: Student (M. Eng)/ Fellowship Universiti Malaysia Pahang

Summary • An eager learner, love working with a new idea and concept, can handle pressure very well and able to express an opinion well and communicatively effective

Education **Master in Manufacturing Engineering** 2013**Universiti Malaysia Pahang, Pekan, Pahang**

- Faculty: Manufacturing Engineering
- Thesis: Study the Effect of Adiabatic Extrusion of Structure, Thermal and Physical Properties of PA6/C20A Nanocomposites

2011

Diploma in Mechanical Engineering (Dipl.-Ing)
University of Applied Science of Cologne Campus Gummerbach, Nord Rhein-Westfalen, Germany

- Faculty: Mechanical Engineering and Construction
 - Course of Studies: Mechanical Engineering
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Intensive Language Training Program 2004**Carl Duisburg Centre, Cologne, Germany**

- Completion of German Intensive Course for two months

A-Level German Program 2003**University of Technology Mara, Shah Alam, Malaysia**

- London Examination General Certificate of Education of Advanced Level
 - Majoring in Mathematics & Advanced Mathematics, Physics
 - German Language Course for University Entrance (DSH)
 - Malaysian University English Test (MUET)
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Malaysian Certificate of Education (SPM) 2000
Sekolah Menengah Sains Tun Syed Sheh Shahabuddin,
Penang, Malaysia

- Majoring: Physics, Mathematics, Chemistry, Biology, English

Career History & Accomplishments

Part-Time Lecturer in Manufacturing Engineering 2013-2014
Universiti Malaysia Pahang, Pekan, Pahang

- Subject: Mechanics of Material

Part-Time Lecturer in Language Centre Department 2011-2012
Universiti Malaysia Pahang, Pekan, Pahang

- Subject: German for Beginners

- Subject: German for Intermediate 2010

Research and Development (R & D) Unit, South
Germany Plastics Centre (SKZ), Germany

- Worked with the compounding of polymer-nanocomposites by co-rotating twin screw extruder
- Conducting the online-pressure test
- Worked with injection-molding machine
- Mechanical tests of samples
- Using high pressure capillary rheometry
- Sample visual interpretation by light microscope
- Thermal test (DSC)
- Experimental planning, data analysis and prepare a protocol

Intern, Härterei Reese GmbH 2007

- Majoring in Science Material of Metal
- Creation of selection criteria for metal product quality based on the function of geometry, hardening method and metal type

Intern, German Malaysian Institute, Kuala Lumpur, Malaysia 2003

- Preliminary internship in Major Mechanical
- Fundamentals of manufacturing processes including milling, turning, grinding and welding

Language

- **Malay:** Good in spoken and writing
- **English:** Good in spoken and writing
- **German:** Good in spoken and writing

Software Skills

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| | <ul style="list-style-type: none">▪ Origin: Good▪ Design Expert: Good▪ Visual Basic V5: Beginner▪ AutoCAD: Beginner▪ MicroStation: Good▪ ANSYS 10: Good▪ CATIA V5: Good |
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Academic & Research Awards

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| | <ul style="list-style-type: none">▪ SLAB-KPT Scholarship for Master Study (2 years)▪ JPA Scholarship for Undergraduate Study (4-5 years) |
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Specialization and Research Interest

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| | <ul style="list-style-type: none">▪ Mechanical Production of Graphene and Two-Dimensional Materials▪ Applications of Graphene and Two-Dimensional Nanomaterials in Mechanical and Electronics▪ Polymer Nanotechnology▪ Extrusion and Compounding |
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Research Grant (Current)

- (Ref:FRGS/1/2016/TK05/UMP/02/2)–Synthesis of hydrophilic graphene via green sonochemical method to improve the interaction of polyvinyl alcohol(PVA). **Member. RM129800.**
- (Ref:PRGS/2/2015/TK05/UMP/02/3–Prototype development of high performance and non-toxic graphene based polymer as substitute for automotive glass. **Member. RM148800.**

Selected Publication (Past 3 Years)

1. **Zulhelmi Ismail (Inventor)**, Kamal Yusoh, Abu Hannifa Abdullah, Anis Sakinah Zainal Abidin, Mechanical Method for Direct Synthesis of Graphene in Tea or Coffee as Exfoliating Medium. **Filing for Patent numbered PI2017400004 on March 2017 (Pending)**

2. **Zulhelmi Ismail**, Abu Haniffa Abdullah, Anis Sakinah Zainal Abidin and Kamal Yusoh, Application of Graphene from Exfoliation in Kitchen Mixer Allows Mechanical Reinforcement of PVA/Graphene Film (2017). **Applied Nanoscience**. Springer.
3. **Zulhelmi Ismail**, Abu Hannifa Abdullah, Anis Sakinah Zainal Abidin and Kamal Yusoh, Production of Functional Graphene by Kitchen Mixer: Mechanism and Metric Development for In Situ Measurement of Sheet Size (2017). **Journal of Nanostructure in Chemistry**. Springer.
4. **Zulhelmi Ismail**, Farhana Abu Kassim, Abu Hannifa Abdullah, Anis Sakinah Zainal Abidin, Fadwa Sameha Ismail and Kamal Yusoh. Black Tea Assisted Exfoliation Using a Kitchen Mixer Allowing One-Step Production of Graphene (2017). **Materials Research Express**. IOP Science.
5. **Zulhelmi Ismail** and Kamal Yusoh, Facile Method for Liquid-Exfoliated Graphene Size Prediction by UV-visible spectroscopy (2016). **AIP Conference Proceedings**.
6. Anis Sakinah Zainal Abidin, Kamal Yusoh, Saidatul Syima Jamari, **Zulhelmi Ismail**, Enhanced Performance of Alkylated Graphene Reinforced Polybutylene Succinate Nanocomposite (2016). **AIP Conference Proceedings**.
7. **Zulhelmi Ismail** and Kamal Yusoh, A Comparative Study on the Effect of Adiabatic Extrusion by Twin-Screw Extruder to the Crystallization Pattern and Thermal Behavior of Polyamide6/C20A Nanocomposites (2013). **Material Science Forum**.
8. **Zulhelmi Ismail** and Kamal Yusoh, Thermal Performance of Polyamide 6/Cloisite 20A Composite Hybrid by Adiabatic Extrusion: A Study on the Influence of Difference Approach of Compounding (2014). **Advanced Material Research**