

HIGHLIGHT PROJECTS

MASTER PROJECT:

1. Producing Calcium Cuprum Mangan Oxide (CaCu₃Mn₄O₁₂) via Wet Chemistry Technique.

Title of Publication Paper:

1. Producing Calcium Cuprum Mangan Oxide (CaCu₃Mn₄O₁₂) via Dry & Chemistry Technique
2. Microstructure Characterization and Magnetic Properties of Calcium Copper Manganase Oxide via Sol Gel Synthesis.
3. Influence of Process Parameter on Microstructure and Phase Formation of CaCu₃Mn₄O₁₂ Electrocermic.

FINAL YEAR PROJECT:

1. Study the effect of high temperature cycle exposure on embrittlement of welded pressure vessel steel

UNDERGRADUATE PROJECTS:

1. Design and develop the News Paper Vending Machine

2. Upgrade the existing design of fluid power system

CONFERENCES/ JOURNAL PUBLICATION:

Journal Publication:

- 1) Warikh, A.R.M., **Nurulhuda, A.**, and Jeefferie, A.R., Characterization of microstructure and magnetic properties of CaCu₃Mn₄O₁₂ by sol gel route, *Malaysian Journal of Microscopy*, Vol 7 (1), pp. 147-153, 2011.
- 2) **Nurulhuda, A.**, Rafidah, A., Azrina, A., Suhaila, Y., Anwar, I.S., and Warikh, A.R.M., Investigation in optimization process parameter of CaCu₃Mn₄O₁₂ via sol - gel synthesis, *Applied Mechanics and Materials* 465-466, pp. 834-838, 2014.
- 3) Rafidah, A., **Nurulhuda, A.**, Azrina, A., Suhaila, Y., Anwar, I.S., and Ikbar, A.W.M, Design of experiment (DOE) approach to optimize accuracy of surface roughness, *Applied Mechanics and Materials* 465-466, pp. 1224-1228, 2014.
- 4) Suhaila, Y., Rafidah, A., **Ariffin, N.H.**, Arshad, A., Ismail, S.A., Bakar, F.A.A., and Ibrahim, M., Development time in liquid penetration testing for metal butt joint, *Applied Mechanics and Materials* 465-466, pp. 1109-1113, 2014.

International Conference:

- 1) **A. Nurulhuda.**, Y. Hafizzal., A.R.M Warikh., A. Rafidah., Y.Suhaila., A. Azrina., and I.S Anwar., Optimization Sol Gel Process Parameter of CaCu₃Mn₄O₁₂, *The 3rd International Conference on Manufacturing Engineering and Process (ICMEP)*, Seoul Korea, 2014.
- 2) Azrina A., Ismail S A., **Nurulhuda A.**, Suhaila Yacob., and Rafidah Ali., Effect of powder particle size of tin based alloy sintered via hybrid microwave and conventional furnace, *The 3rd International Conference on Manufacturing Engineering and Process (ICMEP)*, Seoul Korea, 2014.
- 3) Warikh, A.R.M., **Nurulhuda, A.**, and Jeefferie, A.R., Influence of Process Parameter on Microstructure and Phase Formation of CaCu₃Mn₄O₁₂ Electroceramic, *Proceedings Paper of ICSSST 2010, 3rd International Conference on Solid State Science & Technology*, Sarawak, 2010.

- 4) **A.Nurulhuda.**, A.R.Jeefferie., and A.R.M.Warikh., Producing Calcium Cuprum Mangan Oxide (CaCu₃Mn₄O₁₂) Via Wet and Dry Chemistry Techniques, *The 2nd International Conference On Engineering and ICT (ICEI)*, Melaka, 2010.
- 5) Warikh, A.R.M., **Nurulhuda, A.**, and Jeefferie, A.R., Characterization of microstructure and magnetic properties of CaCu₃Mn₄O₁₂ by sol gel route, *21th Scientific Conference of the Microscopy Society Malaysia*, Langkawi, 2010.
- 6) 4th International Conference on Mechanical and Manufacturing Engineering (ICME), UTHM, 2013

TRAINING:

1. Trained The Trainer - 2015
2. Pedagogy Training – 2013
3. Internal Audit Training ISO9001 – 2012
4. SPSS Training – 2014
5. PBL (Problem Based Learning) – 2013
6. Coordinate Measuring Machine (CMM) Training – 2013
7. Roundness Measurement Machine Training – 2013
8. XL80 laser Equipment Training – 2013
9. OBE (Outcome Based Education Training) - 2013

TECHNICAL SKILL & KNOWLEDGE

TECHNICAL SKILL

- Machining technology
 - CNC Milling, CNC Lathe and Wire cut machining for metal fabrication.
- Basic/Advance Metrology
 - (CMM contact and CMM Non-contact, Surface Roughness Machine, Temperature and Pressure Metrology, Roundness Machine, Universal Measuring Machine, Gauge length Interferometer)
 - Linear metrology
 - MSA and GR&R
- NDT & Failure Analysis
 - Knowledge in Non destructive testing (NDT) for material inspection.
 - Have an experience and knowledge in liquid penetrant test (PT), magnetic particle test (MT), ultrasonic test (UT), Eddy Current Test and also visual test (VT).
 - Able to check flaw detection/evaluation, dimensional measurements, material characterization.
 - Capable to conduct the material characteristic evaluation under SEM
- Destructive Testing (DT) Testing
 - Knowledge in DT testing (Impact test/ Tensile Testing/ Hardness Testing/ Fatigue Test)
- Welding.
 - Welding skill/ Technique in arc, gas, MIG application for metal fabrication
- Material Selection
 - Have an experience in material selection technique by using CES material selection software in order to minimize cost while meeting product performance goals.
 - The technique are involve concept of Ashby plots.
- Advance in Manufacturing Process
 - Have a knowledge in advance manufacturing process such as metal fabrication (EDM, Wire cut)

- Extrusion & Injection Molding
 - Experience in plastic / polymer fabrication using extrusion, injection molding and blow molding technique.
- Advance Ceramic Processing
 - Ceramic processing by using solid state technique, sol gel and slip casting.
 - Able to inspect the ceramic material characterization under SEM, XRD and also magnetic testing (VSM).
- Composite Processing
 - Experience in composite and polymer fabrication such autoclave molding, pultrusion and also resin transfer technique.
- Have experiences in Corrosion & Metallurgy Testing
- Material Laboratory skill / Analysis.
 - Skill/ Technique for material testing involved SEM, XRD, FESEM, Hardness, Tensile, Impact, VSM, and Optical Microscope.
- Minitab
 - Applied Minitab software for statistic and quality improvement activities in product development projects.

ROLES IN QUALITY ENGINEERING (UNIKL MITEC):

1. Coordinator Quality Engineering Department's laboratory
2. Coordinator Quality Engineering Industrial Training (INTRA)
3. Coordinator Quality Engineering Industrialmanship
4. Internal Auditor ISO 9001-2008