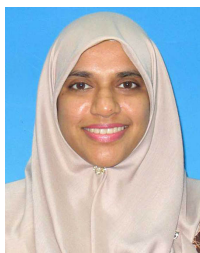


TASNIM FIRDAUS BT. MOHAMED ARIFF



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ACADEMIC QUALIFICATION

- Doctor of Philosophy
- Master of Engineering
- Bachelor of Engineering (Manufacturing)

TEACHING RESPONSIBILITIES

ADVANCED MACHINING PROCESSES	2020/2021
BULK DEFORMATION AND NET SHAPE MANUFACTURING	2019/2020
FINAL YEAR PROJECT II	2019/2020
MANUFACTURING ENGINEERING LAB III	2012/2013 2013/2014 2014/2015
MANUFACTURING ENGINEERING LAB I	2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
MANUFACTURING ENGINEERING LAB IV	2010/2011
MANUFACTURING ENGINEERING LAB V	2010/2011 2011/2012 2012/2013
MANUFACTURING PROCESSES	2009/2010 2012/2013 2017/2018 2018/2019
MANUFACTURING PROCESSES I	2010/2011 2011/2012 2012/2013 2013/2014 2014/2015 2016/2017 2017/2018 2018/2019 2019/2020 2020/2021
NON METALLIC MATERIALS PROCESSING	2019/2020
NON METALLIC MATERIALS PROCESSING	2013/2014 2014/2015 2016/2017 2017/2018 2020/2021
NONTRADITIONAL MACHINING	2019/2020 2020/2021
PROCESSING OF NONMETALLIC MATERIALS	2009/2010 2010/2011 2011/2012 2012/2013
PROJECT I	2018/2019 2019/2020
SPECIAL TOPICS IN ADVANCED MANUFACTURING	2009/2010 2010/2011 2012/2013
WORKSHOP TECHNOLOGY	2009/2010 2016/2017 2017/2018

RESEARCH PROJECTS

Completed

- 2014 - 2017** Damage Identification of Imperfect Adhesively Bonded Structural Joint using Modal Analysis
- 2014 - 2017** Enhanced Freshwater Production from Waste / Brackish / Saline Water in Remote Arid Areas Using Specially Designed Coolant Plates
- 2014 - 2017** Machinability Analysis and Development of Analytical Model for Ductile Mode High Speed Machining of Brittle Materials
- 2014 - 2018** Fundamental Mechanism and Activation of Nanoadd Zirconia Toughened Alumina (ZTA) Cutting Insert via the Addition of Carbon Nanotube (CNT) for Machining Super Alloy Inconel 718
- 2014 - 2017** Investigation of Polarization in Membrane Distillation (MD) Process and its Energy Efficient Solution for Freshwater Production in Malaysian Households.
- 2014 - 2019** Noble Approach to Control Vibration using Minimum Quantity Lubrication (MQL) in Micro Milling
- 2014 - 2019** Enhancing Tool Life with the Development of Silicon Nitride based Inserts for High Speed Machining of Inconel 718 using Hybrid Microwave Sintering
- 2012 - 2014** Wear Analysis of Post Sintered Silicon Nitride (SiN) and Aluminium Oxide Cutting Tools using Microwave Energy
- 2011 - 2013** Influence of The Cutting Tool Properties on Intensity of Tool Wear and Optimum Cutting Speed Using Dry Machining
- 2011 - -1** Study on the Effect of Eco-friendly Machining using ethanol as cutting fluid on tool wear
- 2011 - 2012** Study on the Effect of Eco-friendly Machining using ethanol as cutting fluid on tool wear
- 2010 - 2011** Study of TiC Cutting Tool Produced by Microwave Synthesis

In Progress

- 2014 - Present** Noble Approach to Control Vibration using Minimum Quantity Lubrication (MQL) in Micro Milling
- 2014 - Present** Fundamental Mechanism and Activation of Nanoadd Zirconia Toughened Alumina (ZTA) Cutting Insert via the Addition of Carbon Nanotube (CNT) for Machining Super Alloy Inconel 718
- 2014 - Present** Enhancing Tool Life with the Development of Silicon Nitride based Inserts for High Speed Machining of Inconel 718 using Hybrid Microwave Sintering

PUBLICATIONS

Article

- 2020** [Mechanical and structural properties of the butt welded joint in high strength structural steel \(ST52-3\) using gas metal arc welding and oxyfuel gas welding.](#) TEST Engineering and Management , 83 (May – June 2020) pp.1446 -1450
- 2018** [Enhancing tool life of hot isostatically pressed silicon nitride inserts in machining inconel 718 with different susceptors through hybrid microwave post sintering.](#) International Journal of Engineering Research and Application , 8 (12 Part I) pp.51-56
- 2018** [Improvements in the development of silicon nitride inserts using hybrid microwave energy for machining Inconel 718.](#) International Journal of Engineering Research & Technology (IJERT) , 7 (10) pp.244-247
- 2016** [Effect of air gap in the performance of AGMD system .](#) ARPJ Journal of Engineering and Applied Sciences , 11 (6) pp.4087 -4093
- 2016** [An experimental approach to determine the critical depth of cut in brittle-to-ductile phase transition during end milling of soda lime glass.](#) Arabian Journal for Science and Engineering , 41 (11) pp.4553-4562
- 2015** [Damage detection based on the natural frequency shifting of a clamped rectangular plate model.](#) Journal of Physics: Conference Series , 628 pp.012034-1
- 2015** [Cost analysis of using hybrid microwave post-sintered silicon nitride inserts.](#) Advanced Materials Research , 1115 pp.192-195
- 2015** [Channeled coolant plate: a new method to enhance freshwater production from an air gap membrane distillation \(AGMD\) desalination unit.](#) Desalination , 359 pp.71-81
- 2015** [Enhanced heating mechanism of the electric metal melting furnace in traditional foundry.](#) ARPJ Journal of Engineering and Applied Sciences , 10 (1) pp.9659-9663
- 2015** [Effect of coolant plate geometry and material in a freshwater production system: an experimental study.](#) Advanced Materials Research , 1115 pp.468-471
- 2015** [Design and development of a versatile ice clamping system.](#) Advanced Materials Research , 1115 pp.535-538
- 2015** [Effect of microwave sintering treatment to the flank wear of titanium carbide tools in milling operations.](#) Advanced Materials Research , 1115 pp.59-63
- 2014** [Economic analysis of using e-glass composite wrap repair system for pipelines in Malaysia.](#) Australian Journal of Basic and Applied Sciences , 8 (15) pp.241-245
- 2014** [Improving efficiency and enhancing productivity in transporting fertilizers by using conveyor belt cleaners.](#) Advanced Materials Research , 1082 pp.505-510
- 2014** [Enhancing tool life of silicon nitride inserts via hybrid microwave post sintering .](#) Australian Journal of Basic and Applied Sciences , 8 (15) pp.80-85
- 2013** [Design improvements and fabrication of conveyor belt cleaner and washing system at Westports Malaysia.](#) International Journal of Education and Research , 1 (10) pp.11-26
- 2013** [Dry machining of T6061 aluminium alloy using titanium nitride \(TiN\) and titanium carbonitride \(TiCN\) coated tools.](#) Applied Mechanics and Materials , 284/87 pp.291-295

- 2013** [Dry machining of T6061 aluminium alloy using titanium carbonitride \(TiCN\) coated tools.](#) Advanced Materials Research , 652/54 pp.2129-2133
- 2013** [Wear analysis of Silicon Nitride \(Si₃N₄\) cutting tool in dry machining of T6061 Aluminium Alloy.](#) Applied Mechanics and Materials , 268-70 pp.563-567
- 2013** [Dry machining of brass using titanium carbonitride \(TiCN\) coated tool .](#) Applied Mechanics and Materials , 372 pp.495-500
- 2012** [Eco-friendly machining of T6061 aluminium alloy using titanium carbonitride \(TiCN\) coated tools.](#) Advanced Materials Research , 576 pp.675-678
- 2012** [Eco-friendly machining of T6061 aluminium alloy using titanium carbonitride \(TiCN\) coated tools.](#) Advanced Materials Research , 576 pp.675-678
- 2011** [Study of TiC cutting tool insert using microwave synthesis.](#) Applied Mechanics and Materials , 52-54 pp.2116-2121
- 2010** [Synthesis of pewter alloy from tin-copper-antimony powder mixtures by microwave and conventional sintering.](#) Journal of Powder Metallurgy
- 2009** [The effect of powder sintering method on the densification and microstructure of pewter alloys.](#) IOP Conference Series: Materials Science and Engineering Email alert RSS feed , 4 (1) pp.1-5
- 2008** [Effect of microwave sintering on the mechanical and structural properties of pewter alloy.](#) RJoosA, Transactions on Material Science , 8 (1)
- 2008** [Effect of microwave sintering on the mechanical and structural properties of pewter alloy.](#) RJoosA, Transactions on Material Science , 8 (1)
- Conference or Workshop Item**
- 2018** [Optimizing the synthesis of alumina inserts using hot isostatic pressing \(HIP\).](#) In: **International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2017)**
- 2018** [Tool wear mechanisms during cutting of soda lime glass.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2017)**
- 2018** [Experimental investigation on frequency shifting of imperfect adhesively bonded pipe joints.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2017)**
- 2017** [Enhanced freshwater production using finned-plate air gap membrane distillation \(AGMD\).](#) In: **2016 International Symposium on Civil and Environmental Engineering, ISCEE 2016**
- 2017** [Optimizing the synthesis of alumina inserts using hot isostatic pressing \(HIP\).](#) In: **International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2017)**
- 2017** [Machinability of soda lime glass in high speed end milling.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2017)**

- 2016 [Minimum quantity lubrication in micromachining: A greener approach.](#) In: **6th International Conference on Industrial Engineering and Operations Management, 2016 (IEOM)**
- 2016 [Design improvements in underground watering system for small local farming industries.](#) In: **Joint Conference of 2nd International Manufacturing Engineering Conference, iMEC 2015 and 3rd Asia-Pacific Conference on Manufacturing Systems, APCOMS 2015;**
- 2015 [2-Dimensional heat and mass transfer analysis of condensation on channeled coolant plate in air gap membrane distillation \(AGMD\) freshwater production system.](#) In: **2nd International Conference on Desalination Using Membrane Technology**
- 2014 [Improved performance in aluminium oxide tool inserts via post sintering using hybrid microwave energy .](#) In: **2nd International Conference on Emerging Trends in Scientific Research**
- 2014 [Design and development of a versatile ice clamping system.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering (ICAMME2014)**
- 2014 [Effect of coolant plate geometry and material in a freshwater production system: an experimental study.](#) In: **International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2014)**
- 2014 [Effect of microwave sintering treatment to the flank wear of titanium carbide tools in milling operations.](#) In: **IIUM Engineering Congress : 3rd International Conference on Mathematical Application in Engineering 2014**
- 2011 [Enhancing mechanical and structural properties of TiC inserts using microwave energy.](#) In: **2nd International Conference on Mechanical and Manufacturing Engineering 2011 (ICME2011)**
- 2010 [Fabrication of Silicon Nanopillar Sheet for Cell Culture Dish.](#)
- 2010 [Effect of Process Parameters on Abrasive Contamination During Water Abrasive Jet Machining of Mild Steel.](#)
- 2009 [The effect of powder sintering method on the densification and microstructure of pewter alloys .](#) In: **Processing, Microstructure and Performance of Materials**
- 2009 [The effect of copper and antimony on the mechanical properties of pewter alloys made by conventional and microwave powder sintering.](#) In: **4th International Conference on Recent Advances in Materials, Minerals & Environment and 2nd Asian Symposium On Materials & Processing (RAMM & ASMP 2009)**
- 2008 [Enhancing mechanical and structural properties of pewter alloy using microwave sintering.](#) In: **International Conference on Mechanical and Manufacturing Engineering (ICME 2008)**
- 2005 [Making the lean manufacturing supply chain leap across small and medium scale industries \(SMIs\) in Malaysia.](#) In: **International Conference on Recent Advances in Mechanical & Material Engineering (ICRAMME 2005)**

2005 [The development of strategies for lean operations in SMLs.](#) In: **International Conference on Recent Advances in Mechanical & Material Engineering (ICRAMME 2005)**

**Book
Book Section**

2014 [Cost analysis of using hybrid microwave post-sintered aluminium oxide inserts.](#) In: **Handbook on emerging trends in scientific research** PAK publishing group . ISBN 9789699952074 , pp.53-58

2014 [Design improvements in the inner shell of a motorbike helmet using coconut fiber composite.](#) In: **Handbook on emerging trends in scientific research** PAK publishing group . ISBN 978-969-9952-07-4 , pp.59-65

2011 [Design of a simple and affordable electric bicycle.](#) In: **Design for manufacture: towards improved manufacturability** IIUM Press . ISBN 9789674181598 , pp.4-9

2011 [Design of bicycle helmet using FEA .](#) In: **Design for manufacture: towards improved manufacturability** IIUM Press . ISBN 9789674181598 , pp.10-17

2011 [Mould design for handphone casing using moldflow .](#) In: **Design for manufacture : Towards improved manufacturability** IIUM Press . ISBN 9789674181598 , pp.18-25

2011 [Application of statistical quality control for quality improvement .](#) In: **Design for manufacture : Towards improved manufacturability** IIUM Press . ISBN 9789674181598 , pp.66-71

2011 [Microwave sintering of metallic materials .](#) In: **Design for manufacture: towards improved manufacturability** IIUM Press . ISBN 9789674181598 , pp.179-184

2011 [Microwave sintering of ceramic materials .](#) In: **Design for manufacture: towards improved manufacturability** IIUM Press . ISBN 9789674181598 , pp.185-191

2010 [Investigation of Microholes Produced by Focused Ion Beam Micromachining.](#) In: **Materials Processing and Precision Engineering** Department of Manufacturing and Materials, Kulliyah of Engineering, IIUM , pp.92-97