

MUHAMMAD HUSSAIN ISMAIL (ASSOC. PROF. DR)

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RESEARCH INTEREST

Powder metallurgy, metal injection moulding (MIM), Advanced Materials for 3D Printing, Additive Manufacturing, welding metallurgy of titanium alloy, Porous bio-metallic and ceramics for biomedical applications, Materials Failure Analysis, Polymer processing

ACADEMIC QUALIFICATION

1. THE UNIVERSITY OF SHEFFIELD, UNITED KINGDOM, (OCT 2007- DEC 2012)*PhD, Porous NiTi by Metal Injection Moulding (MIM) using Partly Water Soluble Binder System*
2. UNIVERSITI KEBANGSAAN MALAYSIA (1999 – 2002)
M.Sc, Effect of Powder Loading in Processing Conditions of Metal Injection Moulding
3. UNIVERSITI KEBANGSAAN MALAYSIA (1996 – 1999)
B.Eng (Hons) in Mechanical and Materials Engineering

PROFESSIONAL AFFILIATION

1. Member of Board of Engineer Malaysia, BEM (No : GE42229)
2. Member of Electron Microscopy Society of Malaysia (EMSM) Life Membership
3. Secretary of Malaysian Powder Metallurgy and Particulate Materials Association (MPM²A) (Membership No : 009)
4. Industry Bureau of Malaysian Tribology Society, MyTRIBOS (No : L0015)
5. Visiting Research Fellow of Centre of Excellence in Frontier Material Research, UniMAP (April 2020 – April 2022)
6. Chief Editor, Basic Engineering Procedia, School of Mech..Engineering, UiTM Dec 20 – Nov 22)

ADMINISTRATIVE EXPERIENCES

1. Associate Fellow, Smart Manufacturing Research Institute (SMRI), UiTM : 1 June 2021 - present.
2. Coordinator, Industrial Linkage, College of Engineering : 1 Apr 2021 – present
3. Deputy Dean (Research and Industrial Linkages), Faculty of Mechanical Engineering : 1 Nov 2015 – 30 Mac 2021
4. Head of Tier 5 UiTM Research Initiative Group (RIG), Industrial Metallurgy Research Group (IMReG), UiTM : 11 Oct 2016 - present
5. Head of Centre for Advanced Materials Research (CAMAR), FKM, UiTM : Jan 2013 – Oct 2015, Mar 2005 – Aug 2007
6. Chairman of Timetable Committee : Mac 2004 – Sept 2006
7. UiTM Radiation Protection Officer (RPO) : 2005 -2007

NON-ACADEMIC EXPERIENCES (COMMUNITY SERVICES)

1. Persatuan Ibu Bapa dan Guru (PIBG) Sek. Men. Keb. Seksyen 9, Shah Alam, Selangor
 - Naib Yang DiPertua, NYDP (Feb 2020 – Oct 2021)
 - Committee (Feb 2019 – Feb 2020)
2. Technical Advisor (Mentor) for F1 in Schools (National and International Level STEM Competition), Sekolah Menengah Seksyen 9, Shah Alam, Selangor (2016 – present)
3. Chairman, Joint Management Body, Residensi Alami, Section 13, Shah Alam (Nov 2019 – present)
4. Committee, Musolla Alami, Residensi Alami, Section 13, Shah Alam (2017 – present)
5. Board Member of Koperasi PEGEMAS (2018 – present)
6. Persatuan Ibu Bapa dan Guru (PIBG) Sekolah Kebangsaan Tun Teja, Rawang, Selangor
 - Yang Di Pertua, YDP (Mac 2015 – Feb 2016)
 - Committee (Mac 2014 – Feb 2015)
7. Communication and IT Committee, Kelab UMNO Luar Negara Sheffield (KUSheff), UK – (2009/10)
8. Secretary, Sekolah Melayu Sheffield (SMS), UK (2008/09)

LIST OF COURSES TAUGHT (2001-PRESENT)

No.	Course Name	Level	Year
1	Strategy and Management of Innovation (MEM705)	Master	2016 - present
2	Industrial Project (MEM790)	Master	2014
3	Materials for Engineering Applications (MEC681)	Bachelor	2014 - present
4	Engineering Statics (MEC 412)	Bachelor	2012 - present
5	Mechanics of Materials (MEC 411)	Bachelor	2013, 2015, 2017
6	Materials Science (MEC 481)	Bachelor	2012 – present
7	Basic Mechanics (MEC 410)	Bachelor	2012
8	Mechanics and Materials Lab (MEC 424)	Bachelor	2012 – 2014
9	Special Topic on Powder Metallurgy (KJM595)	Bachelor	2006
10	Strength of Materials (KJM244/KJM211)	Diploma	2002 - 2006
11	Metallurgy (KJP212)	Diploma	2002 – 2005
12	Materials Science (KJM 414)	Degree	2004
13	Dynamic and Materials Lab (KJM410)	Diploma	2004
14	Machine Element Design (KJM337)	Diploma	2003
16	Mechanics of Materials II (KJM 494)	Diploma	2003
17	Automotive Technology 1 (KJV311)	Diploma	2001 – 2002
18	Automotive Engineering (KJP383)	Diploma	2002

RESEARCH (RECENT 5 YEARS)

No	Research Project	Source	Amount (RM)	Begin	End
1	Co-Researcher : Study of Design for Additive Manufacturing (DfAM) for Coated Hip Implant	RMC-KPU	40,000	July 2021	July 2023
2	Co-Researcher / Mentor : The Concentration of Ceramic-Polymer Mix Relation to the Flowability of PLA/HA Filament in 3d Printing	RMC-SRP-BISA Uni. Indonesia	17,850	Aug 2021	Sept 2023
3	Co-Researcher: Applying Polymer Stability and Ceramics Concentration Approaches to Understand the Effects of Viscosity Behavior on the Newly Developed PLA/HA-Based 3d Printing Filament.	MoE-FRGS	106,320	Sept 2021	Sept 2023
4	Co-Researcher: The Combinatorial Strategy of Endophytic Actinomycetes for the Disruption And Modulation of Cariogenic Biofilm	MoE-FRGS	137,700	Sept 2021	Sept 2024
5	Co-Researcher : Characterizing the Agglomerated Cementum Incremental Lines in Charred Teeth of Different Extreme Heat Exposures	MoE-FRGS	99,500	Sept 2021	Sept 2024
6	Co-Researcher : Correlational Effects of Dehydrogenation Behaviour on Phase Transformation of Mechanically Alloyed Ti-Nb From TiH ₂ Powders	MoE-FRGS	123,194	Sept 2021	Sept 2023
7	Co-Researcher : The Roles of Laser Power, Scan Rate, Scan Spacing and Build Direction for Optimum Surface Roughness in Additive Manufacturing of Denture Framework.	MoE-FRGS	159,930	Sept 2021	Sept 2023
8	Principal Researcher : Development of HAp/PLA composite filament for 3D printing in biomedical application	MyTRIBOS Industrial Grant	12,000	May 2021	Oct 2022
9	Principal Researcher : Morphological and Dimensional Analysis of 3d Metal Printing by Fused Deposition Modeling (FDM)	RMC -SRP	50,000	Dec 2020	Dec 2021
10	Co-Researcher : Fundamental Study of Design for AM(DfAM) for Hip Implant	RMC -SRP	50,000	Dec 2020	Dec 2021
11	Co-Researcher : Cementochronological Characteristics of Agglomerated Incremental Lines in Charred Teeth for Disaster Victim Identification	RMC-GPK	20,000	Dec 2020	Dec 2021
12	Co-Researcher : Elucidation Of Morphological Structure and Physical Properties of High Purity Ytria-Stabilized Tetragonal Zirconia Polycrystal Ceramics From Local Natural Sand	MoE-FRGS	79,175.	Sept 2019	May 2022
13	Principal Researcher : The Effect of Processing Conditions of TiNb on Phase, Microstructure and Compressive Strength	IRMI-GIP	25,000	April 2019	Mac 2020
14	Co-researcher : High Adhesive Nanoresin Biobased Basalt Patch Prototype For Internal Defect Pipeline Rehabilitation	MOE-PRGS	156,000	Jan 2019	Dec 2020
15	Co-researcher : Prototyping of Customized High Flexion Femoral Component for Total Knee Arthroplasty	MOE-PRGS	138,000	Jan 2019	Dec 2020

16	Co-researcher/mentor: Alloying Interaction Between Ni and Ti Powder During Dual Directed Energy Deposition Process.	MoE-FRGS	70,000	Jan 2019	Dec 2020
17	Co-researcher : Recovery Mechanisms of Oil and Gas in Tight and Ultra-Tight Formation Using Polyacrylonitrile/Graphene Composite- Coated Nanopropant With Isotopes Impregnated for Propagation Sensing	MoE-FRGS	104,800	Jan 2019	Dec 2020
18	Co-researcher : A Critical Assessment of Zinc Hydroxyapatite (ZnHa) as a New Bioactive Ceramic Implant Material	MoE-FRGS	83,000	Jan 2019	Dec 2020
19	Co-researcher : Kinetic Energy Model Development Of Wc-Co Nano Composite After Sintered-HIP And Microwave Process	MoE-FRGS	73,000	Jan 2019	Dec 2020
20	Co-researcher : Recycle of Particle Debris from Grinding Process in Metal Injection Molding (MIM) Using Palm Stearin Binder	IRMI-GIP	35,000	Jan 2018	Dec 2019
21	Principal Researcher : Porous Pseudo-Elastic NiTi Dental Implant by Advanced Metal Injection Moulding (MIM) Process	IRMI-DANA-REI	32,000	Sept 2017	Aug 2019
22	Principal Researcher : Prototyping of Porous NiTi Dental Screw and Abutment by Metal Injection Moulding (MIM)	MOE-PRGS	198,500	Sept 2017	Aug 2019
23	Principal Researcher : Fabrication of Porous NiTi Dental Implant by Metal Injection Moulding (MIM)	IRMI-GIP	20,000	July 2017	Jun 2018
24	Co-researcher : Lattice Expansion of Ba(Ce,Zr)1-xYxO3-d Proton Conductor	MOE-TRGS	327,000	2016	2019
25	Co-researcher: Porous Polycaprolactone /Hydroxyapatite (PCL/Ha) Biocomposite by Solid State Foaming Using Supercritical Carbon Dioxide	MOE-FRGS	96,080	2016	2018
26	Co-researcher : Mathematical Modelling of Skin and Synthetic Skin (Hydrogel-Silicone Biocomposite) Deformation Behaviour Based on Hyperelastic Constitutive Equations	MOE-FRGS	116,000	Mar 2016	Feb 2018
27	Principal Researcher : Development of Induction Heating System Incorporated with Brass Ring	KPT-PPRN	47,143.00	Aug 2016	Feb 2017
28	Principal Researcher : Solving the Problem of Machining of Alumina Guide Pin Sintered Components	KPT-PPRN	50,000.00	Aug 2016	Jan 2017
29	Co-researcher : Development of Highly Inter-Connected of Porous Titanium Implant Mix with Palm Stearin Binder by Metal Injection Moulding Technique	DANA-LESTARI	20,000.00	2015	2017
30	Co-researcher : Development of Dissimilar Titanium- Stainless Steel Fusion Welds Using Novel High Entropy Alloy (HEA) Fillers	MOSTI-ScienceFund	143,500.00	2015	2017
31	Principal Researcher : NiTi Shape Memory Alloy with Titanium Hydride Phase Stabilizer	MOE-FRGS	117,200.00	2015	2017
32	Co-researcher (Mentor) : Tribological Properties Enhancement of Pulverized Copper Matrix Composite via Carbon Nanotube De-agglomerator	MOE-FRGS	114,200.00	2015	2017

External Research Grant (In Collaboration with Industrial Partner)

	Research Title	Source	Company	Amount (RM)	Begin	End
1	Project Collaborator : Clinical Trial of Porous Nickel Titanium Dental Implant (RD1019Q1346)	MESTEEC : DANA RND	Nitium Technology Sdn. Bhd	2,171,400	Mac 2020	Dec 2022
2	Project Collaborator : Low Cost But High Quality Porous Nickel Titanium Dental Implant via Metal Injection Moulding	MOSTI : Inno Fund	Nitium Technology Sdn. Bhd	371,558	July 2017	July 2018
3	Project Mentor : Porous Nickel Titanium Dental Implant	MOF : Cradle Inv.Prog, CIP500	Nitium Technology Sdn. Bhd	150,000	Feb 2015	Feb 2017

POSTGRADUATE SUPERVISION

PhD/MSc/MEng (RESEARCH/COURSEWORK) SUPERVISION COMPLETED (SV & Co-SV)

	Students Name	Institutions	Year Enrolled	Year End
PhD				
1	Istikamah bt. Subuki (PhD) :Co-SV <i>“Injection Molding of Stainless Steel Powder (316L) using PalmStearin Binder System”</i>	UiTM/ SIRIM	2005	2010
2	Nor Fazli Abdull Manan (PhD) : Co-SV <i>“A novel technique to determine properties of skin using biomechanical principles”</i>	UiTM	2012	2016
3	Ahmad Lutfi bin Anis (PhD): Co-SV <i>“Effect of filler modification on grain refinement and mechanical properties of Ti-6Al-4V Titanium Alloy welds prepared by GTAW Technique”</i>	UiTM (Fac. of App. Science)	2014	2017
4	Siti Humairah Binti Kamarul Bahrain (PhD) : Co-SV <i>“Experimental-Numerical Study of Silicone Biocomposite Mechanical Behaviour Adapting Hyperelastic Constitutive Equations”</i>	UiTM	2015	2019
5	Nur Hidayatul Nadhirah binti Elmi Azham Shah (PhD) : SV <i>“Feasibility Study of TiNb alloy as Medical Implant using Different Processing Techniques”</i>	UiTM	2016	2019
6	Izzul Adli bin Mohd Arif (2015463276) : SV <i>“Effect of Boron Added Titanium Filler on Microstructure and Mechanical Properties of CP-Ti and Ti-15-3 Alloy Weldments”</i>	UiTM (Fac. of App. Science)	2016	2021

7	Suffiyana Akhbar (2014416314) : Co-SV(PhD) “Development of porous HAP scaffold by using polymer watersoluble binder”	UiTM (Chem. Eng)	2014	2021
8	Mohd Yusuf Zakaria (P84205) : Co-SV “Metal Injection Moulding of 2C-PIM”	UKM	2017	2020
MSc				
1	Nurul Huda M, Ali (2012986249) : Co-SV “Injection moulding of synthesized HAP powder from clamshell”	UiTM (Chem Eng)	2013	2015
2	Mohd Ikhwan Jamaludin (2012127163) : Co-SV “Development of highly inter-connected of porous titanium implant mix with palm stearin binder by MIM”	UiTM	2013	2015
3	Muhammad Hafizuddin Jumadin (2012977067) : Co-SV “An investigation on Carbon particle size and paste concentration on coating kinetics of carburised steel”	UiTM	2013	2015
4	Mohd Fadzli Ismail(2013683498): Co-SV “Impact Resistance of Advanced Hybrid and Sandwich Laminates”	UiTM	2013	2015
5	Razmi Noh Mohd Razali (2012570805) : Co-SV “Processing of Aluminium foam produced by infiltration NaCl space holder”	UiTM	2013	2015
6	Rosliza Razali (2012992519): Co-SV “The influence of Ni-Ti ratio on shape memory and pseudo-elastic properties prepared by metal injection moulding”	UiTM (Chem Eng)	2013	2015
7	Mahfuzah Zainudin (2014435524) :SV “Injection moulding of Ytria Stabilized Zirconia for Dental Application”	UiTM	2014	2016
8	Nor Shamimi Shaari (2014219862) : SV “Study of mechanical and wear properties of carbon nanotubes reinforce copper matrix composites by using powder metallurgy route”	UiTM	2014	2016
9	Muhammad Hafizuddin Mohamad Basir (2013977885) : Co-SV “Enhancement of Wear Properties 316L Stainless Steel through Shot Blasting Treatment and Paste Boronizing Process”	UiTM	2013	2017
10	Ros Atikah Abdul Kadir (2014473234) : SV “TiH ₂ Micro-Porous Replication near-net-shape Pseudo Elastic NiTi Alloy”	UiTM	2014	2017
11	Siti Norazlini Abd Aziz (2013253282) : Co-SV “Ceramic Injection Moulding of HAP using Environmental Friendly Binder System”	UiTM	2013	2017
12	Siti Mariana binti Hosnie (2014584641): SV “Effects of TiH ₂ powder on microstructure and mechanical properties produced by powder metallurgy route”	UiTM	2015	2018

13	Siti Athirah bt. Rashid (2011375039): SV <i>“Development of open cell copper foam by compaction for thermal management application”</i>	UiTM/SIRIM	2012	2019
MEgg (Engineering Management)				
1	Norradzila Abd Mokhti (2012766643) : SV <i>“Effects of Additives on ABS Scrap to Reduce Wastage as Second Material”</i>	UiTM	2012	2015
2	Nur Afzaniza binti Kamaludin (201144231) : SV <i>“The Development of KCC Own Colorant for Tinting Machine Usage”</i>	UiTM	2013	2015
3	Ruhaizad bin Ahmad (2014249926): SV <i>“Comparative study between original and counterfeit engine oil filter for Kawasaki Motors (Malaysia) Sdn Bhd”</i>	UiTM	2015	2016
4	Wan Aathera Wan Ahmad Marzuki (2019219044) : SV <i>“Adoption of E-Procurement Strategy And Procurement Performance In Glove Manufacturing Company That Practicing Lean Manufacturing”</i>	UiTM	2020	2021

ON-GOING POSTGRADUATE (RESEARCH) SUPERVISION (Includes Co-supervision)

	Students Name	Institutions	Year Enrolled	Year End
MSc				
1	Nur Atikah Abu Kasim (2013546807) : Co-SV <i>“Optimization process of MIM of porous Ti-6Al-4V with palm stearin binder”</i>	UiTM	2013	2015
2	Mohd Arifhakim bin Azizan (2014149351) : SV <i>“Development of Functional graded aluminium foam for sound absorber application”</i>	UiTM	2015	2017
3	Mohd Firhan bin Morni (2014525229) : SV <i>“Development of 2C-powder Injection moulding”</i>	UiTM	2015	2017
4	Mashitah binti Maso'od (2016289124) : SV <i>“Dimensional & Compression Analysis of Porous Dental Implant by MIM”</i>	UiTM	2016	2018
5	Najihah binti Rahmad (2019102755) <i>“ Effect of Heat Treatment on the Microstructure and Mechanical Properties of Additively Manufactured Ti6Al4V Alloy”</i>	UiTM & 3D Gens Sdn Bhd	2019	2022
PhD				
1	Ismail Lias (2013890776) : SV(PhD) <i>“Aluminium Foam Tube Waste Heat Exchanger (AFTWHE) for Engine Energy Recovery (EER) in IC Engine”</i>	UiTM	2014	2017

2	Mazyah Yahya (2013619002) : SV (PhD) “ <i>The influence of Ti/TiH₂- Nb Ratio on Porosity and Beta phase formation produced by Powder Metallurgy Route</i> ”	UiTM	2013	2016
3	Nurbailah Abd. Hamid (2013444896) : Co-SV (PhD) “ <i>Application of NiTiInol wire in Seismic Concrete</i> ”	UiTM (Civil Eng)	2013	2016
4	Jasmina Qamaruz Zaman (2017440728) : Co-SV “ <i>Evaluation of Locally Produced Leucite Based Ceramic Restorative Material</i> ”	UiTM (Dentistry)	2017	2020
5	Shaiful Anwar bin Ismail (160122680) : External co-SV “ <i>Porous copper fabrication by usig PM routes</i> ”	Uni. Of Sheffield, UK	2017	2020
6	Afeeqa Puteri binti Marzuki (2020281464) : SV “ <i>Development and Characterization Of 3D -Printed PLA/HA Composite For Biomedical Implant</i> ”	UiTM	2020	2023
7	Sivasanghari A/P Karunakaran (GS58570) : co-SV “ <i>Developing Superelasticity Effects in Nickel Titanium Alloy for Aerospace Application using Additive Manufacturing</i> ”	UPM	2020	2023

Have supervised more than 120 Final Year Project Undergraduate Program since 2002

AWARDS & RECOGNITION

1. Readers Insights Special Awards from Asia International Innovation Exhibition 2021, 15-17 Oct 2021, Project title : *Microstructure and Performance Analysis of Porous Copper Fabrication*
2. Outstanding Innovation Award from Malaysia Technology Expo (MTE2021) SDG, 29 Oct 2021
Project title : *e-Jau Biohybrid polymer resin - A green practical solution for plastic packaging industry*
3. Awards for Inbound/Outbound Program, Publication with International Collaborator, Industrial Grant, Income Generation, Community Services and Innovation & Commercialization for FKM Academic Staff during Hari Apresiasi Staf FKM : 27 Mac 2021.
4. Awards for High Impact Publication, Productive Publication, Environmental Icon, Mentoring Icon and Inspirational Icon for FKM Academic Staff during Hari Apresiasi Staf FKM : 11 Mac 2020.
5. Anugerah Tokoh Maal Hijrah 1441H/2019M UiTM (Academic Staff Category): 3 Oct 2019
6. Special Award from FRAUNHOFER, IEM at PECIPTA 2019, UTHM, 28 – 29 Sept 2019,
Project Title : *Functionally Graded Porous NiTi Dental Implant*
7. Special Award from IENA, Germany at ITEX 2017, KLCC, 11 – 13 May 2017,
Project title : *Porous NiTi Dental Implant by an Innovative Powder Metallurgy(PM) Route.*
8. Best of the Best Award in the Breakthrough Invention Innovation and Design Exhibition (BIIDE 2016) organized by UiTM Pahang, 7-8 Nov 2016
Project title : *Cheap Fabrication Process of Ti-6Al-4V for Biomedical Applications.*
9. 2nd Runner up for Product Pitching during IIDEX 2016 at Dewan Agung Tuanku Canselor, DATC UiTM, 22nd Sept 2016.
10. Best paper Award at the Malaysian Engineering and Science Postgraduate International Conference (MESPIC 2016), 27-29 Sept 2016, Paper title : *Fabrication of Porous β -Ti40Nb alloy Incorporated with TiH₂ via Powder Metallurgy Route Under Reducing Environment*
11. Excellent Performance Award (Anugerah Khidmat Cemerlang) from the UiTM for the year 2014 and 2006.
12. Best paper Award at the International Conference on Advances in Mechanical Engineering (ICAME 2015), 26-27 August 2015 Bali, Indonesia. Paper title: *1.The Influence of Ni-Ti Ratio on the Reversible Austenite-Martensite Transformation and Mechanical Properties Produced*

by Metal Injection Moulding , 2. Influence of space holder on rheological behavior of copper feedstocks for metal injection molding.

13. Best Presenter Award at the ICAME 2015. Paper title: *Shape memory investigation of smart CAMAR logo using NiTi alloy wire*
14. Panglima Awang Invention Award-Platinum Professional Category Award in the Research Invention, Innovation & Design 2014, 13-14 Dec, UiTM Melaka.
15. Excellent Exchange Scheme Award from the University of Sheffield to undertake research work at the Institute of Energy, Julich, Germany commencing 27 July-21 Aug 2009
16. Best Innovation Achievements Award in 2008 from UiTM. The award was sponsored by the Bank Islam Malaysia Berhad (BIMB)
17. PhD scholarship Award by the Government of Malaysia to pursue post-graduate studies at the University of Sheffield, United Kingdom from 15 Sept 2007 – 14 Sept 2011
18. Innovation Activities & Award Achievement (more than 50 Awards since 2007). Selected recent awards:
 - Gold Award at MTE 2021, Oct 28, Virtual
 - Gold Award at IIDEX 2021, Nov 1, Virtual
 - Gold Award at PECIPTA 2019, Sept 29, UTHM, Johor
 - Gold Award at IIDEX 2018, Sept 24 – 27, DATC UiTM Shah Alam
 - 2 Gold Awards at IIDEX 2017, Sept 24 -29, DATC UiTM Shah Alam
 - Gold Award PECIPTA 2017, Sept 7 – 9, UNIZA, Kuala Nerus, Terengganu
 - Gold Award at ITEX 2017, May 11 – 13, KLCC, KL
19. Intellectual Property Right (IPR) : Patent & Utility Innovation
 - Method for Producing Porous Medical Implant : pending (PI2018703906) & 10-2019-0132057
 - A Method of Prod. Aluminium Foam with Central Pillar : granted, 2019 (MY-172594-A)
 - A Method of Prod. Dental Implant Article with NiTi Alloy, : granted, 2020 (MY-173241-A)
 - A Method for Prod. A Hydroxyapatite Scaffold : granted, 2018 (MY-186781-A)
 - A Method of Prod. a Hydroxyapatite Composite Scaffold : granted, 2021 (MY-167426-A)
20. Intellectual Property Right (IPR) : Copyrights (granted)
 - Copper/Carbon Nanotubes As Electrical Brushes In Electric, 2016 : (CRLY00004080)
 - Ti-Nb Beta Phase Titanium Alloy For Biomedical Implant, 2016 : (CRLY00004081)
 - Development of Biomedical Staple Using Metal Injection Molding (MIM), 2016 : (CRLY00004083)
 - Porous NiTi Dental Implant By An Innovative Powder Metallurgy Route, 2016 : (CRLY00005099)
 - A Method of Producing Aluminium Foam Tube for Heat Exchanger Application, 2016 : (CRLY00005883)
 - An Innovative Solvent Extraction Technique For MIM, 2016 : (CRLY00004905)
 - The Usage of TiH₂ Powder in Fabrication of TiNb Alloy for Implant Applications, 2017 : (CRLY00008079)
 - Mechanical Behavior And Microstructure Aluminum Foam Tube Produce (Aftp) Using Infiltration Method With Vacuum-Gas, 2016 : (CRLY00004944)
 - Let's Recycle, 2016 : (CRLY00005116)
 - Fabrication of Ti40Nb and Ti45Nb Alloy by using Low-Cost Sintering for Implant Applications, 2017 : (CRLY00008311)
 - Wear Properties Improvement of Copper by Carbon Nanotubes Reinforcement, 2017 : (CRLY00009211)
 - Functionally Graded Aluminium Foam (FGAF) as New Type of Metal Foam for Sound Insulation Application, 2017 : (CRLY00007232)
 - Personal Protective Faceshield Using Plastic Injection Moulding and Film Piercing, 2020 (CRAR00004678)

21. Commercialization of Products

- Licensing Agreement for Commercialization fees with Nitium Technology Sdn Bhd. (RM60,000 for 5 year prior commercialization) under the project of Porous Nickel Titanium Dental Implant (April 2018 – April 2022)
- Licensing Agreement for Commercialization fees with GAIA Pebbles Sdn. Bhd (RM5,000 for using UiTM logo) under the project of Protective Face Shield Frame by Plastic Injection Moulding (April 2020 – present)

CONSULTATIONS, EXPERTISE & COMMITTEES

Selected Registered Consultation

1. Development of Biodegradable Polymer Resin – Phase 2 (Ref No : 20210406008), 1 April – 30 Sept 2021, Gaia Plas Berhad (RM101,500)
2. Design, Prototype, Fabrication and Installation of Mould For G-95 Face Shield (Ref No : 4889), 15 April – 15 Aug 2020, Gaia Plas Berhad (RM20,124)
3. Biodegradable Jerry Can (Ref No : 20201109001), 1 Feb – 30 May 2020. Gaia Plas Berhad (RM8000)
4. Air Passenger Survey Proposal (Ref No : 20200211004), 2 Sept 2019 – 2 Sept 2020, Air Asia Berhad (RM47,520)
5. Testing and Evaluation of Glass Fibre Reinforced Polymer Composites Sandwich Panel (Ref. No : 20191009022), 19 Jul – 19 Aug 2019, Carbon Tech Global Sdn. Bhd (RM6,300)
6. Lab Management for MSU Students (Ref. No : 20191011011), 6 – 27 July 2019, Management and Science University (MSU) (RM24,380)
7. To Produce and Supply UiTM Card Holder with Lanyard (Ref. No : 20190625007), 15 May – 28 June 2019, Pusat ASASI UiTM Kampus Dengkil (RM12,500)
8. Training on Ideas and Innovative Projects with Recyclables (Ref. No : 20191011052), 12 Jan – 28 Feb 2019, Vistec Technologies Sdn. Bhd. (RM2,060)
9. Kursus Bidang Kepakaran Bahan Komponen Perabot (Polimer/ Logam / Tekstil/Kaca) (Ref. No : 20180724010), 16 – 17 July 2018, Institut Penyelidikan Perhutanan Malaysia (FRIM) (RM19,026)
10. Alluette Nose Gear Compression Test (Ref. No : 20150629003), 4 – 5 April 2015, Aviation Design Sdn. Bhd (RM5,000)
11. DN 50-FE Modelling Facilitation and Output Anlysis (Ref. No : 0000159906003), 4 – 5 April 2013, Tepat Teknik Sdn. Bhd. (RM2,200)
12. Evaluation of product quality and production machine in Harvik Rubber Industries Sdn. Bhd, Prai, Penang (Ref. No : 100-IRDC 37/7/P1443), May – Aug 2006, Harvick Industries Penang (RM5,000)
13. Metallographic Examination of Welded Components (Ref. No. 100-IRDC 37/7/1472), Aug – Sept 2006, TUV Rheinlad Malaysia Sdn. Bhd. (RM5,000)
14. Macrostructure Analysis of Perodua MYVI Brake Pedal Component (Ref. No : 100-IRDC 37/7/1326 (T364), 9 – 16 Jan 2006 (RM2,500)

Invited Presentation / Guest Speaker in Webinar/Seminar/Workshop & Conference

1. Ceramic Technology Webinar organized by Malaysian Powder Metallurgy and Particulate Materials Association (MPM2A), 6 Oct 2021 , *Title : Ceramic Processing Research @ UiTM*
2. Webinar STEM organized by Sekolah Menengah Kebangsaan Serendah, 22 Sept 2021, *Title : Inovasi di Luar Kotak*
3. Webinar Series 2 organized by Faculty of Architecture, Universiti Malaysia Kelantan, 13 Sept 2021, *Title : Smart Innovation and Transformation : IP & Patent*
4. International Summer Course on Humanitarian Engineering: The Role of Engineers and Scientist

- During Pandemic Era, organized by Universitas Gadjad Mada-UTHM-UiTM, 12 July 2021, Title : *Reimagining Plastics : The Story of UiTM Faceshield*
5. Program Jejak Kerjaya SMTKL organized by Sekolah Menengah Teknik Kuala Lumpur, 3 July 2021, Title : *Path to Mechanical Engineering Field*
 6. Webinar, Shaping the Future: Additive Manufacturing and Metal Injection Moulding organized by Universiti Teknologi Petronas, 29 June 2021, Title : *Metal Injection Moulding vs 3D Printing of Metals*.
 7. MyTRIBOS Webinar Series, 28 April 2021, Title : *The Importance of Rheology in Metal/Ceramic Composite for Injection Moulding and FDM 3D Printing*
 8. STEM Webinar Series organized by Keris Racing Team, SMK Seksyen 9, Episode 2, 27 March 2021, Title : *Innovative Thinking*.
 9. FKM Webinar Series with Vellore Institute of Technology, India on Lightweight Electric Motor, 16 December 2020, Title : *Advanced Manufacturing of Functionally Graded Materials for Lightweight Motor*.
 10. German-Malaysian Workshop Series organized by UTHM-UiTM & Fraunhofer IEM Germany, 16 Nov 2020, Title : *Innovative Thinking through Industrial Cooperation*
 11. Faculty of Engineering and Quantity Surveying Webinar Series, INTI International University, 21 October 2020, Title : *Advanced Metals and Processing in IR4.0*.
 12. 19th Annual Scientific Meeting and 21st Annual General Meeting of International Association of Dental Research (IADR Malaysian Section), 10 Oct 2020, Acapella Hotel and Suites, Section 13, Shah Alam, Title : *Advanced Manufacturing of Biomedical Metal Implant*.
 13. Institute of Science (IoS), UiTM Colloquium Series 2020, 7 Aug 2020. Title : *Engineering Materials for Injection Moulding and 3D Printing*
 14. Penceramah Jemputan diatas talian Kursus Institute of Leadership and Development,, 20 May 2020. Title : *Kitar Semula Plastik, Fikir Dahulu Sebelum Buang*
 15. Seminar and Workshop on 3D Printing Technology & Product Design, 28 Nov 2019, MIMOS Bukit Jalil, Title : *Metal 3D Printing by Fused Deposited Modelling (FDM)*
 16. Persatuan Seniman dan Warisan Kelantan, 14 Nov 2019, Singgora Homestay, Kota Bharu, Kelantan, Title : *Metalurgika Keris Melayu*
 17. Forum and Showcase Public Private Research Network (FASPPRN), 15 Oct 2019, UTM Kuala Lumpur, Title : *Ceramic Guide Pin*
 18. Mechanical Engineering Research Day (MERD 2019), 31 Jul 2019, Faculty of Mechanical Engineering, UTeM, Melaka, Title : *Shape Memory Porous NiTi Alloy for Dental Screw*
 19. International Symposium on Biomedical Engineering (iSBE 2019), 23 Jul 2019, Padang Convention Centre, Indonesia, Title : *Advanced Powder Processing of Ti alloys Implants*
 20. Seminar on Advanced Ceramic Technology Seminar 2019, 23 Apr 2019, RS Advanced Technology Sdn. Bhd, Title : *Ceramic Injection Moulding vs 3D Ceramic Printing*
 21. Department of Metallurgical and Materials Engineering, Universitas Indonesia, Indonesia, 27 Mar 2019, Title : *Advances in Powder Metallurgy (Past, Present and Future)*
 22. Fakultas Teknik & Ilmu Komputer, Universitas Bakrie, Indonesia, 26 Mar 2019, Title : *Advances in Powder Processing*
 23. Medical Implant Seminar 2016, 13 Sept 2017, FKM, UiTM, Title : *Processing of Hap by Ceramic Injection Moulding (CIM)*
 24. 2nd Workshop on Materials Science and Technology, 15 Dec 2016, Universiti Malaysia Kelantan (UMK), Title : *Advances in Metallurgy*
 25. 4th International Conference on Advances in Mechanical Engineering (ICAME 2015), Hotel Petrajasa, Bali, Indonesia, 27 Aug 2015, Title : *The Influence of Ni-Ti Ratio on the Reversible Austenite-Martensite Transformation and Mechanical Properties Produced by Metal Injection Moulding*
 26. Surface Characterization-Phenom Table Top SEM Seminar, Faculty of Chemical Engineering, UiTM, 13 Aug 2015, Title : *The Importance of SEM in Powder Processing Technology*
 27. 22nd International Conference on Processing & Fabrication of Advanced Materials, National University of Singapore, 19 Dec 2013, Title : *The Processing of Porous NiTi by Metal Injection Moulding (MIM)*

Jury in Innovation, Invention and Design Competition

1. Esteemed Panel of Judges at the International Innovation and Invention Exhibition, **ITEX** , KLCC, 2014 -2016, 2018 – 2019.
2. Judge at the Inventions, Innovation, Design and Exposition, **IIDEX**, DATC, UiTM, 2017 – 2021.

Internal Thesis Examiner

1. Lailatul Harina binti Pajjan, **MSc**, *Structural Development of Expanded Austenite on Duplex Stainless Steel by Low Temperature Thermomechanical Nitriding Process* (Feb 2014)
2. Ana Syahidah binti Mohd Rodzi, **MSc**, *Study on Nanostructure Zinc Oxide Thin Film Characteristics* (Mar 2014)
3. Mohd Shahrman bin Adenan, **PhD**, *Characterization of Surface Layer Development on Duplex Stainless Steel Resulting From Thermomechanical Hybrid Treatment* (June 2015)
4. Norhashidah binti Manap, **MSc**, *Mechanical Properties of Kenaf Hybrid Composite Laminates* (Nov 2015)
5. Mohamed Ackiel Mohamed, **PhD**, *Novel Method Development of Fatigue Life Enhancement for Friction Stir Welded AA6061 Butt Joint* (Nov 2016)
6. Afzalleh Jilleh, **PhD**, *Studies on Microstructural & Wear Investigaton of Fe-based Hardfacing Material Deposited on Mild Steel Base Metal* (April 2018)
7. Najibab Ab Latif, **PhD**, *Surface Analysis of Bio-Inspired Pistia Leaves* (April 2020)

External Thesis Examiner

1. Tan Chee Wayne, **MSc**, **UTM**, *Effects of Argon Concentration and Heat Treatment on the Behaviour of Al-Cu-Fe Quasicrystal Alloy* (July 2017)
2. Siti Najatul Aishah binti Majid, **MSc**, **UTeM**, *Mechanical Behaviou of 3d Printed Objects via Open Source* (June 2019)
3. Naskan Dan, **PhD**, **UTP**, *Low Temperature Gas Nitriding of 2205 Duplex Stainless Steel to Enhance the Wear Properties, Pitting and Stress Corrosion Cracking Resistance in Sweet and Sour Environment* (Sept 2019)
4. Mohd Ikram Ramli, **PhD**, **UKM**, *Injection Moulding of Titanium-Wollastonite Composite* (Oct 2019)
5. Muhammad Abdul Hisyam Abu Hassan, **MSc**, **UMP**, *The Effect of Equal Channel Angular Pressing Process on Strain Behaviour of Aluminium Alloy 6061* (Mac 2020)
6. Aghnia Ilmiah N, **S2/MSc**, **Universitas Indonesia**, *Design and Design Rules for Rapid Prototyping Tools based on Print Position Orientation and Process Extrusion for PLA Materials* (July 2021)
7. Ichwan Fatmahardi, **MSc**, **UTP**, *The Study On The Optimized Welding Parameters During Similar Resistance Spot Welding Of Titanium Alloy TI-6Al-4V* (Okt 2021)

Paper & Journal Reviewer

1. International Journal of Technology (IJT), Universitas Indonesia
2. Journal of Mechanical Engineering (JMEchE), Univeristi Teknologi MARA
3. Materials Science and Engineering C (Elsevier)
4. Ceramics International (Elsevier)
5. Materials Science and Technology (Taylor & Francis)
6. Jurnal Teknologi UTM

Committees

1. Person-In-Charge of MoU/MoA (Local Industries/ Agencies)

- Nitium Technology Sdn Bhd
- RS Advanced Technology Sdn Bhd
- Gaia Plas Sdn Bhd
- Pebble3d Sdn Bhd
- Jabatan Pengairan dan Saliran (JPS) Malaysia

2. Person-In-Charge of MoU/MoA (International Universities)

- Technical University of Liberec, Czech Republic
- Gyeongsang National University, Korea

3. Event/ Conference Organization

International

- Moderator, *UiTM-Vellore Institute Technology (VIT), India : A Way Forward*, Oct 13, 2021
- Moderator, *UiTM-Universitas Pertamina, Indonesia : Fostering IoT in Future Research*, organized by School of Mechanical Engineering, Penang Branch and Fakultas Mesin, Universitas Pertamina, July 14, 2021
- Co – host & Co chair, *International Symposium on Biomedical Engineering (ISBE 2021)*, organized by Universitas Indonesia, July, 7-8, 2021
- Committee, UiTM-Universitas Jayabaya, Indonesia Student Colloquium 2021, Feb 20, 2021
- UiTM representative for Innovationlabs.my, a collaborative effort between Fraunhofer IEM, Germany- UiTM- UTHM : Jan 2020 – present

National

- Program Advisor, *Webinar The Future of 3D Printing : Opportunities & Challenges*, organized by College of Engineering and Smart Manufacturing Research Institute (SMRI), Oct 13, 2021
- Program Advisor, *Webinar Ceramic Technology Webinar*, organized Malaysian Powder Metallurgy and Particulate Materials Association (MPM²A) & Maju Saintifik Sdn Bhd, Oct 6, 2021
- Committee, *MoU signing ceremony with Industries*, organized by Office of Industry, Community and Alumni Network (ICAN) June 30, 2021
- Penyelaras bersama for Career Talk : What's Next After SPM with Sek Men Seksyen 18, Shah Alam, Oct, 1, 2021
- Moderator, Research Webinar, organized by Office of Deputy Vice Chancellor (Research and Innovation) : April 21, 2020
- Penyelaras bersama, *Bridging the Future with STEM*, Panitia Fizik Daerah Sabak Bernam, Sept – Okt 2021
- Director for Career Talk : What's Next After SPM with Sek Men Seksyen 9, Shah Alam, Jan, 9 – 10, 2021

UiTM / Faculty/ College

- Moderator, Program Bicarawira Transformasi Siri 17, Bahagian Transformasi Universiti, Mei 3, 2021
- Vice Advisor, Jawatankuasa Teknikal Fak. Kejuruteraan Mekanikal, April 2018 – Mac 2021
- Program Advisor, UiTM Materials Inage Competition, organized by FKM, FSG UiTM and

- IMM Student Chapter, Mar 30, 2020
- Director, UiTM CSR Faceshield Project, Mac – May 2020
- Program Advisor, Mobile Design Competition 2019 in collaboration with CTG Sdn Bhd, April 1 – Sept 30, 2019.
- Advisor, MoU Signing Ceremony between UiTM – Carbon Tech Global Sdn Bhd, Jun 12, 2020
- Chairman, Publication and Journal of Mechanical Engineering Committee, FKM, Jan 2, 2019 – Jan 1, 2020
- Chairman, Strategic Business Unit, FKM, Jan 2, 2019 – Jan 1, 2020
- Chairman, Program Hari Apresiasi Staf FKM 2020, Mac 11, 2020
- Committee, AJK Kelestarian Kluster Waste : April 1, 2020 – Feb 28, 2022
- Vice Chairman, FKM Professorial Talk 2019, June 1 – Dec 31, 2019
- Vice Chairman, Jawankuasa Pengurusan FKM, Jan 2, 2019 – Mac 2021
- Committee, Jawatankuasa Kesepakatan FKM : Sept 2019 – Mac 2021
- Committee, Faceshield SIRIM Standard, SIRIM : Aug – Dec 2020
- Summer Research Program Student Advisor from National Institute of Technology UBE College, Japan, Aug 21 – Sept 25, 2019 . Student : Hinato Mito
- Vice-Chairman, Symposium on Academia- Industry Collaboration : Experience, Expectation and Technical Dialogue, Sept 24, 2019
- Advisor and Vice Chairman, Satellite Node MARii-UiTM, Oct 1 – Dec 31, 2019

PUBLICATIONS : **H-INDEX: GOOGLE SCHOLAR (12), SCOPUS (9)**

Document : Scopus (104)

<https://www.scopus.com/authid/detail.uri?authorId=57195384421>

<https://scholar.google.com/citations?user=bLjzEcAAAAAJ&hl=en>

Citation : Google Scholar (839), Scopus (558)

Book

1. S. N. A. Aziz, M. A. A. Bakar, M. H. Ismail, *Injection Moulding of HAp for Biomedical Applications* (2017) LAP LAMBERT Academic Publishing. ISBN 978-620-2-06047-9

Book Chapters

1. M. H. Ismail, H. A. Davies, I. Todd, *Porous pseudo-elastic NiTi alloy for bone implant produced by transient liquid phase sintering following metal injection moulding (MIM) process*. Book Chapter in **Metal Injection Moulding of Implant Materials**. pg 149-188. (2013) Advanced Materials Research Centre (AMREC), SIRIM. ISBN 9789671158814
2. M. H. Jumadin, B. Abdullah, M. H. Ismail, S. K. Alias *Water-Based Pack Carburizing Technique: A Heat Treatment Practice for Sustainable Environment*. Book Chapter in **Engineering and Technical Development for Sustainable Environment**. pg 11-22. (2016) Apple Academic Press (APP) ISBN 9781771885218
3. M. K. Taib, R. N. M. Razali, B. Abdullah, M. H. Ismail. *Compression Strength of Open-Cell Aluminum Foam Produced by Green Sand Casting Using Energy Conservation Lost-Foam Technique*. Book Chapter in **Engineering and Technical Development for Sustainable Environment**. pg 190-220. (2016) Apple Academic Press (APP), ISBN 9781771885218
4. N. A. Hamid, H. A. Hamid, A. Ibrahim, A. Adnan, M. H. Ismail, *Energy Dissipation and Strain Recovery of Pseudo-Elastic Shape Memory Alloy Ni-Ti Wire*, Book Chapter in **International Civil and Infrastructure Engineering Conference (InCIEC 2015)**, Springer Singapore, pp 653-664, DOI: 10.1007/978-981-10-0155-0_55

Selected Journal Papers (MyCite/Scopus/WoS indexed)

2021

1. M. Y. Zakaria, M. I. Ramli, A. B. Sulong, N. Muhamad, M. H. Ismail, *Application of Sodium Chloride as Space Holder for Powder Injection Molding of Alloy Titanium–Hydroxyapatite Composites*. **Journal of Materials Research and Technology (JMR&T)**, Elsevier, Vol 12 pp 478 – 486 (2021) (WoS, IF : 5.289, Q1)
2. R. A. A. Kadir, N. A. Shariff, M. H. Ismail, *Effect of Heat Treatment on Phase Transformation of NiTi Shape Memory Alloy produced by Metal Injection Moulding*. **Scientific Research Journal (SRJ)**, UiTM Press, Vol 18(1) pp 71-82. (2021) - MyCite
3. M. Zainudin, A. Arifin, R. L. Mahmud, M. H. Ismail, *Dimensional Analysis and Surface Characterization of Ground Alumina Sintered Guide Pin*. **Scientific Research Journal (SRJ)**, UiTM Press, Vol 18(1) pp 131-142.(2021) – MyCite

2020

4. N.A. Malik, M. Yahaya, N.N. Alam, M.H. Ismail, O.H. Hassan, A.M.M. Ali, M.H. Samat, M. F. M. Taib, *The Structural, Electronic and Mechanical Properties of α and β Phases in Titanium Using Density Functional Theory*. **International Journal of Nanoelectronics & Materials (IJNeaM)**, Vol 13 pp 11-20 (2020) - Scopus, Q3
5. N. S. Shaari, M. H. Ismail, A. Jumahat, R. Goodall, *Sintering and dimensional analysis of Cu/CNTs via a powder metallurgy route*. **Journal of Mechanical Engineering (JMechE)**, UiTM Press, vol17(3) pp 117-130 (2020) - Scopus, Q3
6. I. Subuki, M. F. Mohsin, M. H. Ismail, F. S. M. Fadzil, *Study of the synthesis of zirconia powder from zircon sand obtained from zircon minerals malaysia by caustic fusion method* **Indonesian Journal of Chemistry**, Vol 20(4) pp 782-790 (2020) – Scopus, Q3
7. N. H. M. Farhadi, M. Z. Mayzan, D. D. Shamsul, F. Esa, M. H. Ismail, *The Role of ZnO Additions on Physical and Electrical Properties of Iron Phosphate Glasses*, **Journal of Advanced Research in Dynamical & Control Systems**, Vol.12, Special Issue-02, pp 265 -270 (2020) - Scopus, Q3

2019

8. I. Subuki, S. Akhbar, R. W. Sharudin, M. H. Ismail, *Effect of Foaming Condition on the Pore Characteristic for Porous Polycaprolactone/Hydroxyapatite (PCL/HA) Composite*, **International Journal of Recent Technology and Engineering**, Blue Eyes Intelligence Engineering & Sciences Publication, Vol 8(1) pp 3175-3180 (2019), Scopus, Q4
9. N. H. Mohamad Nor, M. H. Ismail, H. Husain, J. B. Saedon, M. Newishy, *Sintered Strength of Ti-6Al-4V by Metal Injection Molding (MIM) using Palm Stearin Binder*, **Journal of Mechanical Engineering**, UiTM Press, vol 16(1) pp 135-147 (2019), Scopus, Q3
10. S. M. Ab Ghani, N. S. Hassan, A. A. Tamrin, T. W. Lim, M. I. A. Hassan, M. H. Ismail, *Comparison on polymerization of bulk-fill composite resins in different marginal thickness of tunnel restoration*, **Journal of Mechanical Engineering**, UiTM Press, Vol SI 8(1), 65-79, 2019, Scopus, Q3

11. S. Akhbar, I. Subuki, R. W. Sharuddin, M. H. Ismail, *Modelling of Average Pore Size and Porosity of Porous Polycaprolactone/Hydroxyapatite (PCL/HA) Composite Blends*, **International Journal of Engineering and Advanced Technology (IJEAT)** Blue Eyes Intelligence Engineering & Sciences Publication, Vol 8(1) pp 5791-5797 (2019), Scopus, Q4
12. J. M. Said, M. H. Ismail, N. A. Z. Abidin, N. A. Haris, A. N. M. Roslan, *Additive Manufacturing of 316L Stainless Steel*, **International Journal of Recent Technology and Engineering**, Blue Eyes Intelligence Engineering & Sciences Publication, Vol 8(4) pp 6825- 6829 (2019), Scopus, Q4
13. M. I. N. Ma'arof, E. R. S. Al-Jaberi, U. Shahid, M. H. Ismail, G. T. Chala, *Study on Heat-induced-shape-shifting-memory Alloy on Motorcycle Body Panel*, **INTI Journal**, Vol.2019:015

2018

14. A. L. Anis, M. K. Talari, N. K. Babu, M. H. Ismail, G. D. J. Ram, I. A. M. Arif, *Grain Refinement of Ti-15V-3Cr-3Sn-3Al metastable β -titanium alloy welds using boron modified fillers*, **Journal of Alloys and Compounds (JAlCom)**, Elsevier, Vol 70 (3) pp 685-690 (2018), WoS, IF : 3.133, Q1
15. S. H. K. Bahrain, J. Mahmud, M. H. Ismail, *Arenga Pinnata–Silicone Biocomposite Properties via Experimental and Numerical Analysis*, **MATERIALS SCIENCE (MEDŽIAGOTYRA)**. Vol. 24 (3) pp 277 – 282 (2018) - Scopus, Q3
16. M. Maso'od, M. H. Ismail, R. Razali, I. Subuki, *Effect of sintering temperatures on microstructural changes and phase transformation of nearly equiatomic microporous NiTi alloy produced by metal injection moulding*, **Journal of Mechanical Engineering (JMEchE)**, UiTM Press, vol 5(SI 6) pp 115-126 (2018) - Scopus, Q3
17. S. Akhbar, I. Subuki, R. W. Sharudin, M. H. Ismail, *Performance of polycaprolactone/hydroxyapatite (PCL/HA) composite blended by ultrasound assisted melt blending*, **Journal of Mechanical Engineering (JMEchE)**, UiTM Press, vol 5(SI 6) pp 235-250 (2018) - Scopus, Q3
18. N. H. M. Nor, M. H. Ismail, H. Husain, J. Saedon, M. A. Yahaya, *Optimizing Sintering Process to Produce Highest Density of Porous Ti-6Al-4V*, **Journal of Mechanical Engineering (JMEchE)**, UiTM Press, vol 5(SI 5) pp 44 – 55 (2018) – Scopus, Q3
19. S. M. Hosnie, M. Yahaya, N. A. Haris, M. H. Ismail, *Thermal Analysis and Microstructural Study of Porous β -TiNb Incorporated with TiH₂ Powder via Low-cost Processing Route*, **Journal of Advanced Manufacturing Technology (JAMT)**, UTeM Press, Vol 12(2) pp 121-132 (2018) – Scopus, Q3
20. M. A. Azizan, N. A. M. Salleh, M. H. Ismail, V. D. Natarajan, *Fabrication of Functionally Graded Open Cell Aluminium Foam using Graded NaCl in Infiltration Casting*, **International Journal of Engineering & Technology (IJET)**, Vol 7 (4.18) pp 171 – 175 (2018) – Scopus, Q4
21. S. N. A. Aziz, W. S. W. Saidi, M. A. A. Bakar, M. H. Ismail, *Rheological Behavior of Zirconia Added Alumina Mixture*, **International Journal of Engineering & Technology (IJET)**, Vol 7 (4.26) pp 251-256 (2018) – Scopus, Q4

22. M. Maso'od, A. Khushaini, R. Ahmad, N. A. Wahab, M. H. Ismail, *Rheological Behaviour of Nickel -Titanium Powder Mixture Feedstock Prepared by Dual Assymetric Centrifuge (DAC) Speed Mixer*, **International Journal of Engineering & Technology (IJET)**, 7 (4.26) pp 128-131 (2018) – Scopus, Q4
23. I. A. M. Arif, M. K. Talari, N. K. Babu, A. L. Anis, M. H. Ismail, R. Ramli, *Effects of Boron and Carbon Added Titanium Filler on Microstructure and Mechanical Properties of Ti-15-3 Alloy Weldments*. **International Journal of Engineering & Technology (IJET)**, Vol 7 (4.14) pp 538-543 (2018) – Scopus, Q4
24. N. H. N. E. A. Shah, M. A. Hanizar, M. H. Ismail, *Comparative Study on Bending Strength of Metallic Bone Staple*, **International Journal of Engineering & Technology (IJET)**, Vol 7 (4.26) pp 40 – 44 (2018) – Scopus, Q4
25. M. A. Yahaya, M. H. Ismail, N. Idris, M. F. M. Radzi, *Mini Furnace Project – An Educational and Green-Technopreneurial Project*, **Asean Entrepreneurship Journal**, Vol 4 (1), pp 90 – 99 (2018)

2017

26. I. Lias, H. Sharudin, M. H. Ismail, A. M. I. Mamat, *Calculation of Exhaust Gas Heat Produce for Ron 95, Ron97 and Vpower Racing Base Fuels use in Internal Combustion Engines*, **International Journal of Vehicle Structures and Systems**. Vol 9 (3) (2017) – Scopus, Q3
27. I. Subuki, N. H. M. Ali, and M. H. Ismail, *Feedstock Evaluation of Synthesized Hydroxyapatite Powder with Palm Stearin Based Binder System*, **Advanced Science Letters**. Vol 23, pp. 3907–3911 (2017) – Scopus, Q4
28. M. A. Azizan, M. H. Ismail, N. A. M. Salleh and D. V. Natarajan, *Sound Absorption Properties at High Sound Frequency of Open Cell Aluminium Foam*. **Journal of Mechanical Engineering (JMEchE)**, UiTM Press, Vol SI 2(1), 161-173 (2017) – Scopus, Q3
29. S. M. Hosnie, M. H. Ismail, M. Yahaya, N. A. Haris, I. Todd, *Fabrication of Porous β -type Ti40Nb Alloys incorporated with TiH2 via Powder Metallurgy Processing Route under Reducing Environment*, **Journal of Mechanical Engineering (JMEchE)**, UiTM Press, Vol SI 2(2), 99-112 (2017) – Scopus, Q3
30. M. Zainuddin and M. H. Ismail, *Characteristic of the Yttria Stabilized Zirconia (YSZ) for Ceramic Injection Moulding by Using Palm Stearin as a Primary Binder*, **Journal of Mechanical Engineering**, UiTM Press, Vol SI 3(2), 133-143 (2017) – Scopus, Q3
31. M. A. A. Bakar, S. N. A. Aziz, M. H. Ismail, *Tribology study of Hydroxyapatite (HAp) scaffold blended single based binder via rheology and mechanical properties*. **Industrial Lubrication and Tribology**, Emerald Group Publishing Limited, Vol 69 (3) pp 414-419 (2017) (Wos, IF : 0.406, Q3)
32. N. S. Shaari, J. M. Said, A. Jumahat, M. H. Ismail, *Wear behaviour of copper/carbon nanotubes*. **Industrial Lubrication and Tribology**, Emerald Group Publishing Limited, Vol 69 (3) pp 342-247 (2017) (WoS, IF : 0.406, Q3)
33. I. A. M. Arif, M. K. Talari, A. L. Anis, M. H. Ismail, N. K. Babu, *Grain Refinement, Microstructural and Hardness Investigation of C Added Ti-15-3 Alloys Prepared by Argon Arc Melting*, **Transactions of the Indian Institute of Metals**, Springer India, Vol 70 (3) pp 861- 865 (2017) (Scopus, IF : 0.502, Q2)

34. A. L. Anis, M. K. Talari, I. A. M. Arif, N. K. Babu, M. H. Ismail, G. D. J. Ram, *Microstructure and Mechanical Properties of Ti-15-3 Alloy Gas Tungsten Arc Welds Prepared Using CP-Titanium Filler*, **Transactions of the Indian Institute of Metals**, Springer India, Vol 70 (3) pp 685-690 (2017) (Scopus, IF : 0.502, Q2)
35. N.S. Manam, W. S. W. Harun, D. N. A. Shri, S. A. C. Ghani, T. Kurniawan, M. H. Ismail, M. H. I. Ibrahim, *Study of corrosion in biocompatible metals for implants: A review*, **Journal of Alloys and Compounds (JAlCom)**, Elsevier, Vol 701, pp 698–715 (2017) (Wos, IF : 3.014, Q1)
36. I. Lias, A. M. M. Azaiuddin, M. H. Ismail, A. M. I. Mamat, *Thermal Conductivity and Microstructure of Aluminum Foam Tube Produce (AFTP) Using Infiltration Method with Vacuum-Gas*, **Imperial Journal of Interdisciplinary Research**, Vol 3(1), pp 1843-1848 (2017)

2016

37. A. L. Anis, M. K. Talari, I. A. M. Arif, N. K. Babu, M. H. Ismail, *Microstructure and Hardness Improvement of Ti-6Al-4V Alloys VIA Boron Addition*, **Journal of Engineering and Applied Sciences**, Medwell Journals, Vol 100 (12), pp 2577-2582 (2016) – Scopus, Q3
38. I. Lias, M. I. Nasir, M. H. Ismail, A. M. I. Mamat, *Design and fabrication of aluminium foam tube for heat exchanger application* **ARNP Journal of Engineering and Applied Sciences**, Asian Research Publishing Network, 11 (14), pp. 8721-8725 (2016) – Scopus, Q3

2015

39. M. I. Jamaluddin, N. A. A. Kasim, N. H. M. Nor, M. H. Ismail, *Development of porous Ti-6Al-4V Mix with palm stearin binder by metal injection molding technique*. **American Journal of Applied Sciences**, Science Publications. Vol 12 (10), pp 742-751 (2015)).(Scopus, I. F: 0.408, Q1)
40. R. Razali, Z. Abdullah, I. Subuki, N. Muhamad, M. H. Ismail, *The influence of NiTi ratio on the reversible Austenite-Martensite transformation and mechanical properties produced by metal injection moulding*. **Jurnal Teknologi**, UTM. Vol 76(10) pp. 75-83 – Scopus, Q3
41. M. H. Ismail, N. H. M. Nor, H. A. Davies, I. Todd. *Feedstock flow characterization and processing of porous NiTi by metal injection moulding (MIM)*. **Jurnal Teknologi**, UTM. Vol. 76(11) pp. 97-105 (2015) – Scopus, Q3
42. M. D. K. Bahrin, N. A. Wahab, N. A. Nordin, M. H. Ismail, I. N. Ahmad. *Influence of space holder on rheological behavior of copper feedstocks for metal injection molding*. **Jurnal Teknologi**, UTM. vol.76(6) pp 91-95 (2015) – Scopus, Q3
43. M. H. Jumadin, B. Abdullah, M. H. Ismail, S. K. Alias, S. Ahmad. *Investigation on temperature effect of carburized steel using powder and paste compound*. **Jurnal Teknologi**, UTM vol.76(3) pp 56-61 (2015) – Scopus, Q3
44. M. S. Shuhaimi, N. A. Hamid, R. Razali, M. H. Ismail. *Shape memory investigation of smart CAMAR logo using NiTi alloy wire*. **Jurnal Teknologi**, UTM vol.76(3) pp 63-67 (2015) – Scopus, Q3
45. M. H. M. Basir, B. Abdullah, S. K. Alias, M. H. Jumadin, M. H. Ismail. *Analysis on microstructure, hardness and surface roughness of shot blasted-pasteboronized 316 austenitic stainless steel*. **Jurnal Teknologi**, UTM. vol.76(3) pp 75-79 (2015) – Scopus, Q3

46. N. H. M. Nor, J. Saedon, N. A. A. Kasim, M. H. Ismail, Hazran Husain. *Compressive mechanical properties of porous Ti-6Al-4V with palm stearin binder system*. **Jurnal Teknologi**, UTM. vol.76(6) pp 43-47 (2015) – Scopus Q3
47. N. H. N. E. A. Shah, M. Yahaya, M. Sulaiman, M. H. Ismail. *A metallurgical overview of Ti – based alloy in biomedical applications*. **Jurnal Teknologi**, UTM. vol.76(7) pp 43-49 (2015) – Scopus Q3

2014

48. U. R. Hashim, A. Jumahat, M. H. Ismail, RNM Razal, *Fabrication and characterisation of carbon fibre reinforced polymer rods with aluminium foam core*. **Materials Research Innovations**. Maney Publishing. Vol 18, pg 204-208 (2014) – Scopus, Q3
49. N. F. A. Manan, J. Mahmud, M. H. Ismail. *Biomechanical testing of bovine skin using various sample specifications*. **Materials Research Innovations**. Maney Publishing. Vol 18, pg 389- 394 (2014) – Scopus, Q3

2013

50. N. Fazli A. Manan, J. Mahmud, M. H. Ismail. *Quantifying the Biomechanical Properties of Bovine Skin under Uniaxial Tension*. **Journal of Medical and Bioengineering**. Vol. 2, No. 1, pg 45-48 (2013)
51. N. H. M. Nor, M. H. Ismail, N. Muhamad, M. R. Harun, K. R. Jamaludin. *Sintering Optimization of Ti-6Al-4V Powder Mix with Palm Stearin Based Binder Using Grey-Taguchi Method*. **Advanced Science Letters**. American Scientific Publishers Vol.19, No. 1, pg 260-263(2013) (I. F: 1.253)
52. M. H. Ismail, M. Bram, A. P. C. Barbosa, M. Kohl, H. A. Davies, I. Todd, *Phase Transformation Temperatures (PPTs) and Microstructure of Moulded NiTi Alloy Using a Water Soluble Binder System*. Submitted to **Sains Malaysiana**. UKM. Vol. 42. No 12, pg 1769-1773 (2013).(WoS, I. F: 0.408, Q3)

2012

53. I. Subuki, M. H. Ismail, A. Amir and M. A. Omar, *Effect of stearic acid on rheological properties of 316L feedstock for metal injection moulding*. **Jurnal Teknologi**. UTM, Vol 59, pg 175-179 (2012) – Scopus, Q3
54. M. H. Ismail, R. Goodall, H. A. Davies, I. Todd. *Formation of micropores NiTi by transient liquid phase sintering of elemental powders*. **Materials Science and Engineering, C**. Elsevier, Vol 32, Issue 6. Pg 1480-1485 (2012). (WoS, I. F : 7.328, Q1)
55. M. H. Ismail, R. Goodall, H. A. Davies, I. Todd. *Porous NiTi alloy by metal injection moulding / sintering of elemental powders: Effect of sintering temperature*. **Materials Letters**. Elsevier Vol.70 (2012). pg. 142 - 145 : (WoS, I.F:3.423, Q1)
56. M. H. Ismail, M. Bram, A. P. C. Barbosa, M. Köhl, H. A. Davies, I. Todd. *The effect of backbone polymer on phase transformation temperatures and pseudo-elasticity of MIM NiTi alloy using a water soluble binder system*. **Powder Injection Moulding (PIM) International**. Vol.5 No. 4 (2011). pg. 78-85

2007 – 2009

57. N. H. Mohamad Nor, N. Muhamad, M. H. Ismail, K. R. Jamaludin, S. Ahmad and M. H. I. Ibrahim. *Flow Behaviour to determine the defects of green part in Metal Injection Molding*. **International Journal of Mechanical and Materials Engineering**, Universiti Malaya (UM), Vol. 4 (1) pp 70 -75. ISSN 1823-0334 (2009) – Scopus, Q3
58. M. H. Ismail, N. Muhamad, M. A. Omar, *Characterization of Metal Injection Molding (MIM) Feedstock Based on Water Soluble Binder System*, **Jurnal Kejuruteraan**, Universiti Kebangsaan Malaysia (UKM) Vol. 20, pp. 11-18, ISSN: 0128-0198 (2008) - MyCite
59. M. A. Omar, I. Subuki, M. H. Ismail & Z. Halim. *Study of Stability of a Novel Binder System based on Palm Stearin in Metal Injection Moulding (MIM) Application*. **Journal of Solid State Science and Technology**, 2008; Vol. 15, No. 1: pp 93-97, ISSN:0128-7389 (2008)
60. K. R. Jamaludin, N. Muhamad, M. N. A. Rahman, S. Y. M. Amin, M. H. Ismail, Murtadhadi *Particle Size and Injection Temperature Effect on the Injection Molding of SS316L Powder*. **Journal of Mechanical Engineering**, Vol. 5 (1) pp 59 - 72, ISSN: 1823-5514 (2008)
61. M. H. Ismail, N. Muhamad, A. Jumahat, I. Subuki, M. A. Omar. *Study on Stability of a Novel Binder System based on Palm Stearin in Metal Injection Moulding (MIM) Application*. **Scientific Research Journal**, UiTM Press, Vol. 4 (2) pp 1-12, ISSN: 1675-7009 (2007)
62. M. H. Ismail, A. Jumahat, A. R. M. Saed, A. A. Wahab, *Effect of Compaction Pressure on Densification of Alumina Sintered Component*. **Journal of Mechanical Engineering**, Vol. 4 (1) pp 33-43, ISSN: 1823-5514 (2007)

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