WAN SHARUZI WAN HARUN

SENIOR LECTURER

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Date: 30 Jan 2018

Research Asset Officer
Faculty of Mechanical Engineering,
Universiti Malaysia Pahang,
Malaysia (2014-2018)

Chairman
Human Engineering Group,
Faculty of Mechanical Engineering,
Universiti Malaysia Pahang,
Malaysia (2016)

Head of Program (Biomechanical)
Faculty of Mechanical Engineering,
Universiti Malaysia Pahang,
Malaysia (2015-2016)

Chief Executive Officer,
Manufacturing Focus Group,
Faculty of Mechanical Engineering,
Universiti Malaysia Pahang,
Malaysia (2014)

Advisor to Technical Expert Team,
MARA Higher Skills College of Kuantan,
Malaysia (2014-2018)

External Examiner,
MARA Higher Skills College of Kemaman,
Malaysia (2014-2018)

External Examiner,
MARA Higher Skills College of Balik Pulau,
Malaysia (2014-2018)

Visiting Research Associate

Kyushu University,
Fukuoka,
Japan (2010-2013)

Academic Qualification

PhD (Powder Metallurgy), University of Kyushu, Japan (2013)
M.Eng. (Advanced Manufacturing Technology), Universiti Teknologi Malaysia (2008)
Bachelor of Mechanical Engineering and Manufacturing Systems, Universiti Teknologi Malaysia (2004)

Administrative Experiences

1. Head of Program (Biomechanical), Faculty of Mechanical Engineering (2015 – 2016)
2. Chairman, Human Engineering Group, Faculty of Mechanical Engineering (2016)
3. Chief Executive Officer, Manufacturing Focus Group, Faculty of Mechanical Engineering (2014)
4. Head of Residential College, Universiti Malaysia Pahang 2008 – 2010)

	Number of postgraduate students			
	PhD		MSc	
	Graduated	On-going	Graduated	On-going
Main Supervisor	0	3	5	3
Co-supervisor	2	3	2	3

Research Interest

Powder processing, Metal additive manufacturing, Biomaterials, Powder additive processes, Surface modification, Powder metallurgy, Medical implant.

Postgraduate Students (Summary)

Research Project/Grant

Project Leader

1. Direct Metal Laser Sintering Technology for the Manufacture of Fully Porous Functionally Graded Titanium Alloy Femoral Stems, Qatar National Research Fund, UIC161504, 2016-2019, RM 250,000.
2. Mechanical and Physical Properties Study of CoCrMo Alloy Fabricated by Metal Injection Moulding Process, UMP, 2017-2019, PGRS170388, RM 3,000
3. Study of Microstructure and Mechanical Properties of Stainless Steel 316l Alloy Fabricated by Metal Injection Moulding Process, UMP, PGRS160383, 2016-2018, RM 2,500
4. Characteristics Study of Co-30cr-7mo Dental Alloys Using Direct Metal Laser Melting Process, UMP, RDU160354, 2016-2018, RM 38,500
5. Microstructural and Properties Study of Cocrmo With Ti Addition Using SLM/MIM For Biomedical Applications, UMP, GRS1503145, 2016-2018, RM3,000
6. Investigation of The Rigidity of CoCrMo Cellular Structure Fabricated by Selective Laser Melting Process for Potential Dental Applications, Research Acculturation Collaborative Effort, RDU151314, 2016-2018, RM 49,985
7. Hydroxyapatite Coating on Laser Melted-CoCrMo Compact Using Various Thicknesses of Oxide Interlayers for Biomedical Applications, Research Acculturation Grant Scheme, 2015-2017, RM 61,950
8. Study of Hydroxyapatite Sol-Gel Coating on Co-Cr-Mo Alloy Substrate Fabricated Using Slm Process, UMP, GRS1503115, 2015-2017, RM 2,000
9. Properties of Open Cellular Structures Cocrmo Alloy Fabricated by Selective Laser Melting Process, UMP, GRS1503121, 2015-2017, RM 2,000
10. Development and Characterization of Transformation Induced Plasticity for Fe-Ni Alloy Steels Fabricated by Metal Injection Moulding, UMP, RDU150337, 2015-2017, RM 35,295
11. Properties of Open Cellular Structures Cocrmo Alloy Fabricated by Selective Laser Melting Process, UMP, GRS150383, 2015-2017, RM 2,000
12. Development of Titanium Manganese Alloys Foams for Biomedical Applications by Metal Injection Moulding, UMP, RDU140354, 2014-2016, RM40,000
13. Development of Porous Titanium Manganese Implants Fabricated by Metal Injection Moulding, UMP, RDU141101, 2013-2015, RM 5,500
14. Development of Prototype Automated Guided Vehicle For Dispatching Application, UMP, RDU080323, 2008-2009, RM 18,000

Project Associate

15. Low-Cost Left Ventricular Assist Device (LVAD) from Biomedical Polymer, CRG-UTM, 2018-2020, RM 40,000
16. 3D Printed Cast for A Broken Bone of Scaphoid, CRG-UTM, 2018-2020, RM 40,000

17. Custom-Made Insole for Patient Associated with Cerebral Palsy in Malaysia, CRG-UTM, 2018-2020, RM 40,000
18. Effect of Nano reinforced structural adhesive for joining Aluminum alloy on Mechanical Properties, UMP, RDU1703309, 2017-2019, RM 25,500
19. Effect of repeated heating on powder metallurgy of additive manufactured titanium alloy through selective laser melting, CRIM-UKM, UKM-SPKP-CRIM-PK01-L01, 2017-2019, RM 150,000
20. Enhancement of high-temperature compressed gas cooling process using Vortex Tube through geometrical parameters modification, FRGS, FRGS/1/2017/TK10/UMP/02/18, 2017-2019, RM 73,750
21. Wrist Rehab Device development, UMP-MYRA Incentive Fund, UIC171003, RM 70,000
22. Evaluation of The Surface Integrity Generated from Sustainable Machining of Austenitic Stainless Steel with Internally Cooled Cutting Tool, FRGS, RDU160135, 2016-2019, RM 92,500
23. Surface Integrity of Al-Si/Aln Mmc In End Milling Machining Process Under Dry Cutting Condition, UMP, RDU1603114, 2016-2018, RM 33,000
24. Develop the Body Balance to Prevent the Musculoskeletal Disorder (MSD) Using Wearable Sensors System, UMP, RDU160389, 2016-2018, RM 24,500
25. Investigation of Dispersion, Stability, And Tribological Performance of Oil-Based Graphene and Copper Nanofluids, UMP, RDU160352, 2016-2018, RM 37,500
26. Investigation of The Influence of Synthesis Parameter on Template Based Electrodeposited Ni Nanowires, UMP, RDU160337, 2016-2018, RM 39,500
27. An Experimental Analysis of A HCCI Diesel Fuel Engine Using Copper Nanoparticles Blended Diesel Fuel, UMP, RDU160319, 2016-2018, RM 28,000
28. Investigate the Effect of Nanolubricant For Enhancing the Vehicle Air-Conditioning Efficiency, UMP, RDU160306, 2016-2018, RM 25,500

30. Investigation of Machinability Characteristics of Cobalt-Chromium Alloy Produced by Different Powder Metallurgy Techniques, UMP, Research Acculturation Collaborative Effort, RDU151313, 2016-2018, RM 49,790
31. Biodiesel-Diesel (Up To 45%) Fuel Characteristics on Homogeneous Charge Compression Ignition Engine, UMP, RDU1503101, 2015-2017, RM 39,790
32. Development of Equal Channel Angular Pressing Die for Bulk Nanostructured Metal Processing for Automotive Application, UMP, RDU150385, 2015-2017, RM 32,884
33. Tribological Behavior of Journal Bearing Material Under Nano Carbon Tube, UMP, RDU150373, 2015-2017, RM 39,816
34. Progressive Wear in Sustainable Machining of Cobalt Chromium Alloy Using Cutting Inserts of Different Coating Materials, UMP, RDU150338, 2015-2017, RM 35,200
35. Development of Test Equipment to Study Tooth Bending Strength of Helical Gears in Automotive Transmission, UMP, RDU1403132, 2015-2017, RM 37,190
36. Development of A Solder Ally (Sn-Cu-Ni) For Electrical Connection at Automotive Electronic Devices Using Powder Metallurgy Method, UMP, RDU1403125, 2014-2016, RM 29,900
37. Valve Wear Analysis with Nano Coating for Compressed Natural Gas (Cng) Engine, UMP, RDU1403124, 2014-2016, RM 21,750
38. Hydroxyapatite Coating with Oxide Interlayer on Biomedical Grade Cobalt Based Alloy, UMP, RDU1403118, 2014-2016, RM 32,000
39. New Approach of Ankle Morphometric Measurements for Total Ankle Arthroplasty (Tar) Design, UMP, RDU1403111, 2014-2016, RM 23,500
40. Engine Valve Seat Wear Study on Compressed Natural Gas (CNG)By Using Nano Powder, FRGS, RDU140125, 2014-2017, RM 125,000
41. Development of A Smart Cutting Tool for Sustainable Machining of Nickel Based Alloys for The Application to Turbocharger Manufacturing, UMP, RDU140377, 2014-2016, RM 35,180
42. Peningkatan Produktiviti Pengeluaran Baja Cecair Kilang Iks Melalui Penambahbaikan Sistem Operasi Dan Pengurusan Bahan Mentah, KTP, RDU141004, 2014-2016, RM 117,426.56
43. Design and Development of a Lift System for Disable People, UMP, RDU090372, 2009-2010, RM 32,000
44. Development of Micro-EDM With Microactuator Feed Control System, UMP, RDU090367, 2009-2011, RM 40,000
45. Design and Development of Advanced Electromechanical Continuously Variable (Cvt) Transmission for Medium Size Engine, UMP, RDU090363, 2009-2010, RM 34,920
46. Wire Electrical Discharge Maching of Low Electrical Conductive Materials, UMP, RDU080326, 2008-2009, RM 15,000

Consultations

1. Building Information Modelling; Mechanical, Electrical, Plumbing Training module development for CIDB (Advanced), Malaysia, March-October 2018, UMP Consultancy Sdn Bhd, RM 300,000
2. Building Information Modelling; Mechanical, Electrical, Plumbing Training module development for CIDB (Beginner & Intermediate), Malaysia, Nov 2017-Mar 2018, UMP Consultancy Sdn Bhd, RM 140,000

3. Conduct a BIM-TT-MEP for a group of 20 for 14 days, Nov 2017, UMP Consultancy Sdn Bhd, RM50,000
4. Finishing of SLM-ed Parts, Nov 2016, UMP Consultancy Sdn Bhd, RM 742.00

Professional Qualification/Membership of professional Body

1. Member, Malaysia Board Of Technologists (MBOT), Malaysia (GT17100333)
2. Member, American Powder Metallurgy Institute (APMI International), USA (45147)
3. Member, Japan Society of Powder and Powder Metallurgy, Japan (192090)
4. Member, Malaysia Powder Metallurgy & Particulate Materials Association, Malaysia (0015)
5. Member, Society of Manufacturing Engineers, USA (14167200)
6. Graduate member, Board of Engineer, Malaysia (GE51141A)
7. Member, Institution of Engineers Malaysia (G 38036)

Journal Editor

1. Editorial Board Member, Insights in Biomedical Engineering. http://oprscience.com/department/insights-in-biomedical-engineering/
2. International Innovation Technology Exhibition & Conference 2017, ISBN 978-967-15-5080-9

Journal Reviewer

1. Journal of Alloys and Compounds, Elsevier, ISSN: 0925-8388 (ISI Impact Factor: 3.133)
2. Materials & Design, Elsevier, ISSN: 0264-1275, (ISI Impact Factor: 4.364)
3. Powder Technology, Elsevier, ISSN: 0032-5910 (ISI Impact Factor: 2.942)
4. Journal of Materials Engineering and Performance, Springer, ISSN: 1059-9495, (ISI Impact Factor: 1.331)
5. Journal of Materials Science: Materials in Electronics, Springer, ISSN: 0957-4522 (ISI Impact Factor: 2.019)

Professional Invitations

1. Public lecture on Get published in high impact journal, KKTM Kemaman, Mar 2018
2. Editorial Board Member, Insights in Biomedical Engineering, Spain 2017-
3. Chairman for Keynote session, 4th International Conference on Mechanical Engineering Research (ICMER2017)

4. Keynote Speaker, National Symposium on Powder Metallurgy and Particulate Materials 2017
5. Invited speaker for a public lecture at Kulliyah of Medicine, IIUM Kuantan Campus, TESMA SEMINAR SERIES 01/2017 on Tissue Engineering and Regenerative Medicine (TERM): A Holistic Approach
6. International External Reviewer for research grant proposal, The Chilean National Science and Technology Commission (CONICYT – Chile)
7. Invited Speaker, 2nd Advanced Materials Conference 2014 (AMC2014)

10 Latest Journal Publications

1. **W.S.W. Harun**, M.S.I.N. Kamariah, N. Muhamad, S.A.C. Ghani, F. Ahmad, Z. Mohamed, A review of powder additive manufacturing processes for metallic biomaterials, Powder Technology, Volume 327, 2018, Pages 128-151
2. Nurul Kamariah Md Saiful Islam, **Wan Sharuzi Wan Harun**, Saiful Anwar Che Ghani, Mohd Asnawi Omar, Mohd Hazlen Ramli, and Muhammad Hussain Ismail, Physical properties and microstructure study of stainless steel 316L alloy fabricated by selective laser melting, AIP Conference Proceedings 1901, 100015 (2017); https://doi.org/10.1063/1.5010537
3. Nur Aidah Nabihah Dandang, **Wan Sharuzi Wan Harun**, Nur Zalikha Khalil, Muhammad Hussain Ismail, and Rosdi Ibrahim, Physical properties and microstructure study of 316L SS fabricated by metal injection moulding process, AIP Conference Proceedings 1901, 100016 (2017); https://doi.org/10.1063/1.5010538
4. **W.S.W. Harun,** R.I.M. Asri, J. Alias, F.H. Zulkifli, K. Kadirgama, S.A.C. Ghani, J.H.M. Shariffuddin, A comprehensive review of hydroxyapatite-based coatings adhesion on metallic biomaterials, Ceramics International, Volume 44, Issue 2, 2018, Pages 1250-1268
5. M S I N Kamariah, **W S W Harun**, N Z Khalil, F Ahmad, M H Ismail and S Sharif, Effect of heat treatment on mechanical properties and microstructure of selective laser melting 316L stainless steel, IOP Conference Series: Materials Science and Engineering, Volume 257, conference 1
6. N A N Dandang, **W S W Harun**, N Z Khalil, A H Ahmad, F R M Romlay and N A Johari, Paraffin wax removal from metal injection moulded cocrmo alloy compact by solvent debinding process, IOP Conference Series: Materials Science and Engineering, Volume 257, conference 1
7. M F F A Hamidi, **W S W Harun**, N Z Khalil, S A C Ghani and M Z Azir, Study of solvent debinding parameters for metal injection moulded 316L stainless steel, IOP Conference Series: Materials Science and Engineering, Volume 257, conference 1
8. M.F.F.A. Hamidi, **W.S.W. Harun**, M. Samykano, S.A.C. Ghani, Z. Ghazalli, F. Ahmad, A.B. Sulong, A review of biocompatible metal injection moulding process parameters for biomedical applications, Materials Science and Engineering: C, Volume 78, 2017, Pages 1263-1276
9. R.I.M. Asri, **W.S.W. Harun**, M. Samykano, N.A.C. Lah, S.A.C. Ghani, F. Tarlochan, M.R. Raza, Corrosion and surface modification on biocompatible metals: A review, Materials Science and Engineering: C, Volume 77, 2017, Pages 1261-1274

10. R.I.M. Asri, **W.S.W. Harun**, M.A. Hassan, S.A.C. Ghani, Z. Buyong, A review of hydroxyapatite-based coating techniques: Sol–gel and electrochemical depositions on biocompatible metals, Journal of the Mechanical Behavior of Biomedical Materials, Volume 57, 2016, Pages 95-108,