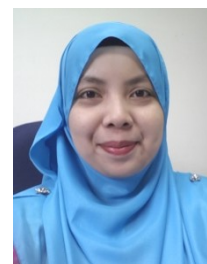


CURRICULUM VITAE

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EDUCATION

1999 : Penilaian Menengah Rendah

2001 : Sijil Pelajaran Malaysia

Sekolah Menengah Kebangsaan Agama Tok Jiring, Kuala Terengganu, Terengganu (SMKATJ)

2002-2003: Pusat Asasi Sains Universiti Malaya, PASUM (Sains Hayat)

2003 – 2007: Bachelor of Engineering (Hons.) in Biomedical Engineering, University of Malaya.
Final year project - Development of gripping system for hydrogel scaffold under compression test

Jan 2009 to July 2010: Master of Engineering (Biomedical), University of Malaya.
Dissertation - A finite element analysis (FEA) of knee joint flexion during gait analysis.

Sept 2015 to Mar 2019: Doctor of Philosophy (Advanced Materials), University Sains Malaysia.
Thesis – Gentamicin-loaded PLA microsphere incorporated chitosan-coated carbonate apatite scaffold.

PROFESSIONAL MEMBERSHIP

1. Graduate Technologist, (GT18051440)(MBOT)

WORKING EXPERIENCE

2005 (March – May)

- Industrial training at RadiBEMs SDN. BHD., Hospital Sultanah Nur Zahirah (HSNZ), Kuala Terengganu, Terengganu

2008

- Research assistant at Department of Biomedical Engineering, University Malaya, Kuala Lumpur

September 2010 to present

- Lecturer at School of Mechatronic Engineering (Biomedical Electronics Engineering Program), Universiti Malaysia Perlis (UniMAP).
- Subjects taught:
 - ENT 111 Anatomy and Physiology (Student year 1 & 2)
 - ERT 106, ENT 210 Biochemistry (Student year 1 & 2)
 - ENT 411 Biomedical Imaging (Student year 4)
 - ENT 311, ENT 219 Biomaterials (Student year 3)
 - ENT 314, ENT 318 Artificial organ (Student year 3)
 - ENT 444, Final Year Project (No of students: 24)
- Supervision
 - Master of Science (Biomedical Electronic Engineering) by Research 2017: **(COMPLETED):** REVATI A/P RADAKISNIN (**CO-SUPERVISOR**), “Biodegradable Napier Grass /(PLA) Composites for Biomedical Application”, School of Mechatronic Engineering.

GRANT ACQUIRED

YEAR	PROJECT	GRANT	AMOUNT	DESIGNATION
2012	Analysis Of Perfusion Flow Of 3D Bioreactor For Tissue Engineering	Short Term 9001-358	RM 9,000	Leader
2012	Automatic Sheet Rubber Machine	Short Term 9001-352	RM 10,000	Co-Researcher
2014	Preparation and properties of hydrogel PNIPAAm based scaffold with porous PCL and collagen for bone regeneration	RAGS	RM 60,000	Leader
2014	Characterization of Tissue Engineering Scaffold Based on Local Starch	FRGS	RM 93,000	Co-Researcher

CONTRIBUTIONS

Committee of International Conference on Bio Medical Engineering (ICoBE 2012), (ICoBE 2015) and (ICoBE 2019), Pulau Pinang, Malaysia

Committee of 25th Scientific Conference of Microscopy Society Malaysia (SCMSM 2016), Hotel Bangi – Putrajaya, 7-8 Dec 2016.

Reviewer, International Conference on Biomedical Engineering, Malaysia. (ICoBE 2012), (ICoBE 2015) and (ICoBE 2019)

SELECTED AWARDS AND RECOGNITION

Academic

1. Anugerah Perkhidmatan Cemerlang (Excellent Awards) 2015
2. Awarded ‘Skim Latihan Akademik’ to pursue PhD in Biomedical Engineering at Universiti Sains Malaysia, **2015**

Research

1. T.C. Low, Wan Shahrizal Wan Nadhari, A.Z. Ahmad Firdaus, MohdShahrilShariff, M. Normahira et al. (2012). Study on Improvement of Metal Detection System for Lost Metal Detector Robot. Bronze Medal. i-Envex. Perlis.
2. A.Z. Ahmad Firdaus, Wan Shahrizal Wan Nadhari, MohdShahrilShariff, M. Normahira et.al. (2013). Mines Detector Robot. Silver Medal. Innovation and Research Exposition UniMAP. Perlis.
3. A.Z. Ahmad Firdaus, S.M.Hafis, M.J.M. Ridzuan, Wan Shahrizal Wan Nadhari, Mohd ShahrilShariff, M. Normahira et al. (2014). Anti-Personnel Mines Detector Robot. Bronze Medal. Innovation and Research Exposition UniMAP. Perlis.
4. Bronze award for HieCAP scaffold (The International Conference and Exhibitions on Inventions by Institutions) PECIPTA, 2017

RESEARCH & PUBLICATIONS

Selected Final year project titles:

1. Automated Control of Temperature and Humidity Medium Supply in Perfusion Bioreactor – **Instrumentation**
2. Dye detector of ripple mattress leakage – **Instrumentation**
3. Effectiveness of shooting position/techniques for basketball – **Biomechanics**
4. Study of EMG behavior of back problem for motorcycle rider – **Rehabilitation**
5. An EMG study on validation of an alternative test (Ito test) of back muscle endurance – **Rehabilitation**
6. Three dimensional finite element analysis of tibio-femoral joint for deep flexion – **Biomechanics**
7. A three dimensional finite element of Anterior Cruciate ligament model – **Biomechanics**
8. Multi-function wheelchair that can be used widen in the hospital – **Rehabilitation**
9. Study of a telemonitoring system for heart-beat and temperature for a remote patient – **Instrumentation**
10. Development of bioreactor system for generating three-dimensional (3D) tissue engineering – **Instrumentation/Biomaterials**
11. Design and development of heartbeat pick up device – **Instrumentation**
12. Develop-Tech Ripple Mattress – **Rehabilitation/Instrumentation**
13. Biomimetic porosity of Hydroxyapatite- Gelatine scaffold in bone tissue engineering- **Biomaterials**
14. Development and characterization of bio-hybrid hydrogel for cartilage tissue scaffold – **Biomaterials**
15. Fabrication and characterization of Hydroxyapatite (HA) composite for bone tissue scaffold - **Biomaterials**
16. Different cross linkers determine the characterization of gelatin/Hydroxyapatite (HA) bone tissue scaffold – **Biomaterials**
17. Preparation and characterization of bone graft composite by egg shell powder (ESP) – **Biomaterials**
18. Evaluation of PCL-PVA-gelatin blend for scaffold materials application – **Biomaterials**
19. Effects of taper shape for different thread on the insertion and stability of dental implant (**simulation approach**)
20. Development of modular femoral stem for hip implant (**simulation approach**)

Publication:

1. Darus, F., Isa, R. M., Mamat, N., & Jaafar, M. (2018). Techniques for fabrication and construction of three-dimensional bioceramic scaffolds: Effect on pores size, porosity and compressive strength. *Ceramics International*, 44(15), 18400–18407.
2. Mamat, N., Darus, F., Md Isa, R., Jaafar, M., & Kawashita, M. (2017). Hierarchical bioceramic scaffold for tissue engineering: A review. *International Journal of Polymeric Materials and Polymeric Biomaterials*, 66(17).
3. Mamat, N., Jaafar, M., & Abdul Hamid, Z. A. (2017). Fabrication of carbonate apatite based on hydrothermal reaction using freeze-casted β -TCP precursor. *Solid State Phenomena*, 264 SSP, 3–6.

4. Normahira Mamat, Mariatti Jaafar, Zuratul Ain. Fabrication of carbonate apatite based on hydrothermal reaction using freeze-casted β -TCP precursor, 25th Scientific Conference of Microscopy Society Malaysia (SCMSM 2016), Hotel Bangi – Putrajaya, 7-8 Dec 2016.
5. Mariatti Jaafar, Normahira Mamat. β -tricalcium phosphate bone scaffold coated with k-carrageenan and alginate natural polymers, The 3rd International Symposium for Green-Innovation Polymers (GRIP2016), Nomi, Japan, 4-7 March 2016.
6. Normahira Mamat, Mariatti Jaafar. Compressive strength, bioactivity and biocompatibility properties of chitosan-coated carbonate apatite scaffold enriched by gentamicin drug, ACMBMB2018, The Gurney Resort Hotel & Residence Penang, Malaysia, 9-10 July 2018.
7. M. Affandi, N. Mamat (2011), "Various Relationships for Saturated Pressure and Temperature of Refrigerants," Proceeding of MUiCET 2011, 13-15 November 2011, Batu Pahat, Johor.
8. N. Mamat, A. Oshkour, N.A. Osman "Numerical measurement of contact pressure at tibiofemoral joint during gait", Proceeding of International Conference on Bio Medical Engineering (ICoBE 2012), 27-28 Februari 2012, Bayview Beach Hotel, Pulau Pinang.
9. Rad, S., Normahira, M. and Anas M.N. (2012), "Development of Bioreactor System for Generating Three-Dimensional (3D) Tissue Engineering," Proceeding of International Conference on Advanced Materials Engineering and Technology (ICAMET 2012), 28-30 November 2012, Batu Feringhi, Penang Island, Malaysia.
10. Alafiah, A.H., Normahira, M. and Anas M.N (2012), "A Three Dimensional Finite Element of Anterior Cruciate Ligament Model," Proceeding of International Conference on Advanced Materials Engineering and Technology (ICAMET 2012), 28-30 November 2012, Batu Feringhi, Penang Island, Malaysia.
11. Anas, M.N, Syafirah, A., A.N. Norali, Normahira, M. (2012), "Non-Invasive blood glucose measurement. Application on Near-Infrared Optical Measurement," Sustainable Utilization and Development in Engineering and Technology (IEEE STUDENT), 6-9 October 2012, UTAR, Kuala Lumpur.
12. Anas, M.N, Nurun, N.K, A.N. Norali, Normahira, M. (2012), "Non-invasive Blood Glucose Measurement, Measurement of Bioelectrical Signal," 2012 IEEE EMBS International Conference on Biomedical Engineering and Sciences (IECBES), 17-19 December 2012, Langkawi, Malaysia.
13. R.K. Raimi, M. Normahira, M.N.N. Fazli, A.R. Norazian, H. Adilah (2013), "Biomimetic Porosity of Gelatin-Hydroxyapatite Scaffold for Bone Tissue", International conference on the science & engineering of materials (IcoSEM), Kuala Lumpur.
14. A.Z. Ahmad Firdaus, M. Normahira, K. N. Syahirah and J. Sakinah. (2013). Design and Simulation of Fuzzy Logic Controller for Boost Converter in Renewable Energy Application. IEEE International Conference on Control System, Computing and Engineering, Penang.
15. M. Normahira, A.Z. Ahmad Firdaus, G.N. Molijol (2014). An Investigation on Rigidity of Ball-socket hip Joint Replacement., "Proceeding of International Conference on Advanced Materials Engineering and Technology (ICAMET 2014), 11-12 Nov, Ho Chi Minh, Vietnam.
16. K.R. Razali, N.F. Mohd Nasir, E.M. Cheng, N. Mamat, M. Mazalan, Y. Wahab and M.R. Mohd Roslan (2014). The effect of Gelatin and Hydroxyapatite Ratios on the Scaffolds' Porosity and Mechanical Properties. IEEE Conference on Biomedical Engineering and Sciences (IECBES), 08 Dec - 10 Dec, Miri, Sarawak.

REFERENCES

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Seberang Perai Selatan, Pulau Pinang
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