

# CURRICULUM VITAE (EXECUTIVE SUMMARY)

**DATO' PROF. IR. DR. MOHAMMED RAFIQ BIN DATO' ABDUL KADIR**



## 1. ACADEMIC QUALIFICATIONS & CERTIFICATES

- ❖ PhD (Biomedical Engineering), Imperial College London.
- ❖ M.Eng. (Mechanical Engineering), Imperial College London.
- ❖ C.P.G.S. (Engineering), University of Cambridge.
- ❖ D.I.C. (Engineering), Imperial College London.
- ❖ A.C.G.I. (Engineering), Imperial College London.
- ❖ Executive Certificate for Entrepreneurial Leaders, University of Swansea.
- ❖ Certificate of Entrepreneurship Learning, University of Cambridge.
- ❖ Certificate in Strategic Foresight for University Leaders, Malaysia Institute of Management.

## 2. PROFESSIONAL MEMBERSHIP

- ❖ Professional Engineer with Practicing Certificate (*PEPC*)
- ❖ ASEAN Chartered Professional Engineer (*ACPE*)
- ❖ Chartered Engineer (*CEng*), United Kingdom Engineering Council
- ❖ Member of the Institution of Engineering and Technology, United Kingdom (*MIET*)
- ❖ Member of the Institution of Engineers, Malaysia (*MIEM*)

## 3. RESEARCH INPUT

- ❖ Founder and Head of the Medical Devices & Technology Group (MEDITEG).
- ❖ Total no. of research grants as principal investigator: **25**
- ❖ Total no. of contract research: **RM209,600**
- ❖ Total amount of grant received (Principal & Collaborator): **RM10,767,250.22**

## 4. RESEARCH OUTPUT

- ❖ Product Commercialisation: **1**
- ❖ Total Patents Granted: **38**
- ❖ Total Patents Pending: **18**
- ❖ Total Copyrights: **36**
- ❖ Total Indexed (SCOPUS) Publications: **256**
- ❖ Total ISI Publications: **196**
- ❖ Cumulative Impact Factor: **288.214**
- ❖ *h* index: **41**
- ❖ Total Proceedings (SCOPUS Index): **56**
- ❖ Total Proceedings (Non-Index): **37**
- ❖ Total books: **7**
- ❖ Total book chapters: **5**
- ❖ Total Articles in Magazine: **2**

## 5. ACADEMIC RESEARCH SUPERVISION

- ❖ Post Doctoral Supervision: **4** PhD holders (all completed)
- ❖ Doctor of Philosophy : **47** students (**40** graduated: **19** Main, **21** Co)
- ❖ Masters in Surgery : **3** students (**3** completed: **3** Co)
- ❖ Masters by research : **36** students (**36** completed: **12** Main, **23** Co)
- ❖ Masters by coursework : **8** students (**8** completed: **8** Main)
- ❖ Undergraduate project : **51** students (all completed)

## 6. ACADEMIC TEACHING

- ❖ Total teaching credits: **103 credits**

## 7. RECOGNITIONS & AWARDS

- ❖ Invited Lecture/Keynote (International) : **4**
- ❖ Invited Lecture/Keynote (Local) : **4**
- ❖ Activities with Professional Bodies : **9**
- ❖ ISI Journal Editor : **1**
- ❖ International Conference Committee : **4**
- ❖ International Journal Reviewer : **4**
- ❖ Committee National/University (Chair) : **9**
- ❖ Committee National/University (Member): **16**
- ❖ Exhibition/Innovation Awards : **18**
- ❖ Excellence Awards : **12**

## 8. ADMINISTRATIVE EXPERIENCE

- ❖ Dean, Faculty of Engineering, UTM.
- ❖ Dean, Faculty of Biosciences and Medical Engineering, UTM.
- ❖ Deputy Dean (Academic), Faculty of Biosciences and Medical Engineering, UTM.
- ❖ Deputy Dean (Development), Faculty of Biosciences and Medical Engineering, UTM.
- ❖ Deputy Dean (Research & Graduate Studies), Faculty of Biomedical Engineering and Health Sciences, UTM.
- ❖ Head of Department (Biomechanics and Biomedical Materials), Faculty of Biomedical Engineering and Health Sciences, UTM.
- ❖ Management Committee, Materials and Manufacturing Research Alliance, UTM.
- ❖ Head of Materials Science Laboratory, Faculty of Mechanical Engineering, UTM.
- ❖ Head of Sub-cluster Biomaterials, Research Management Centre, UTM.

# **CURRICULUM VITAE (FULL)**

## **1.0 PERSONAL DATA**

Name : Mohammed Rafiq bin Dato' Abdul Kadir,  
Sex : Male  
Nationality : Malaysian  
Office Address : Department of Clinical Science,  
Faculty of Biosciences & Medical Engineering,  
Universiti Teknologi Malaysia,  
81310 UTM Skudai,  
Johor,  
MALAYSIA.  
Telephone No. : 07-5535961  
Fax No. : 07-5536222  
e-mail : [rafiq@biomedical.utm.my](mailto:rafiq@biomedical.utm.my)  
Website : <http://fbme.utm.my/rafiqkadir>

## **1.1 ACADEMIC QUALIFICATIONS**

Degree : Ph.D.  
Field : Biomedical Engineering  
Year : 2005  
Institution : Imperial College London

Degree : M.Eng.  
Field : Mechanical Engineering  
Year : 1999  
Institution : Imperial College London

## **1.2 PROFESSIONAL QUALIFICATIONS/CERTIFICATES**

Certificate : Executive Certificate for Entrepreneurial Leaders  
Field : Entrepreneurial Leadership  
Year : 2017  
Institution : University of Swansea

Certificate : Certificate in Strategic Foresight for University Leaders

Field : Leadership  
Year : 2017  
Institution : Malaysian Institute of Management

Certificate : Certificate for Entrepreneurship Learning  
Field : Entrepreneurship  
Year : 2009  
Institution : University of Cambridge

Certificate : Diploma of Imperial College (D.I.C.)  
Field : Engineering  
Year : 2005  
Institution : Imperial College London

Certificate : Certificate of Postgraduate Studies (C.P.G.S.)  
Field : Engineering  
Year : 2002  
Institution : University of Cambridge

Certificate : Associateship of City & Guilds Institute (A.C.G.I.)  
Field : Mechanical Engineering  
Year : 1999  
Institution : Imperial College London

## **2.0 RESEARCH**

- ❖ Founder of the Medical Devices & Technology Group (MEDITEG) in 2006.
- ❖ Total no. of research grants as Principal Investigator: **25**
- ❖ Total no. of contract research: **RM209,600**
- ❖ Total amount of grant received (Principal & Collaborator): **RM10,767,250.22**

### **2.1 List Of Grants As Principal Investigator:**

1	Reference Number	<a href="#">PY/2017/01541</a>
	Project Title	Structure And Properties Analysis Of Polyurethane Material As A Synthetic Femur Bone For Medical Implant Testing
	Type of Grant	Tier 1
	Approved Amount	RM50,000

	Cost Centre	Q.J130000.2545.20H26
	Project Status	ACTIVE
2	Reference Number	<a href="#">PY/2014/03413</a>
	Project Title	Antibiotic Drug Immobilized Carbon Nanotube Hybrid Materials For The Mode Of Action Studies Against The Microbes
	Type of Grant	PDRU
	Approved Amount	RM65,000
	Cost Centre	Q.J130000.21A2.01E86
	Project Status	COMPLETED
3	Reference Number	<a href="#">PY/2014/01456</a>
	Project Title	Biofunctional Degradable Metals for Temporary Implants
	Type of Grant	PDRU
	Approved Amount	RM65,000
	Cost Centre	Q.J130000.21A2.00E46
	Project Status	COMPLETED
4	Reference Number	<a href="#">PY/2013/00795</a>
	Project Title	Triple Coating Mechanical Interlock Dental Implant System
	Type of Grant	OTR
	Approved Amount	RM79,000
	Cost Centre	R.J130000.7345.4B110
	Project Status	COMPLETED
5	Reference Number	<a href="#">PY/2013/00788</a>
	Project Title	Sustainable Manufacturing Technique for Biomedical Implant Material
	Type of Grant	MG
	Approved Amount	RM25,000
	Cost Centre	Q.J130000.3045.00M15
	Project Status	COMPLETED
6	Reference Number	<a href="#">PY/2013/00192</a>
	Project Title	Development Of New Cannulated Screw In Diamond-Shaped Arrangement For Management Of Fracture Neck Of Femur
	Type of Grant	OTR
	Approved Amount	RM39,000
	Cost Centre	R.J130000.7345.4B097
	Project Status	COMPLETED

- 7    Reference Number    [PY/2013/00188](#)  
  
Project Title            Novel Bioabsorbable Inteference Screw Composite Consist of Rice Husk Bioactive Ceramic and Poly-L-Lactide  
  
Type of Grant            OTR  
Approved Amount        RM34,000  
Cost Centre              R.J130000.7345.4B092  
Project Status            COMPLETED
  
- 8    Reference Number    [PY/2012/00435](#)  
  
Project Title            Mechanocompatible Locking Plate for Complex Fracture Fixation  
  
Type of Grant            Tier 1  
Approved Amount        RM120,000  
Cost Centre              Q.J130000.2536.03H31  
Project Status            COMPLETED
  
- 9    Reference Number    [PY/2011/02800](#)  
  
Project Title            Exploring the Potential of Feather Fiber for the Development of Dental Post for the Treatment of Pulpless Teeth  
  
Type of Grant            ERGS  
Approved Amount        RM87,450  
Cost Centre              R.J130000.7836.4L021  
Project Status            COMPLETED
  
- 10   Reference Number    [PY/2011/02799](#)  
  
Project Title            Exploration On a New Ear Protective Device with Selective Noise Attenuation  
  
Type of Grant            ERGS  
Approved Amount        RM51,600  
Cost Centre              R.J130000.7836.4L020  
Project Status            COMPLETED
  
- 11   Reference Number    [PY/2011/01901](#)  
  
Project Title            Design and Simulation of Racquet-Based Sports Equipments  
  
Type of Grant            Flagship  
Approved Amount        RM595,800  
Cost Centre              Q.J130000.2436.00G03  
Project Status            COMPLETED
  
- 12   Reference Number    [PY/2011/01705](#)

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|----|------------------|--|
|    | Project Title    | Design and Development of Biomedical Scaffolds with Superior Mechanical Properties for Guided Bone Regeneration.   |
|    | Type of Grant    | Tier 2   |
|    | Approved Amount  | RM40,000   |
|    | Cost Centre      | Q.J130000.2636.04J94   |
|    | Project Status   | COMPLETED  |
| 13 | Reference Number | <a href="#">PY/2011/01701</a>  |
|    | Project Title    | Development of the Human Spinal Column for Virtual Analyses of Surgical Procedures   |
|    | Type of Grant    | Tier 1   |
|    | Approved Amount  | RM150,000  |
|    | Cost Centre      | Q.J130000.2536.02H56   |
|    | Project Status   | COMPLETED  |
| 14 | Reference Number | <a href="#">PY/2010/00211</a>  |
|    | Project Title    | Three Dimensional Investigation of Cerebrospinal and the Aqueduct of Sylvius   |
|    | Type of Grant    | ScienceFund  |
|    | Approved Amount  | RM91,400   |
|    | Cost Centre      | R.J130000.7936.3S410   |
|    | Project Status   | COMPLETED  |
| 15 | Reference Number | <a href="#">PY/2010/00165</a>  |
|    | Project Title    | A New Method For Material Properties Assignment To Individual Element Of Finite Element Model Based On Greyscale Value   |
|    | Type of Grant    | FRGS   |
|    | Approved Amount  | RM40,000   |
|    | Cost Centre      | R.J130000.7836.3F575   |
|    | Project Status   | COMPLETED  |
| 16 | Reference Number | <a href="#">PY/2010/00041</a>  |
|    | Project Title    | Three Dimensional Reconstruction and Fluid Flow Simulation for Pre and Post Functional Endoscopic Sinus Surgery, and Through the Radiocephalic Arteriovenous Fistula With and Without Localized Stenosis |
|    | Type of Grant    | ScienceFund  |
|    | Approved Amount  | RM77,600   |
|    | Cost Centre      | R.J130000.7936.3S411   |
|    | Project Status   | COMPLETED  |
| 17 | Reference Number | <a href="#">PY/2009/00133</a>  |

	Project Title	Development of a Mechanical Interlock Dental Prosthesis with Hydroxyapatite/Silver/Titania Biocomposite
	Type of Grant	ScienceFund
	Approved Amount	RM234,500
	Cost Centre	R.J130000.7924.3S404
	Project Status	COMPLETED
18	Reference Number	<a href="#">PY/2009/00121</a>
	Project Title	Development Of Low Friction Lightweight Acetabular Cup Specialised For Malaysian Population
	Type of Grant	ScienceFund
	Approved Amount	RM38,400
	Cost Centre	R.J130000.7924.3S391
	Project Status	COMPLETED
19	Reference Number	<a href="#">PY/2007/00194</a>
	Project Title	Upscaling of Prototype Titanium Alloy Implant for Dental and Craniofacial Application by Powder Injection Moulding Technique Using Palm Oil Based Binder System
	Type of Grant	TechnoFund
	Approved Amount	RM946,000
	Cost Centre	R.J130000.7924.3H007
	Project Status	COMPLETED
20	Reference Number	<a href="#">PY/2007/00188</a>
	Project Title	Biomimetic Design and Fabrication of Load Bearing Tissue Scaffold for Stem Cell Tissue Regeneration
	Type of Grant	ScienceFund
	Approved Amount	RM248,600
	Cost Centre	R.J130000.7924.3S114
	Project Status	COMPLETED
21	Reference Number	<a href="#">PY/2007/00076</a>
	Project Title	Interface Micromotion Failure Simulation of Cementless Hip Prosthesis
	Type of Grant	FRGS
	Approved Amount	RM186,760
	Cost Centre	R.J130000.7824.3F056
	Project Status	COMPLETED
22	Reference Number	<a href="#">PY/2006/00098</a>



	Project Title	Bone Adaptation Algorithm For Pre-Operative Surgical Tool In Joint Arthroplasty.
	Type of Grant	ScienceFund
	Approved Amount	RM199,594
	Cost Centre	R.J130000.7924.3S056
	Project Status	COMPLETED
23	Reference Number	<a href="#">PY/2016/06155</a>
	Project Title	Development of Hand Crafted Three-In-One Methoxy Amine Organic Mediators Modified-Carbon Nanotube Electrodes for Selective Detection of Gallic Acid from Real Samples
	Type of Grant	PDRU
	Approved Amount	RM65,000
	Cost Centre	Q.J130000.21A2.03E06
	Project Status	COMPLETED
24	Reference Number	<a href="#">PY/2014/03300</a>
	Project Title	Investigating the compressive strain behaviour of carbon nanotubepolymer based composite for measurement of large deformation
	Type of Grant	FRGS
	Approved Amount	RM103,000
	Cost Centre	R.J130000.7845.4F581
	Project Status	COMPLETED
25	Reference Number	<a href="#">PY/2014/02273</a>
	Project Title	Modified External Fixator for Ankle Joint
	Type of Grant	Tier 1
	Approved Amount	RM70,000
	Cost Centre	Q.J130000.2545.08H17
	Project Status	COMPLETED

## **2.2 List of Contract Research Grants:**

1	Reference Number	<a href="#">PY/2016/07065</a>
	Project Title	DESIGN AND EVALUATION OF ARTIFICIAL TISSUE AND ORGAN CONSTRUCTS FABRICATED USING 3D BIOPRINTER
	Type of Grant	CR
	Approved Amount	RM100,000
	Cost Centre	R.J130000.7645.4C107
	Project Status	ACTIVE

2	Reference Number	<a href="#">PY/2015/05724</a>
	Project Title	DEVELOPMENT OF CARDIOVASCULAR PATCH USING ELECTROSPINNING PROCESS
	Type of Grant	CR
	Approved Amount	RM74,600
	Cost Centre	R.J130000.7645.4C093
	Project Status	COMPLETED
3	Reference Number	<a href="#">PY/2017/00380</a>
	Project Title	INVESTIGATION OF BACTERIAL CELLULOSE AS CHRONIC WOUND HEALING MATERIALS
	Type of Grant	CR
	Approved Amount	RM35,000
	Cost Centre	R.J130000.7645.4C146
	Project Status	COMPLETED

### **2.3 List of Grants as Collaborator:**

1	Reference Number	<a href="#">PY/2017/01938</a>
	Project Title	Fundamental Study Of Hydrodynamic Lubrication In Hip Implant With Textured Surface
	Type of Grant	Tier 1
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2545.19H70
	Project Status	ACTIVE
2	Reference Number	<a href="#">PY/2017/01666</a>
	Project Title	Computational Approach Of Dynamic Degradation Behaviour Of Porous Magnesium Under Physiological Environment Of Human Cancellous Bone
	Type of Grant	Tier 1
	Approved Amount	RM50,000
	Cost Centre	Q.J130000.2509.18H91
	Project Status	ACTIVE
3	Reference Number	<a href="#">PY/2017/01627</a>
	Project Title	Biomechanical Evaluation And Optimisation Of Ankle External Fixator
	Type of Grant	Tier 1
	Approved Amount	RM40,000

	Cost Centre	Q.J130000.2545.20H20
	Project Status	ACTIVE
4	Reference Number	<a href="#">PY/2017/01350</a>
	Project Title	The use of tilapia derived gelatin as a substitute to mammal gelatin in tissue engineering for halalbiomedical application.
	Type of Grant	FRGS
	Approved Amount	RM78,440
	Cost Centre	R.J130000.7833.4F982
	Project Status	ACTIVE
5	Reference Number	<a href="#">PY/2017/00336</a>
	Project Title	Application Of Ultraviolet Light For Disinfection Medical Devices.
	Type of Grant	Tier 1
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2545.16H19
	Project Status	ACTIVE
6	Reference Number	<a href="#">PY/2017/00196</a>
	Project Title	Surface Interaction And Biocompatibility Study Of Pectin/Nanocellulose Scaffold Derived From Pineapple (Ananas Comosus) For Potential Tissue Engineering Applications
	Type of Grant	Tier 1
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2545.17H33
	Project Status	ACTIVE
7	Reference Number	<a href="#">PY/2017/00171</a>
	Project Title	Predicting the involvement of subchondral bone degenerative process in cartilage disease progression using advanced conversion pre-clinical imaging modality approach
	Type of Grant	TRGS
	Approved Amount	RM184,800
	Cost Centre	R.J130000.7809.4L856
	Project Status	ACTIVE
8	Reference Number	<a href="#">PY/2016/07958</a>
	Project Title	Development Of A Low Cost Synthetic Tibia And Fibula Bone
	Type of Grant	PAS
	Approved Amount	RM20,000

	Cost Centre	Q.J130000.2745.02K78
	Project Status	ACTIVE
9	Reference Number	<a href="#">PY/2016/07781</a>
	Project Title	Porous Material for Water-Oil Separation Prepared by Freeze-Casting
	Type of Grant	HICOE
	Approved Amount	RM50,000
	Cost Centre	R.J090301.7846.4J258
	Project Status	ACTIVE
10	Reference Number	<a href="#">PY/2016/07123</a>
	Project Title	Cell Laden Carrageenan/Polyethylene Glycol Hybrid Hyrdrogel Bioink towards 3D Bioprinting of Organoids
	Type of Grant	FRGS
	Approved Amount	RM60,400
	Cost Centre	R.J130000.7845.4F816
	Project Status	ACTIVE
11	Reference Number	<a href="#">PY/2016/06471</a>
	Project Title	The Study Of Fatigue Crack Initiation Growth Of Cancellous Bone Under Cyclic Loading
	Type of Grant	Tier 1
	Approved Amount	RM50,000
	Cost Centre	Q.J130000.2509.14H26
	Project Status	ACTIVE
12	Reference Number	<a href="#">PY/2016/06135</a>
	Project Title	Mechanical degradation model of titania biodegradable tissue engineering scaffolds
	Type of Grant	Tier 1
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2524.15H59
	Project Status	ACTIVE
13	Reference Number	<a href="#">PY/2015/05186</a>
	Project Title	MRUN - Development Of A Low Cost Mechanical Heart Assists Device (Part 1)
	Type of Grant	MG
	Approved Amount	RM153,000
	Cost Centre	Q.J130000.3045.00M87
	Project Status	ACTIVE

14	Reference Number	<a href="#">PY/2015/05206</a>
	Project Title	IRU - Development Of A Low Cost Mechanical Heart Assist Device (Part 1)
	Type of Grant	NG
	Approved Amount	RM60,000
	Cost Centre	S.J130000.7809.4X046
	Project Status	COMPLETED
15	Reference Number	<a href="#">PY/2015/04638</a>
	Project Title	Fabrication And Evaluation Of Poly(Lactic Acid)/Graphene Oxide Scaffolds Via Freeze-Extraction Technique For Tissue Engineering
	Type of Grant	Tier 2 E
	Approved Amount	RM20,000
	Cost Centre	Q.J130000.2645.11J24
	Project Status	COMPLETED
16	Reference Number	<a href="#">PY/2015/04342</a>
	Project Title	Evaluation of Calcium Phosphate Growth on Kenaf Fibers for Potential Biomedical Applications
	Type of Grant	PAS
	Approved Amount	RM20,000
	Cost Centre	Q.J130000.2709.01K55
	Project Status	COMPLETED
17	Reference Number	<a href="#">PY/2015/04337</a>
	Project Title	Development Of A Color Based Indicator For Determination Of Antioxidant Properties Of Malaysian Honeys
	Type of Grant	PAS
	Approved Amount	RM20,000
	Cost Centre	Q.J130000.2745.01K62
	Project Status	COMPLETED
18	Reference Number	<a href="#">PY/2014/04029</a>
	Project Title	Micro fluidic behavior of dimpled surface in metallic hip implant for tribological performance
	Type of Grant	FRGS
	Approved Amount	RM89,000
	Cost Centre	R.J130000.7809.4F630
	Project Status	COMPLETED
19	Reference Number	<a href="#">PY/2014/03864</a>

	Project Title	Computerized Hand-held Portable Eye Testing Kit
	Type of Grant	Tier 1
	Approved Amount	RM50,000
	Cost Centre	Q.J130000.2545.10H93
	Project Status	COMPLETED
20	Reference Number	<a href="#">PY/2014/03721</a>
	Project Title	Governing Equation For Spiral Flow Inducing Cannula
	Type of Grant	FRGS
	Approved Amount	RM87,200
	Cost Centre	R.J130000.7809.4F588
	Project Status	COMPLETED
21	Reference Number	<a href="#">PY/2014/03351</a>
	Project Title	Customized Stent Patent Ductus Arteriosus (PDA)
	Type of Grant	PRGS
	Approved Amount	RM126,000
	Cost Centre	R.J130000.7845.4L638
	Project Status	COMPLETED
22	Reference Number	<a href="#">PY/2014/03220</a>
	Project Title	A Biocompatible Magnetic-Responsive Shape Memory Polymer Composite
	Type of Grant	FRGS
	Approved Amount	RM102,900
	Cost Centre	R.J130000.7809.4F546
	Project Status	COMPLETED
23	Reference Number	<a href="#">PY/2014/03162</a>
	Project Title	Fundamental studies into the calcium deficient apatite based adsorbent for the treatment of phenolic pollutants
	Type of Grant	FRGS
	Approved Amount	RM81,000
	Cost Centre	R.J130000.7809.4F542
	Project Status	COMPLETED
24	Reference Number	<a href="#">PY/2014/03075</a>

	Project Title	Synthesis and Characterization of Hydroxyapatite Encapsulated Silica Nanospheres as Novel Bioactive Material
	Type of Grant	FRGS
	Approved Amount	RM108,500
	Cost Centre	R.J130000.7845.4F514
	Project Status	COMPLETED
25	Reference Number	<a href="#">PY/2014/02850</a>
	Project Title	Cardiovascular blood flow visualization using augmented reality
	Type of Grant	Flagship
	Approved Amount	RM30,000
	Cost Centre	Q.J130000.2428.01G75
	Project Status	COMPLETED
26	Reference Number	<a href="#">PY/2014/02808</a>
	Project Title	Design of Low Cost Ventricular Assist Device
	Type of Grant	Flagship
	Approved Amount	RM27,900
	Cost Centre	Q.J130000.2409.01G66
	Project Status	COMPLETED
27	Reference Number	<a href="#">PY/2014/02660</a>
	Project Title	The Study of Degradation Process of Porous Magnesium for Cancellous Bone Substitute Application
	Type of Grant	Tier 1
	Approved Amount	RM70,000
	Cost Centre	Q.J130000.2509.06H10
	Project Status	COMPLETED
28	Reference Number	<a href="#">PY/2014/02609</a>
	Project Title	Development Of Mobile Electrocardiography Remote Monitoring Instrument Based Wireless Technique
	Type of Grant	Tier 1
	Approved Amount	RM20,000
	Cost Centre	Q.J130000.2545.08H74
	Project Status	COMPLETED
29	Reference Number	<a href="#">PY/2014/02600</a>

	Project Title	Embedded Cnt-Fiber Composite For Monitoring Growth Of Implantable Smart Tissue Expander
	Type of Grant	Tier 1
	Approved Amount	RM70,000
	Cost Centre	Q.J130000.2545.05H32
	Project Status	COMPLETED
30	Reference Number	<a href="#">PY/2014/02568</a>
	Project Title	Dynamic Cardiovascular Visualization based on Myocardium functions using Deformable Geometric Surfaces
	Type of Grant	Flagship
	Approved Amount	RM30,000
	Cost Centre	Q.J130000.2428.01G74
	Project Status	COMPLETED
31	Reference Number	<a href="#">PY/2014/02397</a>
	Project Title	Integration Of Flexible Electronics And Electrode On Textile For Wearable Electrocardiography (Ecg)
	Type of Grant	Flagship
	Approved Amount	RM33,690
	Cost Centre	Q.J130000.2445.01G58
	Project Status	COMPLETED
32	Reference Number	<a href="#">PY/2014/02161</a>
	Project Title	A Novel Approach In Protecting The Diabetic Heart From Heart Attack Via Manipulation Of Mitochondria
	Type of Grant	Tier 1
	Approved Amount	RM50,000
	Cost Centre	Q.J130000.2545.09H54
	Project Status	COMPLETED
33	Reference Number	<a href="#">PY/2014/01763</a>
	Project Title	Fabrication Of Highly Organized Biomedical Grade 3d Scaffolds Of Hydroxyapatite Extracted From Bovine Bone
	Type of Grant	Tier 1
	Approved Amount	RM60,000
	Cost Centre	Q.J130000.2509.06H20
	Project Status	COMPLETED
34	Reference Number	<a href="#">PY/2014/01555</a>



	Project Title	Intelligent Clinical Pathways for Cardiovascular Disease
	Type of Grant	Flagship
	Approved Amount	RM31,290.50
	Cost Centre	Q.J130000.2428.01G85
	Project Status	COMPLETED
35	Reference Number	<a href="#">PY/2014/01545</a>
	Project Title	Novel Cannulae Design For Medical Operation - Simulation And Flow Visualization Study
	Type of Grant	Flagship
	Approved Amount	RM27,985.72
	Cost Centre	Q.J130000.2409.01G70
	Project Status	COMPLETED
36	Reference Number	<a href="#">PY/2014/01357</a>
	Project Title	Nanofluidic Wicking in Cellulosic Fibers Hierarchical Structure for Biomedical Micro Device
	Type of Grant	FRGS
	Approved Amount	RM107,800
	Cost Centre	R.J130000.7845.4F328
	Project Status	COMPLETED
37	Reference Number	<a href="#">PY/2013/01112</a>
	Project Title	Room Based Wireless Charging System For Biomedical Devices
	Type of Grant	Flagship
	Approved Amount	RM30,300
	Cost Centre	Q.J130000.2445.01G81
	Project Status	COMPLETED
38	Reference Number	<a href="#">PY/2013/00868</a>
	Project Title	Prototype Of High Performance Gel Electrophoresis System
	Type of Grant	PRGS
	Approved Amount	RM150,000
	Cost Centre	R.J130000.7845.4L627
	Project Status	COMPLETED
39	Reference Number	<a href="#">PY/2013/00852</a>

	Project Title	Prototype Development of DUAL-ANTIBAX (Organo-Metal-Clay as Antimicrobial Agent)
	Type of Grant	PRGS
	Approved Amount	RM159,000
	Cost Centre	R.J130000.7845.4L619
	Project Status	COMPLETED
40	Reference Number	<a href="#">PY/2013/00430</a>
	Project Title	Data Mining for Cardiovascular Clinical Pathways
	Type of Grant	Flagship
	Approved Amount	RM30,000
	Cost Centre	Q.J130000.2428.01G34
	Project Status	COMPLETED
41	Reference Number	<a href="#">PY/2013/00425</a>
	Project Title	Cardiac Visualization On Workbench Using Augmented Reality
	Type of Grant	Flagship
	Approved Amount	RM30,000
	Cost Centre	Q.J130000.2428.01G20
	Project Status	COMPLETED
42	Reference Number	<a href="#">PY/2013/00423</a>
	Project Title	Design And Development Of Cardiac Patch Bioprinting
	Type of Grant	Flagship
	Approved Amount	RM30,000
	Cost Centre	Q.J130000.2445.00G67
	Project Status	COMPLETED
43	Reference Number	<a href="#">PY/2013/00323</a>
	Project Title	Implementation Of A Wireless Charging System For Implantable Medical Devices
	Type of Grant	Flagship
	Approved Amount	RM30,000
	Cost Centre	Q.J130000.2445.00G70
	Project Status	COMPLETED
44	Reference Number	<a href="#">PY/2013/00322</a>

	Project Title	Novel Cannula Design For Medical Operation - A Pilot Study
	Type of Grant	Flagship
	Approved Amount	RM79,000
	Cost Centre	Q.J130000.2445.00G71
	Project Status	COMPLETED
45	Reference Number	<a href="#">PY/2013/00321</a>
	Project Title	Three-Dimensional Particle Trace Visualisation for Review of Cardiovascular Blood Flow
	Type of Grant	Flagship
	Approved Amount	RM30,000
	Cost Centre	Q.J130000.2428.00G86
	Project Status	COMPLETED
46	Reference Number	<a href="#">PY/2013/00264</a>
	Project Title	Synthesis of Silica Aerogel-Hydroxyapatite Composite as New Biomaterial Nanoparticles
	Type of Grant	Tier 2
	Approved Amount	RM50,000
	Cost Centre	Q.J130000.2609.09J42
	Project Status	COMPLETED
47	Reference Number	<a href="#">PY/2012/01134</a>
	Project Title	Valves Degeneration on Regurgitation Problem in Heart Failures
	Type of Grant	Tier 2
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2645.09J18
	Project Status	COMPLETED
48	Reference Number	<a href="#">PY/2012/00947</a>
	Project Title	Synthesis and Characterisation of Novel Biological Like Apatites for Orthopedic Applications
	Type of Grant	Tier 1
	Approved Amount	RM120,000
	Cost Centre	Q.J130000.2526.04H12
	Project Status	COMPLETED
49	Reference Number	<a href="#">PY/2012/00810</a>

	Project Title	Shape memory Poly (Xylitol-co-Dodecandioate)/ Hydroxyapatite composite for bone and ligament fixation screws
	Type of Grant	PRGS
	Approved Amount	RM183,000
	Cost Centre	R.J130000.7844.4L608
	Project Status	COMPLETED
50	Reference Number	<a href="#">PY/2012/00749</a>
	Project Title	Smart Degradable Metal for Cancellous Bone Analogue? An exploration
	Type of Grant	ERGS
	Approved Amount	RM80,000
	Cost Centre	R.J130000.7824.4L040
	Project Status	COMPLETED
51	Reference Number	<a href="#">PY/2012/00565</a>
	Project Title	Basic Investigation Of Flow Characteristics Through Trabecular Bone Using Fluid Structure Interaction
	Type of Grant	FRGS
	Approved Amount	RM85,240
	Cost Centre	R.J130000.7824.4F137
	Project Status	COMPLETED
52	Reference Number	<a href="#">PY/2012/00528</a>
	Project Title	Absorption and diffusion characteristics of biomedical polymer based porous three dimensional tissue substrates
	Type of Grant	FRGS
	Approved Amount	RM79,600
	Cost Centre	R.J130000.7836.4F126
	Project Status	COMPLETED
53	Reference Number	<a href="#">PY/2012/00510</a>
	Project Title	In vitro and in vivo hypoxia investigation of a targeting adipocyte cell apoptosis.
	Type of Grant	FRGS
	Approved Amount	RM108,000
	Cost Centre	R.J130000.7836.4F128
	Project Status	COMPLETED
54	Reference Number	<a href="#">PY/2012/00482</a>

	Project Title	Study On The Degradation Mechanism Of Biodegradable Metal Alloy Under Complex Simultaneous Mechano-Bio-Chemical Effects
	Type of Grant	FRGS
	Approved Amount	RM136,000
	Cost Centre	R.J130000.7836.4F123
	Project Status	COMPLETED
55	Reference Number	<a href="#">PY/2012/00463</a>
	Project Title	Fatigue Life Prediction In Trabecular Bone During Physiological Activities
	Type of Grant	Tier 1
	Approved Amount	RM78,000
	Cost Centre	Q.J130000.2524.03H11
	Project Status	COMPLETED
56	Reference Number	<a href="#">PY/2012/00416</a>
	Project Title	Cell-based Biomedical Device using Textile Material Platform
	Type of Grant	Tier 1
	Approved Amount	RM100,000
	Cost Centre	Q.J130000.2536.03H30
	Project Status	COMPLETED
57	Reference Number	<a href="#">PY/2012/00284</a>
	Project Title	Computerized speech stuttering therapy and rehabilitation system
	Type of Grant	Tier 1
	Approved Amount	RM195,500
	Cost Centre	Q.J130000.2545.04H41
	Project Status	COMPLETED
58	Reference Number	<a href="#">PY/2012/00283</a>
	Project Title	Modification of Organo-Clay with Silver and Copper as Antibacterial Agents
	Type of Grant	Tier 2
	Approved Amount	RM31,800
	Cost Centre	Q.J130000.2635.05J05
	Project Status	COMPLETED
59	Reference Number	<a href="#">PY/2012/00173</a>

	Project Title	A New Algorithm using Bone Microarchitecture for Age and Sex Determination in Forensic Anthropology
	Type of Grant	FRGS
	Approved Amount	RM171,000
	Cost Centre	R.J130000.7828.4F115
	Project Status	COMPLETED
60	Reference Number	<a href="#">PY/2012/00110</a>
	Project Title	Enhancing Survival Rate Of Joint Replacement Implants Through Advanced Electrical Discharge Machining System
	Type of Grant	SF
	Approved Amount	RM192,100
	Cost Centre	R.J130000.7936.4S025
	Project Status	COMPLETED
61	Reference Number	<a href="#">PY/2012/00097</a>
	Project Title	Novel Imaging Technique For Accurate Reconstruction Of Prostheses/Orthoses
	Type of Grant	SF
	Approved Amount	RM283,200
	Cost Centre	R.J130000.7936.4S027
	Project Status	COMPLETED
62	Reference Number	<a href="#">PY/2012/00082</a>
	Project Title	Active powered lower extremity robotic device for gait rehabilitation in paralytic patients
	Type of Grant	SF
	Approved Amount	RM320,000
	Cost Centre	R.J130000.7924.4S022
	Project Status	COMPLETED
63	Reference Number	<a href="#">PY/2011/02181</a>
	Project Title	Production and in vitro biocompatibility assessment of porous magnesium (Mg) as a novel biodegradable material for bone engineered tissue scaffolds
	Type of Grant	Tier 1
	Approved Amount	RM70,000
	Cost Centre	Q.J130000.2536.03H12
	Project Status	COMPLETED
64	Reference Number	<a href="#">PY/2011/02142</a>

	Project Title	Development Of Biodegradable Electrospun Membranes For Controlled Release Drug Delivery And Tissue Engineering
	Type of Grant	Tier 1
	Approved Amount	RM80,000
	Cost Centre	Q.J130000.2536.03H13
	Project Status	COMPLETED
65	Reference Number	<a href="#">PY/2011/02082</a>
	Project Title	The effect of fibrin gel properties on microvessel development of human umbilical endothelial cells (HUVECs) in in vitro culture system
	Type of Grant	FAVF
	Approved Amount	RM30,000
	Cost Centre	R.J130000.7736.4D045
	Project Status	COMPLETED
66	Reference Number	<a href="#">PY/2011/01776</a>
	Project Title	Electrophoretic Deposition of Hydroxyapatite and Starch Mixture onto Stainless Steel
	Type of Grant	FAVF
	Approved Amount	RM30,000
	Cost Centre	R.J130000.7726.4D032
	Project Status	COMPLETED
67	Reference Number	<a href="#">PY/2011/01697</a>
	Project Title	Surface Treatment of Biomedical Grade Titanium for Hard Tissue Repair Using TiN and Diamond
	Type of Grant	Tier 1
	Approved Amount	RM130,000
	Cost Centre	Q.J130000.2524.02H60
	Project Status	COMPLETED
68	Reference Number	<a href="#">PY/2011/01682</a>
	Project Title	Development Of E-Evaluation System For Physical Fitness Assessment
	Type of Grant	Tier 1
	Approved Amount	RM130,000
	Cost Centre	Q.J130000.2536.02H37
	Project Status	COMPLETED
69	Reference Number	<a href="#">PY/2011/01646</a>

	Project Title	Development of Osseo-Ligamentous Finite Element Model of the Human Ankle Joint
	Type of Grant	Tier 2
	Approved Amount	RM41,000
	Cost Centre	Q.J130000.2624.04J19
	Project Status	COMPLETED
70	Reference Number	<a href="#">PY/2011/01137</a>
	Project Title	Surface Modification and Protein Adsorption study of Polymer and Composite Scaffolds based on Biodegradable Polymers
	Type of Grant	Tier 2
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2636.03J35
	Project Status	COMPLETED
71	Reference Number	<a href="#">PY/2011/01114</a>
	Project Title	Human Gait Transition Limit To Human Walking Speed Prediction Purpose And Function
	Type of Grant	Tier 2
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2631.01J24
	Project Status	COMPLETED
72	Reference Number	<a href="#">PY/2011/01081</a>
	Project Title	Development Of Novel Top-Down Manufacturing Methods For Textile-Based (Bio)Medical Micro-/Nano-Devices
	Type of Grant	Tier 1
	Approved Amount	RM129,000
	Cost Centre	Q.J130000.2536.01H65
	Project Status	COMPLETED
73	Reference Number	<a href="#">PY/2011/00597</a>
	Project Title	Development Of Pulse Power Generator For Micro Electrical Discharge Machining (Edm) System
	Type of Grant	Tier 2
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2623.01J03
	Project Status	COMPLETED
74	Reference Number	<a href="#">PY/2011/00560</a>



	Project Title	Investigation on synthesis and functionality assessment of novel biodegradable metal-polymers system for temporary medical implants
	Type of Grant	Tier 1
	Approved Amount	RM150,000
	Cost Centre	Q.J130000.2536.00H54
	Project Status	COMPLETED
75	Reference Number	<a href="#">PY/2011/00132</a>
	Project Title	Development Of Photocatalytic Fe <sub>2</sub> O <sub>3</sub> Nanofibers By Electrospinning For Treatment Of Wastewater Containing Metals Ion
	Type of Grant	Tier 1
	Approved Amount	RM150,000
	Cost Centre	Q.J130000.2513.02H15
	Project Status	COMPLETED
76	Reference Number	<a href="#">PY/2011/00084</a>
	Project Title	Development Of A Continuous Microwave Reactor For The Production Of Nanomaterials
	Type of Grant	Tier 1
	Approved Amount	RM129,000
	Cost Centre	Q.J130000.2526.00H15
	Project Status	COMPLETED
77	Reference Number	<a href="#">PY/2016/06232</a>
	Project Title	The Design Of Fuzzy Expert Control System For Pressure Regulation Of Wound Therapy System
	Type of Grant	Tier 1
	Approved Amount	RM40,000
	Cost Centre	Q.J130000.2545.15H40
	Project Status	COMPLETED
78	Reference Number	<a href="#">PY/2015/04870</a>
	Project Title	Biomaterial Development and Process Study of 3D Bioprinting Towards Vascular Grafts
	Type of Grant	Tier 1
	Approved Amount	RM50,000
	Cost Centre	Q.J130000.2545.11H66
	Project Status	COMPLETED
79	Reference Number	<a href="#">PY/2014/03306</a>

	Project Title	A New Cuckoo-Neuro-Fuzzy Techniques in Gender Classification Based on Bovine Morphology Properties.
	Type of Grant	FRGS
	Approved Amount	RM91,200
	Cost Centre	R.J130000.7828.4F509
	Project Status	COMPLETED
80	Reference Number	<a href="#">PY/2013/01247</a>
	Project Title	Computational Multiscale approach of Smart Degradable Metal for Synthetic Cancellous Bone
	Type of Grant	FRGS
	Approved Amount	RM77,000
	Cost Centre	R.J130000.7809.4F355
	Project Status	COMPLETED
81	Reference Number	<a href="#">PY/2013/00369</a>
	Project Title	3D Holographic Interactive Heart Simulation from Cardiac Resonance Imaging (CMR)
	Type of Grant	Flagship
	Approved Amount	RM35,000
	Cost Centre	Q.J130000.2428.00G68
	Project Status	COMPLETED
82	Reference Number	<a href="#">PY/2012/00525</a>
	Project Title	Blood Flow Visualization of Heart Artery for Cardiac Disease Diagnosis
	Type of Grant	SF
	Approved Amount	RM178,000
	Cost Centre	R.J130000.7928.4S030
	Project Status	COMPLETED
83	Reference Number	<a href="#">PY/2016/06139</a>
	Project Title	Cytotoxicity And Antimicrobial Coating Of Novel Bioglasses- Graphene Oxide Composites Onto Titanium Implant For Orthopaedic Applications
	Type of Grant	Tier 1
	Approved Amount	RM50,000
	Cost Centre	Q.J130000.2545.13H33
	Project Status	COMPLETED
84	Reference Number	<a href="#">PY/2015/05371</a>

Project Title	The effect of halogenated based ceramics on the degradation and bioactivity of biodegradable magnesium-based alloys
Type of Grant	FRGS
Approved Amount	RM103,200
Cost Centre	R.J130000.7845.4F768
Project Status	COMPLETED
85 Reference Number	<a href="#">PY/2015/05204</a>
Project Title	Development Of A Magnetic Levitation Bearing System For Left Ventricular Assist Device
Type of Grant	Tier 1
Approved Amount	RM49,900
Cost Centre	Q.J130000.2545.11H48
Project Status	COMPLETED

#### **2.4 Other research grants (OUTSIDE UTM):**

- 1) Title: *“New Design of Pure Titanium Metal-on-Metal Total Hip Replacement with Ion Implanted Wear Resistance Surface”*

Source of Funding: eScienceFund, MOSTI

Project Leader: Dr. Walluyo Adi Siswanto (UTHM)

**Grant approved: RM215,000**

- 2) Title: *“A novel technique to determine biomechanical properties of curved-surface articular cartilage in synovial joint”*

Source of Funding: Fundamental Research Grant Scheme, MOHE

Project Leader: Dr. Mohd Juzaila bin Abdul Latif (UTEM)

**Grant approved: RM47,000**

- 3) Title: *“Feasibility study of artificial disc replacement prostheses in Malaysia”*

Source of Funding: Exploratory Research Grant Scheme, MOHE

Project Leader: Dr. Mohd Juzaila bin Abdul Latif (UTEM)

**Grant approved: RM50,000**

### **3.0 PUBLICATIONS**

- ❖ Total Indexed (SCOPUS) Publications: **256**
- ❖ Total ISI Publications: **196**
- ❖ Cumulative Impact Factor: **288.214**
- ❖ *h*-index: **41**

- ❖ Total Proceedings (SCOPUS) : **60**
- ❖ Total Proceedings (Non-index): **37**
- ❖ Total books : **7**
- ❖ Total book chapters: **5**
- ❖ Total Articles in Magazine: **2 articles**

### **3.1 ISI-Index Journal**

1. Nur Afikah Zainal Abidin, Abdul Hadi Abdul Wahab, Rabiatal Adibah Abdul Rahim, **Mohammed Rafiq Abdul Kadir** & Muhammad Hanif Ramlee "*Biomechanical analysis of three different types of fixators for anterior cruciate ligament reconstruction via finite element method: a patient-specific study*" Medical & Biological Engineering & Computing (ISI, **Q1, Impact Factor: 8.867**), Vol. XX, pg. 1-16, 2021.
2. Mohammed Ahmad Wsoo, Saiful Izwan Abd Razak, Siti Pauliena Mohd Bohari, Shafinaz Shahir, Rabiul Salihu, **Mohammed Rafiq Abdul Kadir** & Nadirul Hasraf Mat Nayan "*Vitamin D3-loaded electrospun cellulose acetate/polycaprolactone nanofibers: Characterization, in-vitro drug release and cytotoxicity studies*" International Journal of Biological Macromolecules (ISI, **Q1, Impact Factor: 8.867**), Vol. 181, pg. 82-98, 2021.
3. Nurnedilah Mohammad Kata, Nur Afikah Zainal Abidin, Aishah Umairah Abd Aziz, Abdul Halim Abdullah, Ng Bing Wui, Ahmad Kafrawi Nasution, **Mohammed Rafiq Abdul Kadir** & Muhammad Hanif Ramlee "*Finite Element Analysis of External Fixator for Treating Femur Fracture: Analysis on Stainless Steel and Titanium as Material of External Fixator*" Malaysian Journal of Fundamental and Applied Sciences (ISI, **Q1, Impact Factor: 8.867**), Vol. 17(3), pg. 274-284, 2021.
4. Muhammad Faiz Md Shakhiah, Nursyazana Ridzuan, Asnida Abdul Wahab, Nurul Farha Zainuddin, Laila Fadhillah Ulta Delestri, Anis Suzziani Rosslan & **Mohammed Rafiq Abdul Kadir** "*Non-obstructive monitoring of muscle fatigue for low intensity dynamic exercise with infrared thermography technique*" Medical & Biological Engineering & Computing (ISI, **Q1, Impact Factor: 8.867**), Vol. XX, pg. 1-13, 2021.
5. AAR Rabiatal, SJ Fatihhi, Amir Putra Md Saad, Zulfadzli Zakaria, MN Harun, **Mohammed Rafiq Abdul Kadir**, Andreas Öchsner, Tunku Kamarul Zaman & Ardiyansyah Syahrom "*Fluid–structure interaction (FSI) modeling of bone marrow through trabecular bone structure under compression*" Biomechanics and modeling in mechanobiology (ISI, **Q1, Impact Factor: 8.867**), Vol. 20(3), pg. 957-968, 2021.
6. Samina Nazir, Muhammad Umar Aslam Khan, Wafa Shamsan Al-Arjan, Saiful Izwan Abd Razak, Aneela Javed & **Mohammed Rafiq Abdul Kadir** "*Nanocomposite hydrogels for melanoma skin cancer care and treatment: In-vitro drug delivery, drug release kinetics and anti-cancer activities*" Arabian Journal of Chemistry (ISI, **Q1, Impact Factor: 8.867**), Vol. 14(5), pg. 103120, 2021.
7. Muhammad Hanif Ramlee, Nur Amalina Zainudin & **Mohammed Rafiq Abdul Kadir** "*Finite Element Analysis of Different Pin Diameter of External Fixator in Treating Tibia Fracture*" International Journal of Integrated Engineering (ISI, **Q1, Impact Factor: 8.867**), Vol. 13(4), pg. 133-140, 2021.
8. Shuoqi Li, Shazlin Shaharudin & **Mohammed Rafiq Abdul Kadir** "*Effects of Blood Flow Restriction Training on Muscle Strength and Pain in Patients With Knee Injuries: A Meta-Analysis*" American journal of physical medicine

- & rehabilitation (ISI, **Q1, Impact Factor: 8.867**), Vol. 100(4), pg. 337-344, 2021.
9. Muhammad Umar Aslam Khan, Adnan Haider, Saiful Izwan Abd Razak, **Mohammed Rafiq Abdul Kadir**, Sajjad Haider, Saqlain A Shah, Anwarul Hasan, Rawaiz Khan, Salah-ud din Khan & Imran Shakir "Arabinoxylan/graphene-oxide/nHAp-NPs/PVA bionano composite scaffolds for fractured bone healing" *Journal of Tissue Engineering and Regenerative Medicine* (ISI, **Q1, Impact Factor: 8.867**), Vol. 15(4), pg. 322-335, 2021.
  10. Muhammad Hanif Ramlee, Gan Hong Seng, Antonio Ros Felip & **Mohammed Rafiq Abdul Kadir** "The effects of additional hollow cylinder coated to external fixator screws for treating pilon fracture: A biomechanical perspective" *Injury* (ISI, **Q1, Impact Factor: 8.867**), Vol. XX, pg. XX, 2021.
  11. Abdul Hadi Abdul Wahab, Nor Aqilah Mohamad Azmi, **Mohammed Rafiq Abdul Kadir** & Amir Putra Md Saad "Effects of conform, non-conform, and hybrid conformity toward stress distribution at the glenoid implant and cement: A finite element study" *The International Journal of Artificial Organs* (ISI, **Q1, Impact Factor: 8.867**), Vol. XX, pg. 0391398821999391, 2021.
  12. Muhammad Umar Aslam Khan, Saiful Izwan Abd Razak, Hassan Mehboob, **Mohammed Rafiq Abdul Kadir**, T Joseph Sahaya Anand, Fawad Inam, Saqlain A Shah, Mahmoud EF Abdel-Hallem & Rashid Amin "Synthesis and characterization of silver-coated polymeric scaffolds for bone tissue engineering: antibacterial and in vitro evaluation of cytotoxicity and biocompatibility" *ACS Omega* (ISI, **Q1, Impact Factor: 8.867**), Vol. 6(6), pg. 4335-4346, 2021.
  13. Muhammad Umar Aslam Khan, Sajjad Haider, Adnan Haider, Saiful Izwan Abd Razak, **Mohammed Rafiq Abdul Kadir**, Saqlain A Shah, Aneela Javed, Imran Shakir & Ateyah A Al-Zahrani "Development of porous, antibacterial and biocompatible GO/n-HAp/bacterial cellulose/ $\beta$ -glucan biocomposite scaffold for bone tissue engineering" *Arabian Journal of Chemistry* (ISI, **Q1, Impact Factor: 8.867**), Vol. 14(2), pg. 102924, 2021.
  14. Abdul Hakim Md Yusop, Ahmed Alsakkaf, **Mohammed Rafiq Abdul Kadir**, Irza Sukmana & Hadi Nur "Corrosion of porous Mg and Fe scaffolds: a review of mechanical and biocompatibility responses" *Corrosion Engineering, Science and Technology* (ISI, **Q1, Impact Factor: 8.867**), Vol. XX, pg. 1-17, 2021.
  15. Mohd Faiz Muaz Ahmad Zamri, Raihana Bahru, Rashid Amin, Muhammad Umar Aslam Khan, Saiful Izwan Abd Razak, Shukur Abu Hassan, **Mohammed Rafiq Abdul Kadir** & Nadirul Hasraf Mat Nayan "Waste to health: a review of waste derived materials for tissue engineering" *Journal of Cleaner Production* (ISI, **Q1, Impact Factor: 8.867**), Vol. XX, pg. 1-125792, 2021.
  16. Norjihada Izzah Ismail, Mohammed Rafiq Abdul Kadir, Razauden Mohamed Zulkifli, Mahaneem Mohamed "Comparison of physicochemical, total protein and antioxidant profiles between Malaysian Apis and Trigona honeys" *Malaysian Journal of Analytical Sciences* (ISI, **Q1, Impact Factor: 8.867**), Vol. 25(2), pg. 243-256, 2021.
  17. Rabiul Salihu, Saiful Izwan Abd Razak, Nurliyana Ahmad Zawawi, **Mohammed Rafiq Abdul Kadir**, Norjihada Izzah Ismail, Norhana Jusoh, Mohd Riduan Mohamad & Nadirul Hasraf Mat Nayan "Citric acid: A green cross-linker of biomaterials for biomedical applications" *European Polymer Journal* (ISI, **Q1, Impact Factor: 8.867**), Vol. 146, pg. 110271, 2021.
  18. Abdul Hadi Abdul Wahab, Ng Bing Wui, **Mohammed Rafiq Abdul Kadir** & Muhammad Hanif Ramlee "Biomechanical evaluation of three different configurations of external fixators for treating distal third tibia fracture: Finite element analysis in axial, bending and torsion load" *Computers in Biology and Medicine* (ISI, **Q1, Impact Factor: 8.867**), Vol. 127, pg. 104062, 2020.

19. Wafa Shamsan Al-Arjan, Muhammad Umar Aslam Khan, Samina Nazir, Saiful Izwan Abd Razak & **Mohammed Rafiq Abdul Kadir** "Development of Arabinoxylan-Reinforced Apple Pectin/ Graphene Oxide/ Nano-Hydroxyapatite Based Nanocomposite Scaffolds with Controlled Release of Drug for Bone Tissue Engineering" *Coatings* (ISI, **Q1, Impact Factor: 8.867**), Vol. 10, Issue 11, pg. 1120, 2020.
20. Aishah Umairah Abd Aziz, Abdul Hadi Abdul Wahab, Rabiatal Adibah Abdul Rahim, **Mohammed Rafiq Abdul Kadir** & Muhammad Hanif Ramlee "A finite element study: Finding the best configuration between unilateral, hybrid, and ilizarov in terms of biomechanical point of view" *Injury* (ISI, **Q1, Impact Factor: 8.867**), Vol. 51, Issue 11, pg. 2474-2478, 2020.
21. Nor Suriani Sani, Nik Ahmad Nizam Nik Malek, Khairunadwa Jemon, **Mohammed Rafiq Abdul Kadir** & Halimaton Hamdan "In vitro bioactivity and osteoblast cell viability studies of hydroxyapatite-incorporated silica aerogel" *Journal of Sol-Gel Science and Technology* (ISI, **Q1, Impact Factor: 8.867**), Vol. 96, Issue 1, pg. 166-177, 2020.
22. Muhammad Umar Aslam Khan, Mohsin Ali Raza, Saiful Izwan Abd Razak, **Mohammed Rafiq Abdul Kadir**, Adnan Haider, Saqlain A Shah, Abdul Halim Mohd Yusof, Sajjad Haider, Imran Shakir & Saira Aftab "Novel functional antimicrobial and biocompatible arabinoxylan/ guar gum hydrogel for skin wound dressing applications" *Journal of Tissue Engineering and Regenerative Medicine* (ISI, **Q1, Impact Factor: 8.867**), Vol. 14, Issue 10, pg. 1488-1501, 2020.
23. Nur Afikah Zainal Abidin, **Mohammed Rafiq Abdul Kadir**, Muhammad Hanif Ramlee "Biomechanical Effects Of Different Lengths Of Cross-Pins In Anterior Cruciate Ligament Reconstruction: A Finite Element Analysis" *Journal of Mechanics in Medicine and Biology* (ISI, **Q1, Impact Factor: 8.867**), Vol. 20, Issue 7, pg. 2050047, 2020.
24. Muhammad Hanif Ramlee, Mohamad Hafiz Mohamad Afandi, Hong Seng Gan & **Mohammed Rafiq Abdul Kadir** "Biomechanical analysis of conventional and locking compression plate for treating fibula fracture: A finite element study" *Malaysian Journal of Fundamental and Applied Sciences* (ISI, **Q1, Impact Factor: 8.867**), Vol. 16, Issue 4, pg. 433-436, 2020.
25. Muhammad Hanif Ramlee, Hong Seng Gan, Siti Asmah Daud, Asnida Abdul Wahab & **Mohammed Rafiq Abdul Kadir** "Stress distributions and micromovement of fragment bone of pilon fracture treated with external fixator: A finite element analysis" *The Journal of Foot and Ankle Surgery* (ISI, **Q1, Impact Factor: 8.867**), Vol. 59, Issue 4, pg. 664-672, 2020.
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### **3.5 International Conference (SCOPUS INDEX)**

1. Iis Afrianty, Dewi Nasien, **Mohammed Rafiq Abdul Kadir** & Habibollah Haron "Determination of Sex from Patella and Pelvic in Forensic Anthropology using Backpropagation Neural Network." IEEE Conference on Open Systems (ICOS 2013)
2. Mohd Juzaila Abd Latif, Jamaluddin Mahmud, Roszaidi Ramlan, **Mohammed Rafiq Abdul Kadir** & Aidah Jumahat "The effects of surface curvature on cartilage behaviour in indentation test: A finite element study." Malaysia International Tribology Conference (MITC 2013)
3. Muhammad Hanif Ramlee & **Mohammed Rafiq Abdul Kadir** "Three-Dimensional Modelling and Finite Element Analysis of an Ankle External Fixator." 1<sup>st</sup> International Conference on Materials, Industrial and Manufacturing Engineering (MIMEC 2013)
4. Milad Heidari, Muhammad Noor Harun, **Mohammed Rafiq Abdul Kadir** & Ardiyansyah Syahrom "Influence of polyethylene thickness on axis pin in linked elbow implant." 1<sup>st</sup> International Conference on Materials, Industrial and Manufacturing Engineering (MIMEC 2013)
5. Muhammad Farhan Ishak & **Mohammed Rafiq Abdul Kadir** "The Effect of Cannulated Screw Placement Angle in the Management of Femoral Neck Fracture." 1<sup>st</sup> International Conference on Materials, Industrial and Manufacturing Engineering (MIMEC 2013)
6. Ng Theng Pin, Seyed Saeid Rahimian Koloor, Joy Rizki Pangestu Djuansjah & **Mohammed Rafiq Abdul Kadir** "Linear Elastic Analysis of Bovine Cortical Bone under Compression Loading." 1<sup>st</sup> International Conference on Materials, Industrial and Manufacturing Engineering (MIMEC 2013)
7. Mohd Al-Fatihhi Mohd Szali Januddi, Ardiyansyah Syahrom, Muhammad Noor Harun & **Mohammed Rafiq Abdul Kadir** "The Effect of Combined Compression-Torsion Strain Rates on Trabecular Bone Ultimate Properties." 4<sup>th</sup> International Graduate Conference on Engineering, Science and Humanities (IGCESH 2013)
8. Mohd Faaizie Darmawan, Suhaila Mohamad Yusuf, Habibollah Haron & **Mohammed Rafiq Abdul Kadir** "Determination of Age and Gender based on Length of Left Hand-Wrist Bone." 5<sup>th</sup> International Conference on Computational Collective Intelligence, Technologies and Applications (ICCCI 2013)
9. Muhammad Ikman Ishak, **Mohammed Rafiq Abdul Kadir**, Eshamsul Sulaiman & Noor Hayaty Abu Kassim "Comparative Study of Different Conventional Dental Implant Numbers on Zygomatic Implant Stability – A Finite Element Analysis." The Annual International Conference on Science and Engineering in Biology, Medical and Public Health (BioMedPub 2013)
10. Iis Afrianty, Dewi Nasien, **Mohammed Rafiq Abdul Kadir** & Habibollah Haron "Backpropagation Neural Network for Sex Determination from Patella in Forensic Anthropology." International Symposium on System Engineering & Computer Simulation (SECS 2013)
11. Milad Heidari, **Mohammed Rafiq Abdul Kadir**, Ali Fallahi Arezoodar, Mina Alizadeh & Habibollah Haron "Biomechanical assessment of unconstrained elbow prosthesis after total elbow replacement: A finite element analysis." International Conference on Applied Mechanics and Manufacturing Technology (AMMT 2012)

12. Norhidayu Muhamad Zain, Mohd Faiz Mohd Yusoff & **Mohammed Rafiq Abdul Kadir** "Exploring the Potential of Hydroxyapatite Bone Scaffold from Sugarcane Biotemplate through Emulsion Freezing/Freeze Drying Process." International Conference on Advances in Materials Science and Engineering (AMSE 2012)
13. Hassan Jafari, Mohd Hasbullah Idris, Ali Ourdjini, **Mohammed Rafiq Abdul Kadir** & Saeed Farahany "Computer-Aided Thermal Analysis of In-situ Melted AZ91D Granules." International Conference on Advances in Materials Science and Engineering (AMSE 2012)
14. Hamidreza Bakhsheshi-Rad, **Mohammed Rafiq Abdul Kadir**, Mohd Hasbullah Idris, Saeed Farahany & Andril Arafat Suhasril "Phase Evaluation of Pure Mg, Mg-1Ca and Mg-1Ca-3Zn Alloys by Thermal Analysis Used in Medical Applications." International Conference on Advances in Materials Science and Engineering (AMSE 2012)
15. Andril Arafat Suhasril, Mohd Hasbullah Idris, **Mohammed Rafiq Abdul Kadir** & Hassan Jafari "Characterisation of Calcium Phosphate Coating on Investment Cast 316L Stainless Steel." International Conference on Advances in Materials Science and Engineering (AMSE 2012)
16. Raden Ramdan, Joy Rizki Pangestu Djuansjah, **Mohammed Rafiq Abdul Kadir**, Hadi Nur & Esah Hamzah "Formation of titanium oxide by thermal-electrochemical process on the blasted titanium alloys substrate." International Conference on Advances in Materials Science and Engineering (ASME 2012)
17. Su Natasha, Emma Paola Corcoles Perpignan & **Mohammed Rafiq Abdul Kadir** "Electrochemical detection of microdialysis recovered sodium chloride as a solution for magnesium alloys corrosion." 3<sup>rd</sup> International Biotechnology and Biodiversity Conference and Exhibition (BioJOHOR 2012)
18. Nida Iqbal, **Mohammed Rafiq Abdul Kadir**, Michael Moses & Nik Ahmad Nizam Nik Malek "Effect of silver ions on the structural and antibacterial properties of bone replacement material." International Conference on Civil Engineering and Material Engineering (CEME 2012)
19. Mahtab Assadian, Mohd Hasbullah Idris, Saleh Mehraban, Sajjad Jafary & **Mohammed Rafiq Abdul Kadir** "Effect of HF Concentration on Corrosion Resistance of Biomedical Implants." International Conference on Advance Material Research (ICAMR 2012)
20. Zohreh Arabshahi, Jamal Kashani, **Mohammed Rafiq Abdul Kadir** & Abbas Azari "Influence of the TMJ implant geometry on stress distribution." International Conference on Key Engineering Materials (ICKEM 2012)
21. Zohreh Arabshahi, Jamal Kashani, Seyed Saeid Rahimian Koloor, **Mohammed Rafiq Abdul Kadir** & Abbas Azari "Design analysis of TMJ implant under physiological loading condition." International Conference on Key Engineering Materials (ICKEM 2012)
22. Jamal Kashani, Zohreh Arabshahi, **Mohammed Rafiq Abdul Kadir** & Abbas Azari "Manufacturing of flexible surgical guide for fully edentulous patients." International Conference on Key Engineering Materials (ICKEM 2012)
23. Sahba Sadir, Andreas Ochsner, **Mohammed Rafiq Abdul Kadir** & Muhammad Noor Harun "Simulation of direct perfusion through 3D Cellular Scaffolds with different porosity." International Conference on Bioscience, Biochemistry and Bioinformatics (ICBBB 2011)
24. Ruwaida Rosli, Jamal Kashani & **Mohammed Rafiq Abdul Kadir** "Effects of Lateral Mass Screw Rod Fixation to the Stability of Cervical Spine after

- Laminectomy.” International Conference on Physics Science and Technology (ICPST 2011)
25. Zohreh Arabshahi, Jamal Kashani, **Mohammed Rafiq Abdul Kadir** & Abbas Azari “Influence of thickness and contact surface geometry of condylar stem of TMJ implant on its stability.” International Conference on Physics Science and Technology (ICPST 2011)
  26. Naznin Sultana, **Mohammed Rafiq Abdul Kadir**, Fadzilah Adibah Abdul Majid & Norsamsiah Muhamad Wahab “In Vitro Degradation of Thin Films and Tissue Engineering Scaffolds based on Biodegradable Polymers.” 2<sup>nd</sup> International Conference on Biotechnology Engineering (ICBioE 2011)
  27. Mohd Nazri Bajuri & **Mohammed Rafiq Abdul Kadir** “Biomechanical Analysis on the Effect of Bone Graft of the Wrist After Arthroplasty.” 5<sup>th</sup> International Conference on Biomedical Engineering, in conjunction with the 8<sup>th</sup> Asian Pacific Conference on Medical and Biological Engineering (APCMBE 2011)
  28. Jamal Kashani, **Mohammed Rafiq Abdul Kadir** & Zohreh Arabshahi “Finite Element Analysis of Different Ferrule Heights of Endodontically Treated Tooth.” 5<sup>th</sup> International Conference on Biomedical Engineering, in conjunction with the 8<sup>th</sup> Asian Pacific Conference on Medical and Biological Engineering (APCMBE 2011)
  29. S.S.R. Koloor, Jamal Kashani & **Mohammed Rafiq Abdul Kadir** “Simulation of Brittle Damage for Fracture Process of Endodontically Treated Tooth.” 5<sup>th</sup> International Conference on Biomedical Engineering, in conjunction with the 8<sup>th</sup> Asian Pacific Conference on Medical and Biological Engineering (APCMBE 2011)
  30. Mina Alizadeh, Jamal Kashani, **Mohammed Rafiq Abdul Kadir** & Ali Fallahi “Influence of Cancellous Bone Existence in Human Lumbar Spine: A Finite Element Analysis.” 5<sup>th</sup> International Conference on Biomedical Engineering, in conjunction with the 8<sup>th</sup> Asian Pacific Conference on Medical and Biological Engineering (APCMBE 2011)
  31. Milad Heidari, Ali Fallahi & **Mohammed Rafiq Abdul Kadir** “Stress Distribution Analysis on Semi Constrained Elbow Prosthesis During Flexion and Extension Motion.” 5<sup>th</sup> International Conference on Biomedical Engineering, in conjunction with the 8<sup>th</sup> Asian Pacific Conference on Medical and Biological Engineering (APCMBE 2011)
  32. Aisyah Ahmad Shafi, **Mohammed Rafiq Abdul Kadir** & Eshamsul Sulaiman “Simulation on the Effects of Dental Implant Threads to the Osseointegration Potential.” IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742232, pp. 221-226.
  33. Vijayajothi Paramasivam, Kanesan Muthusamy & **Mohammed Rafiq Abdul Kadir** “Application of Computational Fluid Dynamics in Assessing the Hemodynamics in Abdominal Aortic Aneurysms.” IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742194, pp. 32-37.
  34. Mina Alizadeh, **Mohammed Rafiq Abdul Kadir** & Saturnino Saldanha, “Biomechanical Effects of Short Construct Spine Posterior Fixation, in Thoracolumbar Region with L1 Burst Fracture.” IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742280, pp. 454-459.
  35. Ardiyansyah Syahrom, **Mohammed Rafiq Abdul Kadir** & Darhaysham Al-Jefri Muslim “Relationship between Morphological Parameters of Cancellous Bone and its Mechanical Properties.” IEEE EMBS Conference on

- Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742256, pp. 336-340.
36. Mohd Nazri Bajuri & **Mohammed Rafiq Abdul Kadir** "Biocomputational Comparative Study of Rheumatoid Arthritis of the Wrist Joint before and after Arthroplasty; Carpal Stability Analysis." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742242, pp. 270-275.
  37. Norsamsiah binti Muhamad @ Wahab, Fadzilah Adibah Abdul Majid & **Mohammed Rafiq Abdul Kadir** "Toxic Element Released from High and Low Carbon CoCrMo Alloy In- Vitro." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742224, pp. 180-183.
  38. Fitdriyah Hussain, **Mohammed Rafiq Abdul Kadir**, Ahmad Hafiz Zulkifly, Azlin Sa'at & Azian Abd. Aziz "Three Dimensional Anthropometric Measurements of the Distal Femur and Proximal Tibia for the Malay Population." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742246, pp. 291-294.
  39. Ali Fallahi Arezoodar & **Mohammed Rafiq Abdul Kadir** "Kinematic Analysis of High Flex knee Implant in Sagittal Plane before Manufacturing Real Prosthesis." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742281, pp. 460-465.
  40. Nor Raihanah Abdull Rahim, **Mohammed Rafiq Abdul Kadir** & Eskandar @ Zulkarnain Hassan "Comparing the Effects of Laminotomy and Hemilaminectomy to the Spinal Segment." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742276, pp. 433-437.
  41. Muhammad Ikman Ishak, **Mohammed Rafiq Abdul Kadir**, Eshamsul Sulaiman & Noor Hayaty Abu Kassim "Effects of Different Zygomatic Implant Body Surface Roughness and Implant Length on Stress Distribution." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742230, pp. 210-215.
  42. Syafiqah Saidin, **Mohammed Rafiq Abdul Kadir**, Eshamsul Sulaiman & Noor Hayaty Abu Kassim "Finite Element Analysis on Internal Hexagonal and Internal Conical Abutment." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742231, pp. 216-220.
  43. Raja Mohd Aizat Raja Izaham, **Mohammed Rafiq Abdul Kadir** & Darhaysham Al-Jefri Muslim "Screws Placement Effect on Locking Compression Plate (LCP) for Tibial Oblique Fracture Fixation." IEEE EMBS Conference on Biomedical Engineering & Sciences (IECBES 2010), art. No. 5742235, pp. 236-241.
  44. Abdul Halim Abdullah, Nor M.A.M., Saman A.M., Tamin, M.N. & **Mohammed Rafiq Abdul Kadir** "Effects of Prosthesis Stem Tapers on Stress Distribution of Cemented Hip Arthroplasty." AIP Conference Proceedings (2010), 1285, pp. 561-575.
  45. S. Izman, **Mohammed Rafiq Abdul Kadir**, Mahmood Anwar, E.M. Nazim, E.K. Khor & M. Konneh, "Effect of Pickling and Mechanical Surface Treatment Methods on Adhesion Strength of Ti Oxide Layer Formed on Titanium Alloy Substrate." 34<sup>th</sup> International Electronic Manufacturing Technology Conference, 2010.
  46. Mohd Yusof Baharuddin & **Mohammed Rafiq Abdul Kadir**, "Finite Element Study on the Micromotion of Cementless Total Hip Arthroplasty." IFMBE Proceedings, 31 IFMBE, pp. 605-607, 2010.



47. Mohd Yusof Baharuddin & **Mohammed Rafiq Abdul Kadir**, "Finite Element Study on the Stability of Cementless Acetabular Cup." IFMBE Proceedings, 31 IFMBE, pp. 601-604, 2010.
48. Ishkrizat Taib, Kahar Osman, **Mohammed Rafiq Abdul Kadir** & Mohd H. Padzillah, "Risk of Rupture Analysis for Advanced Level of AAA Under Combined Physiological and Physical Conditions." 2<sup>nd</sup> International Conference on Biomedical and Pharmaceutical Engineering, ICBPE 2009, Conference Proceedings art. No. 5384089.
49. Badreddin G.S.K., Kahar Osman & **Mohammed Rafiq Abdul Kadir**, "Numerical Modelling of Fusiform Aneurysm with High and Normal Blood Pressure." 3<sup>rd</sup> Asia International Conference on Modelling and Simulation, AMS 2009, art. No. 5071995, pp. 270-275.
50. **Mohammed Rafiq Abdul Kadir**, Kahar Osman & Ahmad Ihsan Zainudin, "The Use of Mechanical Interlock in Dental Prosthesis." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 457-460, 2008.
51. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Zaliha Aziz, "Eccentric Loading on the Tibial Plate After Knee Replacement." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 403-406, 2008.
52. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Mohd Azuwan Aminullah, "Finite Element Study of Metacarpophalangeal Joint Silicone Implants." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 420-423, 2008.
53. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Norhayanti Mohlisun, "Interface Micromotion of Cementless Hip Arthroplasty: Collared vs Non-collared Stems." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 428-432, 2008.
54. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Hakimah Shabudin, "Stability of Talus Component in Total Ankle Arthroplasty." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 453-456, 2008.
55. **Mohammed Rafiq Abdul Kadir**, Habibollah Haron, Nazri Kamsah & Norazhar Nordin, "Miniplates Orientation for Fracture Fixation of the Mandibular Condyle." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 438-441, 2008.
56. **Mohammed Rafiq Abdul Kadir**, Ishkrizat Taib, Kahar Osman & Mohd Hafiz Abdul Hamid, "Blood Flow Simulation of Stented Aneurysm Model." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 398-402, 2008.
57. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Muhsin Salim, "Effect of Metal backed Geometry on the Stability of Cementless Acetabular Cup." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 410-413, 2008.
58. **Mohammed Rafiq Abdul Kadir**, Ardiyansyah Syahrom, Mohd Azrul Rais Yusof & Nazri Kamsah, "Micro-modeling and Analysis of Actual and Idealised Cancellous Structure." 4<sup>th</sup> International Conference on Biomedical Engineering, IFMBE Proceedings, 21 IFMBE (1), pp. 433-437, 2008.

### **3.6 International Conference (Non-Index)**

1. Naznin Sultana, **Mohammed Rafiq Abdul Kadir**, Fadzillah Adibah Abdul Majid & Norsamsiah binti Muhamad @ Wahab, "In Vitro Degradation of Thin Films and Tissue Engineering Scaffolds Based on Biodegradable Polymers." 2<sup>nd</sup> International Conference on Biotechnology Engineering, 2011.
2. S. Izman, **Mohammed Rafiq Abdul Kadir**, Mahmood Anwar, E.M. Nazim & T.H. Kiat, "Effective Etchant of Removing Graphite for Recycling Diamond Coated Tool." 7<sup>th</sup> International Materials Technology Conference & Exhibition(IMTCE) – Innovation for Sustainability, 2010.
3. S. Izman, E.M. Nazim, **Mohammed Rafiq Abdul Kadir** & Mahmood Anwar, "Initial Study on Ultra Precision Grinding Performance of Bondless and Bonded Diamond Wheel." 7<sup>th</sup> International Materials Technology Conference & Exhibition(IMTCE) – Innovation for Sustainability, 2010.
4. S. Izman, **Mohammed Rafiq Abdul Kadir**, Mahmood Anwar, E.M. Nazim & L.Y. Kuan, "Effect of Pickling Time on Adhesion Strength of Ti Oxide Layer on Titanium Alloy Substrate." 7<sup>th</sup> International Materials Technology Conference & Exhibition(IMTCE) – Innovation for Sustainability, 2010.
5. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Al Hamzee Idrose, "Comparison Between Aligned and Slanted Peg Glenoid Component for Shoulder Arthroplasty." International Conference on Biomedical Engineering, BME Days, 2008.
6. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Wan Mohd Musyris Wan Harujan, "Finite Element Study of an Artificial Intervertebral Disc (IVD) Sandwiched Between Two Vertebrae." International Conference on Biomedical Engineering, BME Days, 2008.
7. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Muhsin Salim, "The Effect of Fins and Ridges on the Stability of Cementless Acetabular Cup Prostheses." International Conference on Biomedical Engineering, BME Days, 2008.
8. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah, Denni Kurniawan & Ong Rui Ying, "Finite Element Analysis of Mandibular Fractures with Rigid Fixation." International Conference on Biomedical Engineering, BME Days, 2008.
9. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Zaliha Aziz, "The Use of Implant for Total Knee Arthroplasty in the Treatment of Unicompartmental Defect." International Conference on Biomedical Engineering, BME Days, 2008.
10. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Ahmad Ihsan Zainuddin, "Stress Transfer and Stability of Interlocking Mechanisms in Abutment Design." International Conference on Biomedical Engineering, BME Days, 2008.
11. **Mohammed Rafiq Abdul Kadir** & Ardiyansyah Syahrom, "Effect of Loading Direction on the Properties of Cancellous Bone." International Conference on Biomedical Engineering, BME Days, 2008.
12. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Hakimah Sabudin, "Finite Element Study of Two Design Features of Talus Component." International Conference on Biomedical Engineering, BME Days, 2008.
13. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Mohd Fairoz Saharudin, "Biomechanical Analysis of a Semiconstrained Elbow Prosthesis." International Conference on Biomedical Engineering, BME Days, 2008.

14. **Mohammed Rafiq Abdul Kadir**, Habibollah Haron, Nazri Kamsah & Muhammad Azuwan Aminullah, "Micromotion of Metacarpophalangeal Joint Silicone Implants Under Sideways Loading." International Conference on Biomedical Engineering, BME Days, 2008.
15. **Mohammed Rafiq Abdul Kadir**, Habibollah Haron, Nazri Kamsah & Muhammad Azuwan Aminullah, "Flexibility of Proximal Interphalangeal Joint (PIP) After Joint Replacement." International Conference on Biomedical Engineering, BME Days, 2008.
16. **Mohammed Rafiq Abdul Kadir**, Habibollah Haron, Nazri Kamsah, D Kurniawan & Norazhar Nordin, "The Effect of Different Types of Plates on the Stability of Condylar Fracture." International Conference on Biomedical Engineering, BME Days, 2008.
17. Ishkrizat Taib, Kahar Osman, **Mohammed Rafiq Abdul Kadir** & M Mazwan Mahat, "Numerical Modeling of Abdominal Aortic Aneurysm." International Conference on Biomedical Engineering, BME Days, 2008.
18. M Mazwan Mahat, Kahar Osman, **Mohammed Rafiq Abdul Kadir** & Ishkrizat Taib, "Analysis on the Flow Phenomena in Stented Aneurysms." International Conference on Biomedical Engineering, BME Days, 2008.
19. **Mohammed Rafiq Abdul Kadir**, "Primary Hip Stem Stability: The Effect of Bone Pathology on Micromotion." 2nd International Conference on Mathematical Sciences, ICoMS, 2007.
20. **Mohammed Rafiq Abdul Kadir** & Mohd Norshahid Mohd Idris, "Influence of Occlusal Loads on Stress Distribution of Dental Implants." 2nd International Conference on Mathematical Sciences, ICoMS, 2007.
21. **Mohammed Rafiq Abdul Kadir** & Al-Hamzee Idrose, "Performance of Glenoid Prosthesis in a Conventional Glenohumeral Joint Arthroplasty." 2nd International Conference on Mathematical Sciences, ICoMS, 2007.
22. **Mohammed Rafiq Abdul Kadir** & Wan Mohd Musyris Wan Harujan, "Biomechanical Analyses of Two Lumbar Vertebrae Implanted with an Artificial Intervertebral Disc." 2nd International Conference on Mathematical Sciences, ICoMS, 2007.
23. **Mohammed Rafiq Abdul Kadir**, "The Effect of Malalignment and Undersizing on Primary Stability of Cementless Femoral Stems." World Engineering Congress, 2007.
24. **Mohammed Rafiq Abdul Kadir**, Iskhkrizat Taib, Nazri Kamsah & Kahar Osman, "Computational Analysis of Stented Abdominal Aortic Aneurysm Model." World Engineering Congress, 2007.
25. **Mohammed Rafiq Abdul Kadir** & Wan Mohd Musyris Wan Harujan, "Biomechanical Analysis of Fusion and Implantation of Two Vertebrae." World Engineering Congress, 2007.
26. **Mohammed Rafiq Abdul Kadir** & Al-Hamzee Idrose, "Primary Stability of Glenoid Component for Shoulder Arthroplasty." World Engineering Congress, 2007.
27. **Mohammed Rafiq Abdul Kadir** & Mohd Norshahid Mohd Idris, "Evaluation of Load Transfer Characteristics of Double-Taper Interlocking Abutment for Prosthetic Dentistry." World Engineering Congress, 2007.
28. **Mohammed Rafiq Abdul Kadir**, "The Effects of Proximal Macrofeatures on Micromotion of Cementless Hip Stems." International Conference on Ergonomics, 2007.

29. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah, Ong Rui Ying and Muhsin Salim, "Interfacial Conditions of Cementless Acetabular Cup Prostheses Under Physiological Load." International Conference on Ergonomics, 2007.
30. **Mohammed Rafiq Abdul Kadir** and Ong Rui Ying, "Mechanical Behaviour of the Mandible After Rigid Fixation of Mandibular Angle Fractures." International Conference on Ergonomics, 2007.
31. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah, Ong Rui Ying and Mohd Fairoz Saharudin, "Biomechanical Analysis of Semiconstrained and Unconstrained Elbow Replacements." International Conference on Ergonomics, 2007.
32. **Mohammed Rafiq Abdul Kadir** and Ardiyanshah Shahrom, "The Effects of Tibial Component Malalignment on Stress Transfer and Stability." International Conference on Ergonomics, 2007.
33. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah and Muhammad Azuwan Aminullah, "Finite Element Simulation of Proximal Interphalangeal Joint Implants." International Conference on Ergonomics, 2007.
34. **Mohammed Rafiq Abdul Kadir**, Ong Rui Ying and Nazman Che Ibrahim, "Finite Element Analysis of a Total Ankle Arthroplasty During the Stance Phase of Gait." International Conference on Ergonomics, 2007.
35. **Mohammed Rafiq Abdul Kadir**, Kahar Osman and Iskhrizat Taib, "Finite Element of Expandable Intravascular Stent Used in Treatment of Aneurysm." International Conference on Ergonomics, 2007.
36. **Mohammed Rafiq Abdul Kadir**, Ardiyanshah Syahrom and Mohd Azrul Rais Yusof, "Microstructural Damage of Cancellous Bone Under Uniaxial Compression." International Conference on Ergonomics, 2007.
37. Abdul Halim Abdullah, **Mohammed Rafiq Abdul Kadir** and Mohd Nasir Tamin, "Effects of Stem Lengths on Stress and Strain Distribution of Cemented Hip Arthroplasty." International Conference on Ergonomics, 2007.

### **3.7 Articles in Magazine**

1. **Mohammed Rafiq Abdul Kadir**, Nazri Kamsah & Mohd Nasir Tamin, "Engineering the Future of Medicine" Jurutera, August 2007.
2. **Mohammed Rafiq Abdul Kadir**, "The Establishment of the new Faculty of Biomedical Engineering and Health Science in UTM" Jurutera, September 2009.

## **4.0 INTELLECTUAL PROPERTIES**

- ❖ Total Patents Granted: **25**
- ❖ Total Patents Pending: **30**
- ❖ Total Copyrights: **36**

#### **4.1 Patents Granted**

1. Title: APPARATUS FOR SIMULATING THE ARTIFICIAL HUMAN WRIST JOINT MOVEMENT  
PI Number: PI 20095307  
Patent Grant No: MY-143845-A  
Grant Date: 12/07/2011  
Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
2. Title: METACARPOPHALANGEAL PROSTHESIS  
PI Number: PI 20095409  
Patent Grant No: MY-144931-A  
Grant Date: 29/11/2011  
Patent Expiry Date: 16/12/2029  
Role: **Main Inventor**
3. Title: DENTAL IMPLANT  
PI Number: PI 20095606  
Patent Grant No: MY-145030-A  
Grant Date: 12/12/2011  
Patent Expiry Date: 28/12/2029  
Role: **Main Inventor**
4. Title: ARTIFICIAL SPINE TRIBO SIMULATOR  
PI Number: PI 20095605  
Patent Grant No: MY-145061-A  
Grant Date: 14/12/2011  
Patent Expiry Date: 28/12/2029  
Role: **Main Inventor**
5. Title: INTERVERTEBRAL IMPLANT FOR SPINE FUSION  
PI Number: PI 20095291  
Patent Grant No: MY-145173-A  
Grant Date: 30/12/2011  
Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
6. Title: INTERVERTEBRAL IMPLANT FOR SPINE FUSION  
PI Number: PI 20095298  
Patent Grant No: MY-145247-A  
Grant Date: 10/01/2012  
Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
7. Title: INTERVERTEBRAL IMPLANT FOR SPINE FUSION  
PI Number: PI 20095297  
Patent Grant No: MY-145245-A  
Grant Date: 10/01/2012

- Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
8. Title: ARTIFICIAL HUMAN WRIST JOINT TRIBO SIMULATOR  
PI Number: PI 20095635  
Patent Grant No: MY-145391-A  
Grant Date: 27/01/2012  
Patent Expiry Date: 29/12/2029  
Role: **Main Inventor**
9. Title: ARTIFICIAL HUMAN SHOULDER JOINT TRIBO SIMULATOR  
PI Number: PI 20095608  
Patent Grant No: MY-145392-A  
Grant Date: 31/01/2012  
Patent Expiry Date: 28/12/2029  
Role: **Main Inventor**
10. Title: A DUAL DISC IMPLANT FOR TOTAL REPLACEMENT OF A SPINAL DISC OR DISC IN A HUMAN BODY  
PI Number: PI 20095300  
Patent Grant No: MY-145396-A  
Grant Date: 03/02/2012  
Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
11. Title: METACARPOPHALANGEAL PROSTHESIS  
PI Number: PI 20095411  
Patent Grant No: MY-145550-A  
Grant Date: 24/02/2012  
Patent Expiry Date: 16/12/2029  
Role: **Main Inventor**
12. Title: PROSTHETIC ACETABULAR CUP  
PI Number: PI 20095304  
Patent Grant No: MY-145580-A  
Grant Date: 27/02/2012  
Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
13. Title: DENTAL IMPLANT  
PI Number: PI 20095607  
Patent Grant No: MY-145776-A  
Grant Date: 10/04/2012  
Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
14. Title: INTERVERTEBRAL IMPLANT FOR SPINE FUSION  
PI Number: PI 20095290  
Patent Grant No: MY-146139-A  
Grant Date: 06/11/2012

- Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
15. Title: ARTIFICIAL HUMAN ELBOW JOINT TRIBO SIMULATOR  
PI Number: PI 20095634  
Patent Grant No: MY-146303-A  
Grant Date: 19/12/2012  
Patent Expiry Date: 29/12/2029  
Role: **Main Inventor**
16. Title: ANKLE PROSTHESIS FOR ARTHROPLASTY  
PI Number: PI 20095306  
Patent Grant No: MY-147597-A  
Grant Date: 31/12/2012  
Patent Expiry Date: 11/12/2029  
Role: **Main Inventor**
17. Title: ARTIFICIAL HUMAN KNEE JOINT TRIBO SIMULATOR  
PI Number: PI 20095633  
Patent Grant No: MY-147884-A  
Grant Date: 31/01/2013  
Patent Expiry Date: 29/12/2029  
Role: **Main Inventor**
18. Title: ARTIFICIAL HUMAN HIP JOINT TRIBO SIMULATOR  
PI Number: PI 20095632  
Patent Grant No: MY-147885-A  
Grant Date: 31/01/2013  
Patent Expiry Date: 14/12/2029  
Role: **Main Inventor**
19. Title: METACARPOPHALANGEAL PROSTHESIS (6)  
PI Number: PI 20095408  
Patent Grant No: MY-147953-A  
Grant Date: 15/02/2013  
Patent Expiry Date: 16/12/2029  
Role: **Main Inventor**
20. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (3)  
PI Number: PI 20095349  
Patent Grant No: MY-151007-A  
Grant Date: 31/04/2013  
Patent Expiry Date: 14/12/2029  
Role: **Main Inventor**
21. Title: DENTAL IMPLANT (5)  
PI Number: PI 20095609  
Patent Grant No: MY-148400-A  
Grant Date: 30/04/2013  
Patent Expiry Date: 14/12/2029

Role: **Main Inventor**

22. Title: METACARPOPHALANGEAL PROSTHESIS (4)

PI Number: PI 20095406

Patent Grant No: MY-149334-A

Grant Date: 31/08/2013

Patent Expiry Date: 16/12/2029

Role: **Main Inventor**

23. Title: ELBOW PROSTHESIS (1)

PI Number: PI 20095348

Patent Grant No: MY-149057-A

Grant Date: 15/07/2013

Patent Expiry Date: 14/12/2029

Role: **Main Inventor**

24. Title: APPARATUS FOR CANCELLOUS BONE SAMPLE ALIGNMENT

PI Number: PI 20095636

Patent Grant No: MY-149253-A

Grant Date: 31/07/2013

Patent Expiry Date: 14/12/2029

Role: **Main Inventor**

25. Title: ARTIFICIAL HUMAN ANKLE JOINT MINI TRIBO SIMULATOR

PI Number: PI 20095295

Patent Grant No: MY-151789-A

Grant Date: 14/07/2014

Patent Expiry Date: 11/12/2029

Role: **Main Inventor**

#### **4.2 Patents Pending**

1. Title: A METHOD OF PRODUCING NANOSIZED HYDROXYAPATITE PARTICLES

PI Number: PI 2013701549

Role: **Main Inventor**

2. Title: METHOD FOR FABRICATING A DENTAL SURGICAL GUIDE AND APPARATUS OF THE SAME

PI Number: PI 2011003325

Role: **Main Inventor**

3. Title: ANKLE PROSTHESIS FOR ARTHROPLASTY (3)

PI Number: PI 20095293

Status: OA in-progress

Role: **Main Inventor**

4. Title: ELBOW PROSTHESIS (2)

PI Number: PI 20095351

Status: OA in-progress



- Role: **Main Inventor**
5. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (1)  
PI Number: PI 20095350  
Role: **Main Inventor**
  6. Title: INTERVERTEBRAL IMPLANT FOR SPINE FUSION (1)  
PI Number: PI 20095299  
Role: **Main Inventor**
  7. Title: METACARPOPHALANGEAL PROSTHESIS (1)  
PI Number: PI 20095410  
Role: **Main Inventor**
  8. Title: ARTIFICIAL HUMAN ELBOW JOINT MINI TRIBO SIMULATOR  
PI Number: PI 20095296  
Role: **Main Inventor**
  9. Title: DENTAL PROSTHESIS FOR ARTHROPLASTY  
PI Number: PI 20095603  
Role: **Main Inventor**
  10. Title: FLEXIBLE AND EXTENDABLE INTRAVASCULAR STENT (1)  
PI Number: PI 20095631  
Role: **Main Inventor**
  11. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (2)  
PI Number: PI 20095352  
Role: **Main Inventor**
  12. Title: ARTIFICIAL HUMAN KNEE JOINT MINI TRIBO SIMULATOR  
PI Number: PI 20095309  
Role: **Main Inventor**
  13. Title: ANKLE PROSTHESIS FOR ARTHROPLASTY (2)  
PI Number: PI 20095294  
Role: **Main Inventor**
  14. Title: ACETABULAR CUP PROSTHESIS  
PI Number: PI 20095305  
Role: **Main Inventor**
  15. Title: SPINE PROSTHESIS FOR ARTHROPLASTY  
PI Number: PI 20095302  
Role: **Main Inventor**
  16. Title: DENTAL IMPLANT FOR MOLAR TOOTH REPLACEMENT  
PI Number: PI 20095604  
Role: **Main Inventor**
  17. Title: ACETABULAR CUP PROSTHESIS  
PI Number: PI 20095303

- Role: **Main Inventor**
18. Title: FLEXIBLE AND EXTENDABLE INTRAVASCULAR STENT (2)  
PI Number: PI 20095630  
Role: **Main Inventor**
  19. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (4)  
PI Number: PI 20095343  
Role: **Inventor**
  20. Title: SPINE PROSTHESIS FOR ARTHROPLASTY  
PI Number: PI 20095472  
Role: **Main Inventor**
  21. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (5)  
PI Number: PI 20095344  
Role: **Main Inventor**
  22. Title: METACARPOPHALANGEAL PROSTHESIS (5)  
PI Number: PI 20095407  
Role: **Main Inventor**
  23. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (6)  
PI Number: PI 20095346  
Role: **Main Inventor**
  24. Title: INTERVERTEBRAL IMPLANT FOR SPINE FUSION (6)  
PI Number: PI 20095289  
Role: **Main Inventor**
  25. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (7)  
PI Number: PI 20095347  
Role: **Main Inventor**
  26. Title: APPARATUS FOR TESTING HUMAN JOINT IMPLANTS  
PI Number: PI 20095301  
Role: **Main Inventor**
  27. Title: INTERVERTEBRAL IMPLANT FOR SPINE FUSION (7)  
PI Number: PI 20095292  
Role: **Main Inventor**
  28. Title: ARTIFICIAL HUMAN HIP JOINT MINI TRIBO SIMULATOR  
PI Number: PI 20095308  
Role: **Main Inventor**
  29. Title: PROSTHETIC FEMORAL STEM FOR HEMIARTHROPLASTY (8)  
PI Number: PI 20095345  
Role: **Main Inventor**
  30. Title: CHEMICALLY DEPOSITED HYDROXYAPATITE (HA) PARTICLES ON POLYETHERETHERKETONE (PEEK) SURFACE FOR ORTHOPAEDIC APPLICATIONS

PI Number: Patent filing submitted

Role: **Main Inventor**

#### **4.3 Copyrights**

1. Measurement of Fossa Intercondylaris Maximum Height of 27 Female Femur between the height of 140cm to 155cm.
2. Measurement of Lateral Antero Posterior of 27 Female Femur between the height of 140cm to 155cm.
3. Measurement of Medio Lateral of 27 Female Femur between the height of 140cm to 155cm.
4. Measurement of Lateral Posterior Epicondylar of 27 Female Femur between the height of 140cm to 155cm.
5. Measurement of Posterior Width of the Fossa Intercondylaris of 27 Female Femur between the height of 140cm to 155cm.
6. Measurement of Angle of Condyle and Epicondylar of 27 Female Femur between the height of 140cm to 155cm.
7. Measurement of Height of Condylus Medialis Posterior of 27 Female Femur between the height of 140cm to 155cm.
8. Measurement of Lateral Anterior Epicondylar of 27 Female Femur between the height of 140cm to 155cm.
9. Measurement of Height of Total Groove of 27 Female Femur between the height of 140cm to 155cm.
10. Measurement of Antero Posterior of 27 Female Femur between the height of 140cm to 155cm.
11. Measurement of Height between both Condyles of 27 Female Femur between the height of 140cm to 155cm.
12. Measurement of Width of Condylus Medialis Posterior of 27 Female Femur between the height of 140cm to 155cm.
13. Measurement of Lateral Width of Groove of 27 Female Femur between the height of 140cm to 155cm.
14. Measurement of Centre to Medial of 27 Female Femur between the height of 140cm to 155cm.
15. Measurement of Width of Condylus Lateralis Posterior of 27 Female Femur between the height of 140cm to 155cm.
16. Measurement of Lateral Facet Thickness of 27 Female Femur between the height of 140cm to 155cm.
17. Measurement of Height of 27 Female Femur between the height of 140cm to 155cm.
18. Measurement of Medial Facet Thickness of 27 Female Femur between the height of 140cm to 155cm.
19. Measurement of Height of Condylus Lateralis Posterior of 27 Female Femur between the height of 140cm to 155cm.
20. Measurement of Central Thickness of 27 Female Femur between the height of 140cm to 155cm.

21. Measurement of Lateral Facet Width of 27 Female Femur between the height of 140cm to 155cm.
22. Measurement of Anterior Epicondylar Groove of 27 Female Femur between the height of 140cm to 155cm.
23. Measurement of Medial Facet Width of 27 Female Femur between the height of 140cm to 155cm.
24. Measurement of Medial Epicondylar of 27 Female Femur between the height of 140cm to 155cm.
25. Measurement of the Distance between the Proximal Tibia and the Tibial Tuberosity of 27 Female Tibia between the height of 140cm to 155cm.
26. Measurement of Lateral Epicondylar of 27 Female Femur between the height of 140cm to 155cm.
27. Measurement of Posterior Epicondylar Medialis of 27 Female Femur between the height of 140cm to 155cm.
28. Measurement of Medial Width of Groove of 27 Female Femur between the height of 140cm to 155cm.
29. Measurement of Medial Width of Fossa of 27 Female Femur between the height of 140cm to 155cm.
30. Measurement of Anterior Epicondylar Medialis of 27 Female Femur between the height of 140cm to 155cm.
31. Measurement of Angle of Tibial Slope of 27 Female Tibia between the height of 140cm to 155cm.
32. Measurement of the Distance between the Proximal Tibia and the Fibular Head of 27 Female Tibia between the height of 140cm to 155cm.
33. Measurement of Centre to Lateral of 27 Female Tibia between the height of 140cm to 155cm.
34. Measurement of Medial Antero Posterior of 27 Female Tibia between the height of 140cm to 155cm.
35. Measurement of Lateral Width of Fossa Intercondylaris of 27 Female Tibia between the height of 140cm to 155cm.
36. Measurement of Medio Lateral of 27 Female Tibia between the height of 140cm to 155cm.

## **5.0 COMMERCIALISATION**

- ❖ Titanium Alloy Implant for Dental & Craniofacial Applications.
  - Collaboration with SIRIM and University Malaya Faculty of Dentistry
  - Licensing given to Pharmaniaga Berhad.

## **6.0 TEACHING EXPERIENCE**

❖ Developed four (4) new courses:

- Biomechanics
- Biomedical Materials
- Biomedical System Design
- Tissue Engineering

❖ Total teaching credits: **103 credits**

1. SMBE1012, Introduction to Biomedical Engineering, Sem I 2017/18
2. SMBE3323, Solid Mechanics, Sem II 2016/17
3. SMBE1313, Statics & Dynamics, Sem II 2016/17 (section 1 & 2)
4. SMBE1012, Introduction to Biomedical Engineering, Sem I 2016/17
5. SMBE3323, Solid Mechanics, Sem II 2015/16
6. MMBC1043, Biomechanics, Sem II 2015/16
7. SMBE1012, Introduction to Biomedical Engineering, Sem I 2015/16
8. SMBE3323, Solid Mechanics, Sem II 2014/15
9. SMU3613, Biomechanics, Sem II 2014/15
10. SWB4103, Biomedical System Design, Sem I 2014/15
11. SWB4103, Biomedical System Design, Sem II 2013/14
12. SMBB1313, Statics & Dynamics, Sem I 2013/14
13. SWB4103, Biomedical Engineering Design, Sem II 2012/13
14. SWB4103, Biomedical Engineering Design, Sem I 2012/13
15. SWB4103, Tissue Engineering, Sem II 2011/12
16. SWB4103, Biomedical Engineering Design, Sem I 2011/12
17. SMU3613, Biomechanics, Sem II 2010/11
18. SMU3623, Introduction to Biomedical Materials, Sem I 2010/11
19. SMU3613, Biomechanics, Sem II 2009/10.
20. SMU3623, Introduction to Biomedical Materials, Sem I 2009/10.
21. SME1613, Materials Science, Sem I 2009/10.
22. SMU1502, Engineering Drawing, Sem I 2009/10.
23. SMU3613, Biomechanics, Sem II 2008/09.
24. SME1613, Materials Science, Sem II 2008/09.
25. SMU3623, Introduction to Biomedical Materials, Sem I 2008/09.
26. SMH3632, Advanced Materials, Sem I 2008/09.
27. SMU3613, Biomechanics, Sem II 2007/08.
28. SMH3632, Advanced Materials, Sem II 2007/08.
29. SEB3742, Biomechanics Lab (Sec. 1), Sem II 2007/08.
30. SEB3742, Biomechanics Lab (Sec. 2), Sem II 2007/08.
31. SMU3623, Introduction to Biomedical Materials, Sem I 2007/08.

32. SMH3632, Advanced Materials, Sem I 2007/08.
33. SME1902, Engineering Workshop, Sem III 2006/07.
34. SME1613, Materials Science, Sem II 2006/07.
35. SME3623, Materials Engineering, Sem II 2006/07.
36. SME2921, Laboratory (section 1, 4, 6), Sem II 2006/07.
37. SME1613, Materials Science (section 1 & 2), Sem I 2006/07.
38. SMJ4602, Materials Technology, Sem I 2006/07.
39. SME1912, Experimental Techniques, Sem I 2006/07.
40. SME1613, Materials Science, Sem II 2005/06.
41. SME1912, Experimental Techniques, Sem II 2005/06.
42. SMJ3931, Laboratory, Sem II 2005/06.
43. SMJ3931, Laboratory, Sem I 2005/06.
44. SME2921, Laboratory, Sem I 2005/06.

## **7.0 ACADEMIC RESEARCH SUPERVISION**

- ❖ Post Doctoral Supervision : **4** PhD holders (**all** completed)
- ❖ Doctor of Philosophy : **47** students (**40** graduated: **19** Main, **21** Co)
- ❖ Masters in Surgery : **3** students (**3** completed: **3** Co)
- ❖ Masters (research) : **35** students (**35** graduated: **12** Main, **23** Co)
- ❖ Masters (coursework) : **8** students (**8** completed: **8** Main)
- ❖ Undergraduate Project : **51** students (**all** completed)

### **7.1 Post-Doctoral Supervision**

1. Dr. Jamal Akhter Siddiqui (2015-2016)
2. Dr. Sornambikai Sundaram (2016-2017)
3. Dr. Abdul Hadi Abdul Wahab (2017-2018)
4. Dr. Rabiatal Adibah Abdul Rahim (2017-2018)

### **7.2 Doctor of Philosophy (PhD) – Main Supervisor**

	NAME	TITLE	STATUS
1	Ardiyanshah Syahrom PM073014	<i>“Design and Fabrication of Cancellous Bone Structure.”</i>	Graduated - October 2010
2	Syafiqah Saidin	<i>“Development of Mechanical Interlock Dental Prosthesis with</i>	Graduated –

	PW093017	<i>Hydroxyapatite/Silver/Titania Thin Film Coating."</i>	July 2013
3	Nida Iqbal Khan PW113017	<i>"Development of New Biomaterial for Orthopaedic Applications"</i>	Graduated – November 2014
4	Farnaz Naghizadeh PW103015	<i>"Hydroxyapatite-based coated metallic implants."</i>	Graduated – August 2015
5	Davood Almasi PM103142	<i>"Functionally graded material with three continuous layer nano fiber"</i>	Graduated – October 2015
6	Muhammad Hanif Ramlee PW123013	<i>"External fixator for ankle joints fracture"</i>	Graduated – November 2015
7	Norhidayu Binti Muhamad Zain PW113002	<i>"Exploring the Potential of Wood as Bone Replacement Materials"</i>	Graduated – February 2016
8	Shahrouz Zamany PW113029	<i>"Development of New Biomaterials based on Mechanical Alloying"</i>	Graduated – June 2016
9	Mohammad Mahdi Taheri PW113024	<i>"Carbon Nanotubes based Biomaterial"</i>	Graduated – October 2016
10	Jamuna Thevi a/p Kalitheertha Thevar PW113030	<i>"Novel degradable biometals for dental applications"</i>	Graduated – February 2017
11	Norjihada Izzah binti Ismail PW123019	<i>"Development of an authenticity indicator based on chemically characterize Malaysian honeys"</i>	Graduated – February 2017
12	Norsuriani binti Sani PW123009	<i>"Aerogel-Hydroxyapatite synthetic cancellous bone"</i>	Graduated – November 2017
13	Abdul Hadi Bin Abdul Wahab PW113009	<i>"Biomechanical analysis and implant development for total shoulder arthroplasty"</i>	Graduated – April 2018
14	Abdul Hakim bin Md Yusop PW133010	<i>"Drug eluting porous biodegradable iron as bone cancer scaffold"</i>	Graduated
15	Aisyah binti Ahmad Shafi	<i>"Embedded Fiber composite for monitoring growth of implantable"</i>	Graduated

		<i>smart tissue expander</i>	
16	Nur Syazana Binti Rashidi PW113014	<i>“Oriented nanofibers by electrospinning for vascular graft application”</i>	Graduated
17	Noor Jasmawati Binti Mat Noor PW113013	<i>“Porous Magnesium for Cancellous Bone”</i>	Graduated
18	Mohd Ramdan bin Mohd Rofi PW113022	<i>“Study on the Dynamic Culture and Pulsatile Conditions over Microvessel Development in a 3D Environment using an Integrated Bioreactor System”</i>	Graduated
19	Jamillah Amer Nordin PW113016	<i>“Novel biomaterial based on Chitosan-Hydroxyapatite template”</i>	Graduated
20	Aziurah binti Mohd Shah PW123029	<i>“DLC coating on PEEK via electrodeposition technique”</i>	On-going

### **7.3 Doctor of Philosophy (PhD) – Co Supervisor**

	NAME	TITLE	STATUS
1	Ali Ata Zidan Al-Sarhan PW113020	<i>“Ethnopharmacological Studies of Malaysian Medicinal Herbs”</i>	Graduated – October 2014
2	Ammar Zeidan Ghailan Alshemary PS113076	<i>“Synthesis of novel substitution HA”</i>	Graduated – June 2015
3	Andril Arafat Suhasril PM083011	<i>“Development of Hydroxyapatite Biomimetic Coating of Biomedical Grade Metallic Implant using Investment Casting Technique.”</i>	Graduated – December 2015
4	Arman Shah Abdullah PM103144	<i>“Abrasive resistance metallic surface for implants.”</i>	Graduated – January 2016
5	Badreddin Giumma Elghariani PM083004	<i>“Early Warning Detection of the Risk of Rupture of the Abdominal Aortic Aneurysm using the Fluid Structure Interaction Technique.”</i>	Graduated – June 2010



6	Goh Yi Fan PS113003	<i>"Fabrication of substituted bioactive glass, bioactive glass/polymer composite nanofibrous scaffold for bone guided regeneration"</i>	Graduated – October 2014
7	Hafizah Haron PW093041	<i>"The Effectiveness of Ankle Weight in Human Gait Transition."</i>	Graduated – June 2016
8	Hamid Reza Bakhsheshi Rad PM093109	<i>"Analysis of New Biodegradable Magnesium based Alloys."</i>	Graduated – July 2013
9	Mahmood Anwar PM093033	<i>"Nanocrystalline Diamond Coating for Biomedical Applications."</i>	Graduated – March 2014
10	Mas Ayu Hassan PM103003	<i>"Coating of Nanocrystalline Diamond onto Biomedical Grade Metallic Materials."</i>	Graduated – May 2015
11	Maya Genisa SGD0014111	<i>"Automatic three dimensional reconstruction from Cone Beam Computed Tomography"</i>	Graduated – June 2015
12	Mazatusziha Ahmad PK083015	<i>"Development of Ultra High Molecular Weight Polyethylene Hydroxyapatite Biocomposite for Medical Applications."</i>	Graduated – October 2013
13	Milad Heidari PW113069	<i>"Development of implant and surgical guide for elbow arthroplasty"</i>	Graduated – August 2016
14	Mostafa Rezazadeh Shirdar PM113117	<i>"Surface Modification of Ti13Ni13Zr with Hydroxyapatite via Electrospinning Nanofiber"</i>	Graduated – October 2016
15	Nazriah Binti Mahmud PW113004	<i>"Development of Pulse Power Generator for Machining Hip Implant to Enhance the Survival Rate"</i>	Graduated – June 2017
16	Ng Theng Pin PM113052	<i>"Meso-scale Simulation of Cancellous Bone with Osteoporotic Condition"</i>	Graduated – July 2016
17	Norliyana Safura Binti Hashim PW113015	<i>"Development of Pulse Power Generator for Machining Hip Implant to Enhance the Survival Rate"</i>	Graduated – June 2017
18	Norsamsiah Binti Muhammad @ Wahab PW113025	<i>"Cell Culture Study of Textile-based Medical Device"</i>	Graduated – February 2017
19	Tham Weng Hong	<i>"Development of Degradable elastomer/calcium phosphate"</i>	Graduated –

	PK103039	<i>synthetic ligament graft for potential use in ligament reconstruction.</i>	July 2015
20	Wong Tuck Whye PK103026	<i>“Smart polymer-based biocomposite for medical applications.”</i>	Graduated – March 2015
21	Zahra Rezaei PC113119	<i>“Early detection of heart failure via artificial neural network”</i>	Graduated – June 2017
22	Zuliazura Mohd Salleh PM123067	<i>“Fluid structure interaction in biomedical applications”</i>	On-going
23	Mohammad Riduwan Suroso PC123086	<i>“Cardiovascular simulation as assistive device”</i>	On-going
24	Alireza Norouzi Sedeh PC103121	<i>“Automatic segmentation of Knee bone from magnetic resonance images”</i>	On-going
25	Ishkrizat Taib PM113061	<i>“Modelling of biodegradable stent”</i>	Graduated – June 2017
26	Mohd Alfatihhi Bin Mohd Szali PM113034	<i>“Permeability Studies of Cancellous Bone Structure”</i>	Graduated – June 2017
27	Sahba Sadir PM103052	<i>“BioMEMS for Biomedical Applications.”</i>	Graduated – June 2017

#### **7.4 Masters in Surgery (Orthopaedics)**

1. Dr. Mohd Fadhli bin Miskon (UKM), *“Finite Element Analysis of the Effect of Cross-link for Posterior Instrumentation of Thoracolumbar Burst Fracture.”*

**Joint Supervisor**, 2010 – 2012, Completed.

2. Dr. Saturnino Saldanha (UKM), *“Comparison of Various Posterior Instrumentation Designs in Unstable Burst Fracture l1: A Biomechanical Study.”*

**Joint Supervisor**, 2010 – 2012, Completed.

3. Dr. Marazuki Periwira (UIAM), *“Analysis of Ankle Biomechanics.”*

**Joint Supervisor**, 2011 – 2013, Completed.

### **7.5 Masters of Engineering (research) – Main Supervisor**

	NAME	TITLE	STATUS
1	Aisyah Binti Ahmad Shafi MK093050	<i>“The Effect of Abutment-Implant Connections to Stability and Load Transfer in Dental Prosthesis.”</i>	Graduated
2	Haslina Abdullah MM083016	<i>“Analysis of Hip Arthroplasty using Finite Element Method.”</i>	Graduated
3	Ishkrizat Bin Taib MM073039	<i>“Fluid Structure Interaction Technique for Predicting Rupture of Abdominal Aortic Aneurysm.”</i>	Graduated
4	Jamal Kashani MW093034	<i>“Development of Computer Aided Tools as Surgical Guide in Dental Surgery.”</i>	Graduated
5	Mohd Faiz Bin Mohd Yusoff MW103004	<i>“Development of Fluoridated Hydroxyapatite/ Zirconia composite coating for dental application.”</i>	Graduated
6	Mohd Nazri Bin Bajuri MW093015	<i>“Biomechanical Analysis of the Rheumatoid Arthritis of the Wrist: Finite Element Analysis.”</i>	Graduated
7	Muhammad Farhan bin Ishak MW123003	<i>“Finite element analysis of cannulated screw for the management of femoral neck fracture.”</i>	Graduated
8	Muhammad Ikman Bin Ishak MW093039	<i>“Biomechanical Study of Different Surgical Approaches of Zygomatic Implant to Treat Atrophic Maxilla Patients.”</i>	Graduated
9	Nor Raihanah Binti Abdull Rahim MW093003	<i>“Biomechanical Analysis of the Spinal Column with Intervertebral Disc Replacement.”</i>	Graduated
10	Nur Amirah Binti Shaharom MW113007	<i>“Degradation and biocompatibility of polymer infiltrated porous iron for medical applications”</i>	Graduated
11	Raja Mohd Aizat Bin Raja Izaham MW093004	<i>“Biomechanical Evaluation of Fracture Fixation Construct of the Lower Limb.”</i>	Graduated
12	Ruwaida Binti Rosli	<i>“Biomechanical investigation of fusion</i>	Graduated

	MW113004	<i>techniques after cervical anterior decompression.”</i>	
13	Siti Ruzita Binti Mahmood MW113001	<i>“Differences in kinematics and coordination of lumbar and hip movements in low back pain patients”</i>	Graduated
14	Vijayajothi A/L Paramasivam OUM	<i>“Fluid Flow through Abdominal Aortic Aneurysm.”</i>	Graduated
15	Zohreh Arabshahi MW103005	<i>“Biomechanicsl Analysis of TMJ Implants”</i>	Graduated
16	Su Natasha Binti Mohamad MW113002	<i>“Development of real-time monitoring system for in vivo biodegradation measurement”</i>	Graduated

#### **7.6 Masters of Engineering (research) – Co Supervisor**

	NAME	TITLE	STATUS
1	Ab Aziz Bin Mohd Yusof MW113010	<i>“Micromechanical behaviour of campaniform sensillum for Medical Device”</i>	Graduated
2	Abdul Halim Abdullah MM063008	<i>“Finite Element Analysis of Cemented and Cementless Total Hip Arthroplasty.”</i>	Graduated
3	Ahmad Ramli Bin Rashidi MK093050	<i>“Development of Polyetheretherketone/ Hydroxyapatite Bioactive Composite for Load Bearing Bone Analogue.”</i>	Graduated
4	Amir Putra Bin Md Saad MM113006	<i>“Prediction of Wear in Total Ankle Arthroplasty.”</i>	Graduated
5	Amirhossein Goharian MM083009	<i>“Development of Polyetheretherketone Hydroxyapatite for Load Bearing Joint Implants.”</i>	Graduated
6	Anisah binti Zainal MW123011	<i>“Development of porous scaffold for bone proliferation via freeze-drying technique”</i>	Graduated
7	Fakhrizal Azmy Bin Nasruddin MM113018	<i>“Design and Simulation of Badminton Rackets”</i>	Graduated

8	Iqbal Bin Mokhtar MM103010	<i>“Mechanical and in-vitro evaluation of basalt/HDPE composite for upper extremity joint application”</i>	Graduated
9	Ishkrizat Bin Taib MM073039	<i>“Fluid Structure Interaction Technique for Predicting Rupture of Abdominal Aortic Aneurysm.”</i>	Graduated
10	Mohd Amin Bin Mohd Hamami MM113026	<i>“Exploration On The Use Of Fused Deposition Modelling For Accurate And Complete Modelling Of Anatomical Joints”</i>	Graduated
11	Muhamad Rasyidi Bin Husin MK083039	<i>“Montmorillonite Reinforced High Density Polyethylene/Hydroxyapatite for Biomedical Application.”</i>	Graduated
12	Nasrul Hadi Bin Johari MM093025	<i>“The Effects of Cartilage Rings on Simulated Airflow through the Trachea and Main Bronchi.”</i>	Graduated
13	Norsamsiah binti Muhammad @Wahab MK083012	<i>“Cytotoxicity Comparison of Clinically Relevant High Carbon and Low Carbon Cobalt Chromium Molybdenum Alloys Wear Particles In Vitro”</i>	Graduated
14	Nur Amirah Binti Shaharom MW113007	<i>“Degradation and biocompatibility of polymer infiltrated porous iron for medical applications”</i>	Graduated
15	Raziah Binti Esa MW113010	<i>“Insect Sensor as an Inspiration for Biomedical Sensing”</i>	Graduated
16	Tiong Chiong Ing MM103003	<i>“Experimental evaluation of tribologies behaviors of RBD palm olein and RBD palm stearin using fourball tribotester”</i>	Graduated
17	Zolqernine Bin Othman MC083038	<i>“Texture Analysis Based Algorithm to Classify Soft and Hard Tissue of MRI Image of Knee.”</i>	Graduated
18	Abdul Hakim Bin Md Yusop MM113007	<i>“Development of novel metal-polymer system for biodegradable implants.”</i>	Graduated
19	Nurizzati binti Mohd Daud MW113017	<i>“Synthesis of biodegradable implant”</i>	Graduated
20	Su Natasha Binti Mohamad	<i>“Development of real-time monitoring system for in vivo biodegradation</i>	Graduated

	MW113002	measurement”	
21	Wan Anuar Bin Wan Hassan MM103050	“Blood Flow Simulation through Radiocephalic arterious fistula with and without localised stenosis”	Graduated

### **7.7 Masters of Engineering (coursework)**

1. Juliawati Alias, “*Biotribocorrosion behaviour of High Carbon and Low Carbon CoCrMo for Biomedical Applications.*”  
**Main Supervisor**, July 2008 – July 2009.
2. Mahfodzah Md. Padzi, “*Biotribocorrosion behaviour of Ti-6Al-4V and 316L Stainless Steel for Biomedical Applications.*”  
**Main Supervisor**, July 2008 – July 2009.
3. Ali Fallahi Arezoodar, “*Development of High Flexion Knee Implant for Asian Population.*”  
**Main Supervisor**, July 2009 – present.
4. Mina Alizadeh, “*Biomechanical Evaluation of Rigid and Dynamic Stabilization Devices for the Lumbar Spine.*”  
**Main Supervisor**, December 2009 – present.
5. Milad Heidari, “*Development of Elbow Implant for Total Elbow Athroplasty.*”  
**Main Supervisor**, December 2009 – present.
6. Wong King Jye, “*Micromotion and Stability of Cemented and Cementless Femoral Stems.*”  
**Joint Supervisor**, July 2006 – July 2007.
7. Amir Fereidouni Lotfabadi, “*Investigation on the Quality of Hydroxyapatite Adhesion on Investment Casting Mould.*”  
**Joint Supervisor**, July 2007 - July 2008.
8. Hessam Majd, “*The Effect of Pouring Temperature on the Diffusion of Hydroxyapatite onto Bio-metallic material.*”  
**Joint Supervisor**, July 2007 - July 2008.

### **7.8 Undergraduate Final Year Project**

1. Alhamzee bin Idrose, “Comparison between conventional and reversed shoulder implant for total shoulder arthroplasty.” 2007-2008.
2. Corolyn @ Norsafikah bt. Jamli, “Electrochemical study of Ti-6Al-4V and 316L under Simulated Bodily Fluid.” 2007-2008.

3. Mohd Fairoz bin Saharudin, "Stress Analysis of the joint in-constrained and Semi-constrained total elbow implants." 2007-2008.
4. Mohd Imran bin Rosly, "Modeling Flow stream of blood due to abdominal aortic aneurysm." 2007-2008.
5. Nur Syahirah bt. Mohd Shah, "Electrochemical study of Co-Cr-Mo and 304SS under simulated body fluid." 2007-2008.
6. Wan Mohd Musyris b. Wan Harujan, "Modelling and Biomechanical analysis of Human Vertebral Column with emphasis on the intervertebral Disc (IVD)." 2007-2008.
7. Stephanie Clarence Mannie, "Development of Human Joint Simulator for joint tribological study". 2007-2008.
8. Hakimah bt. Sabudin, "Micromotion and Stability of Single Fin and Double Fin Total Ankle Replacement". 2007-2008.
9. Zaliha bt. Aziz, "Defect of a Medial Condyle: Design and Analyses of a Unicompartamental Artificial Knee". 2007-2008
10. Norhayati Mohlisun, "Interface Micromotion failure simulation on cementless hip arthroplasty". 2007-2008
11. Ahmad Ihsan bin Zainuddin, "Mechanical Interlocking Mechanism Between the Abutment Set and the Dental Implant Body". 2007-2008
12. Mohd Azrul Rais Yusof, "Human Cancellous Bone as a Structure for Stem Cell: Micro modeling and Analysis". 2007-2008
13. Muhd Hafiz b. Abdul Hamid, "Effects of varying stent geometry on its expansion behaviour using finite element method". 2007-2008
14. Norazhar b. Nordin, "Numerical Analysis of Plates and Screw System for Fracture Fixation of the Mandible". 2007-2008
15. Muhsin bin Salim, "Stability of Acetabular Cup for Osseointegration". 2007-2008
16. Muhammad Azuwan bin Aminullah, "Design and Analysis of Metacarpophalangeal Joints to Relieve Pain due to Osteoarthritis". 2007-2008
17. Eunice Chung Siaw Kiat "Design and analysis of a cemented hip prostheses." 2006-2007.
18. Mohd Hafizuddin bin M Marzuki "Design and Analysis of a unicompartamental Knee implant for osteoarthritic patient". 2007-2008.
19. Mohd Norshahid b. Mohd Idris "Mechanical Interlocking mechanism of Prototype Dental Implant Body." 2005-2006.
20. Faisal Abidin Lee, "Design & Analysis of Total Shoulder Arthroplasty." 2006-2007.
21. Jamillah Amer Nordin, "Corrosion Behaviour of Ti6V4Al in Simulated Body Fluid." 2006-2007.
22. Noraida Mohd Hussin, "A Study of Microstructure & Mechanical properties of Boiler Tube in Palm Oil." 2006-2007.
23. Muhammad Hafiz bin Abdullah, "Design of an Elbow Prosthesis for Total Elbow Replacement." 2006-2007.
24. Mohd Rizali bin Abdullah, "Kesan Kekasaran Permukaan ke atas Kekerasan Permukaan Pada Keluli Yang Melalui Proses Pengaluminan." 2005-2006.

25. Norsuraya bt. Mohd Yusuf, "Improving Mechanical Properties of Brass Used as a Key." 2006-2007.
26. Abdul Hafiz bin Yusuf "Kajian Kesan Bahan Pengikat Dalam Pengeluaran Produk Seramik." 2005-2006.
27. Timothy Thomas "Micromotion and stability of Single Fin Total Ankle Replacement." 2007-2008.
28. Nor Hidayat Tay bin Khairul Azmi Tay "Mobile Bearing For the treatment of Osteoarthritic of the knee." 2008-2009
29. Mohd Azali Azmir "The Effect of Press Fit on osseointegration of acetabular cup." 2008-2009
30. Nor Raihanah Abdull Rahim "Design and analysis of Metacarpophalangeal implants to relieve pain due to osteoarthritis." 2008-2009.
31. Siti Nur Shazleena binti Baharom "Effect of varying stent geometry on its expansion behaviour using finite element method." 2008-2009.
32. Tang Yong Cang "Design and development of a mechanical system for new tribometer." 2008-2009.
33. Choo Che How "Modification and Manufacture of an existing Tribometer for Wear Analysis of Artificial Human Joint." 2008-2009.
34. Ahmad Zazily bin Abdul Aziz "Knee Joint Tribo-Simulator" 2009-2010.
35. Sim Jia Siang "Developing A Miniaturize human hip joint simulator for joint tribological study" 2009-2010.
36. Mohammad Fathi bin Halim "Wrist Joint Tribo-Simulator" 2009-2010.
37. Muhammad Firdaus bin Zakaria "Elbow Joint Tribo Simulator" 2009-2010.
38. Muhamad Syafiq bin Sulaiman "Ankle Joint Tribo Simulator" 2009-2010.
39. Mohd Faiz bin Mohd Yusoff "Design and Analysis of Mechanical Interlock in Prosthetic Dentistry" 2009-2010.
40. Wan Nur Afiza binti Wan Anuar "Biomechanical Evaluation of Temporomandibular Joint Implant" 2009-2010.
41. Noor Hidayah bin Amir Hassan "Comparative Study of Implant for Total and Partial Knee Replacement" 2009-2010.
42. Muhammad Lutfi bin Idris "Biomechanical Analysis of Locking Compression Plate in Oblique Tibial Fracture" 2009-2010.
43. Khairul Shahri bin Abdul Rokib "Design and Analysis of Implant for Total Elbow Replacement" 2009-2010.
44. Yeoh Swee Aik "Finite Element Analysis of Lumbar with Total Disc Arthroplasty" 2009-2010.
45. Loy Heng Chen "Design and Analysis of a Human Knee Joint Simulator" 2009-2010.
46. Amirul Hakim bin Rahim "Design and Analysis of a Human Spine Simulator" 2009-2010.
47. Mohd Azley bin Mat Saat "Design and Analysis of a Human Wrist Joint Simulator" 2009-2010.
48. Muhammad Safuan bin Husin "Design and Analysis of a Human Elbow Joint Simulator" 2009-2010.
49. Wong Leong Ping "Design and Analysis of a Human Shoulder Joint Simulator" 2009-2010.



50. Ong Kheng Chuan "Biomechanical Analysis of Dental Implant with Mechanical Interlock" 2009-2010.
51. Tan Wee Yee "Design and Analysis of a Human Hip Joint Simulator" 2009-2010.

## **8.0 RECOGNITIONS & AWARDS**

### **8.1 INVITED LECTURE/KEYNOTE**

#### **8.1.1 International**

1. Invited Lecture at National Institute of Business Management, Sri Lanka - 2017
2. Invited Speaker – 44<sup>th</sup> Malaysian Orthopaedic Association with 11<sup>th</sup> CAOS Asia Meeting 2014
3. Invited Speaker – Materialise Asian Conference 2013
4. Invited Speaker – 11<sup>th</sup> Annual Congress of International Drug Discovery, Science & Technology, Therapy and EXPO (2013)

#### **8.1.2 Local**

1. Keynote Speaker – Conference on Biomedical and Advanced Materials 2017 (Bio-CAM 2017)
2. Invited Speaker – Post Conference International Conference on Biosciences & Medical Engineering (ICBME 2016)
3. Invited Speaker – Health Campus Universiti Sains Malaysia (25-26 April 2012)
4. Invited Speaker – IHCE Strategic Planning 2016

### **8.2 PROFESSIONAL BODIES**

#### **8.2.1 Institution of Mechanical Engineers (IMechE), UK**

1. Invited as panel reviewer for IMechE **Journal of Engineering in Medicine**, 2012, "Dissimilarity-based multiple classifier system for trabecular bone texture" Authors – Woloszynski, T., Podsiadlo, P., Stachowiak, G. & Kurzynski, M.
2. Invited as panel reviewer for IMechE **Journal of Engineering in Medicine**, 2011, "Model retrieval and template guided construction of nasal prosthesis", Authors – Sun Jian et al.
3. Invited as panel reviewer for IMechE **Journal of Engineering in Medicine**, 2010, "Experimental versus Computational Analysis of Micromotions at the Implant-Bone Interface" Authors – Tarala, M., Janssen, D., Telka, A., Waanders, D. & Verdonschot, N.
4. Invited as panel reviewer for IMechE **Journal of Engineering in Medicine**, 2010, "The Biotribological Characteristics of Synthetic Tissue Grafts", Authors – Thomas, J.M.C., Beevers, D., Dowson, D., Jones, M.D., King, P. & Theobald, P.S.

- Invited as panel reviewer for IMechE **Journal of Engineering in Medicine**, 2009, "The Biomechanical Analysis of Three Plating Fixation Systems for Periprosthetic Femoral Fracture Near the Tip of a Total Hip Arthroplasty" Authors – Lever, J.P., Zdero, R., Nousiainen, M.T., Waddell, J.P. & Schemitsch, E.H.

#### **8.2.2 Royal Society of Chemistry (RSC), UK**

- Invited as panel reviewer for RSC Journal **Advances**, 2013, "NMR and Raman spectroscopy study of Li<sub>2</sub>O-SrO-Nb<sub>2</sub>O<sub>5</sub>-P<sub>2</sub>O<sub>5</sub> glasses" Authors – Yung, S.W.; Huang, Y.S.; Lee, Yi-Mu; Lai, Y.S.
- Invited as panel reviewer for RSC Journal **Chemical Communications**, 2013, "Solid Phase Metallurgy Strategy to Sub-5nm, Au-Pd and Ni-Pd Bimetallic Nanoparticles with Controlled Redox Properties" Authors – Tang, Y.; Xu, S.; Dai, Y.; Yan, X.; Li, R.; Xiao, L.; Fan, J.
- Invited as panel reviewer for RSC Journal **Chemical Communications**, 2013, "A hybrid proteolytic and antibacterial bifunctional film based on amphiphilic carbonaceous conjugates of trypsin and vancomycin" Authors – Wu, Q.; Qi, Q.; Fan, L.; Liu, C.; Zhang, W.; Shi, J.; Zhao, C.; Guo, D.

#### **8.2.3 Asia Pacific Chemical, Biological & Environmental Engineering Society**

- Appointed as Technical Committee for the 4<sup>th</sup> International Conference on Biomedical and Pharmaceutical Engineering, (ICBPE) 2017

#### **8.2.4 International Academy of Computing Technology**

- Appointed as Technical Committee for the 2<sup>nd</sup> International Conference on Medical Information and Bioengineering, (ICMIB) 2017
- Appointed as Technical Committee for the International Conference on Information Management and Engineering (ICIME 2018).

#### **8.2.5 Hong Kong Chemical, Biological & environmental Engineering Society**

- Appointed as Technical Committee for the 2<sup>nd</sup> International Conference on Biomedical Engineering & Bioinformatics, (ICBEB) 2018

#### **8.2.6 Journal of Medical Imaging and Health Informatics**

- Appointed as Associate Editor for the ISI-indexed International Journal of Medical Imaging and Health Informatics (IF: 0.642)

#### **8.2.7 International Conferences Committee**

- Chairman – International Medical Device & Technology Conference IMEDITEC 2017
- Chairing plenary session at Bio-CAM 2017
- International Advisory Committee – 7<sup>th</sup> International Conference on Mechanical and Manufacturing Engineering (ICME2016)
- Technical Committee, 3<sup>rd</sup> International Conference on Biomedical Signal and Bioinformatics (ICBSB) 2018

### **8.2.8 International Journal – Invited Reviewer**

1. **Ceramics International (ISI, Q1)**, 2015, Ref. No.: CERI-D-15-03256 "Enhancement of optical properties and dependence of the crystal structure, morphological properties of PrPO<sub>4</sub> by microwave-assisted-hydrothermal synthesis"
2. **Medical & Biological Engineering & Computing (ISI, Q2)**, 2015, Ref. No.: MBEC-D-15-00110R1 "Spine response to intra-abdominal pressure and muscles activities: A detailed finite element modelling investigation"
3. **Medical Engineering & Physics (ISI, Q2)**, 2015, Ref. No.: MEP-D-15-00141 "Biomechanical analysis of the application of zygoma implants for prosthesis in unilateral maxillary defect"
4. **Materials & Design (ISI, Q1)**, 2015, Ref. No.: JMAD-D-15-01057 "Reliability analysis of mini-plate fixation used in fractured mandibles: An equivalent isotropic approximation for optimized yield stress/elasticity modulus bone formulation"
5. **Surface & Coatings Technology (ISI, Q1)**, 2015, Ref. No.: SURFCOAT-D-15-00806 "Fabrication and Evaluation of a bioactive Sr-Ca-P contained Micro-arc Oxidation Coating on Magnesium Strontium Alloy for Bone Repair application"
6. **Journal of Materials Science & Technology (ISI, Q3)**, 2015, Ref. No.: JMST-2015-0124 "Bioactivity, Cytotoxicity and Antibacterial Evaluation of Undoped, Zn-doped, Sr-Doped, and Zn/Sr-codoped Hydroxyapatites Synthesized by a Sol-Gel Method"
7. **Medical Engineering & Physics (ISI, Q2)**, 2015, Ref. No.: MEP-D-14-00595 "Scapholunate Ligament Implant Design Driven by Strain Energy Distribution"
8. **Experimental Thermal & Fluid Science (ISI, Q3)**, 2015, Ref. No.: ETFS-D-14-00611R1 "Two-phase Pressure Drops and Flow Pattern Observations in 90° Bends Subject to Upward, Downward and Horizontal Arrangements"
9. **Medical & Biological Engineering & Computing (ISI, Q2)**, 2014, Ref. No.: MBEC-D-14-00205R1 "Assessing Abdominal Aorta Narrowing Using Computational Fluid Dynamics"
10. **Computers in Biology & Medicine (ISI, Q3)**, 2014, Ref. No.: CBM-D-14-00565 "Theoretical distribution of load in the radius and ulna carpal joint"
11. **Applied Surface Science (ISI, Q1)**, 2014, Ref. No.: APSUSC-D-14-06349 "Characterization of the Co-Cr-Mo alloy substrate after high temperature passive treatment"
12. **Materials Letters (ISI, Q1)**, 2014, Ref. No.: MLBLUE-D-14-05006 "Effect of a blast coating process on the macro and microstructure of Grade 5 titanium foam"

13. **Colloids & Surfaces B: Biointerfaces (ISI, Q1)**, 2014, Ref. No.: COLSUB-D-14-01879 "Biodegradable Hydroxyapatite/ Poly(lactide) Hybrid Nanofiber Coated on AM50 Magnesium Implant Using a Novel Simple Single-step Air Jet Spinning"
14. **Materials Letters (ISI, Q1)**, 2014, Ref. No.: MLBLUE-D-14-05846 "Self-assembly and Hydrogelation from Multicomponent Coassembly of Pentafluorobenzyl-phenylalanine and Pentafluorobenzyl-diphenylalanine"
15. **Materials Letters (ISI, Q1)**, 2013, Ref. No.: MLBLUE-D-13-00053 "Effect of pH on the morphological evolution of NiO thin film synthesized on ZnO nanorod arrays by electrodeposition and post-annealing"
16. **Medical & Biological Engineering & Computing (ISI, Q2)**, 2013, Ref. No.: MBEC-D-12-00306R1 "Power Type Strain Energy Function Model and Prediction of the Anisotropic Mechanical Properties of Skin Using Uniaxial Extension Data"
17. **Medical & Biological Engineering & Computing (ISI, Q2)**, 2013, Ref. No.: MBEC-D-13-00047 "Numerical Models of Net Structure Stents Inserted into Arteries"
18. **Journal of Biomechanics (ISI, Q2)**, 2013, Ref. No.: BM-D-13-00944 "Influence of bone quality on stress distribution in prostheses supported by external hexagon implants"
19. **Medical & Biological Engineering & Computing (ISI, Q2)**, 2013, Ref. No.: MBEC-D-13-00640R1 "Reconstruction of the upper-limb kinematics during robot-aided therapy of stroke patients"
20. **Materials Letters (ISI, Q1)**, 2012, Ref. No.: MLBLUE-D-12-01878 "A Template-free Route to 3D Hierarchical Rutile TiO<sub>2</sub>"
21. **Materials Letters (ISI, Q1)**, 2012, Ref. No.: MLBLUE-D-12-00119 "Tailoring Elastic Properties of PLGA/TiO<sub>2</sub> biomaterials"
22. **Materials Letters (ISI, Q1)**, 2012, Ref. No.: MLBLUE-D-12-03438 "BaNb<sub>x</sub>Fe<sub>x</sub>Ti(1-2x)O<sub>3</sub> (0<x<0.1) NTC materials with Low Thermal Constant and High Resistivity"
23. **Medical & Biological Engineering & Computing (ISI, Q2)**, 2012, Ref. No.: MBEC-D-12-00193 "A study on the primary and tertiary brain injuries due to blast and impact"

### **8.3 COMMITTEE**

#### **8.3.1 Committee at National/University Level (Chair)**

1. Pengerusi panel penilai teknikal dan komersial permohonan Dana MOSTI – 13 Disember 2017
2. Pengerusi panel penilai teknikal dan komersial Dana MOSTI – 17 Oktober 2017
3. Pengerusi sesi perbincangan perjanjian milestone Projek Dana MOSTI – 13 Julai 2017
4. Ketua Panel Penilai Audit Akreditasi Pematuhan Universiti Teknologi Malaysia - 2017
5. Pengerusi Panel Pemantau Projek-projek ScienceFund – 01 June 2016

6. Pengerusi panel penilai mesyuarat pemantauan projek ScienceFund Kluster Bioteknologi – 09 June 2016
7. Pengerusi Mesyuarat Penilaian Projek Baru ScienceFund Kluster Bioteknologi (01 Sept 2016)
8. Pengerusi panel penilai teknikal dan komersil geran InnoFund MOSTI – 09 August 2016
9. Pengerusi UTM Medical Ethics Committee (2014 – 2016)

### **8.3.2 Committee at National/University Level (Committee Member)**

1. Panel Penilai sesi perbincangan perjanjian milestone projek Dana MOSTI – 08 Nov. 2017
2. Panel Pemantau Projek ScienceFund MOSTI (Kluster Engineering Sciences) – 24 Mei 2017
3. Panel Pemantau Projek ScienceFund MOSTI (Kluster Medical & Health Sciences) – 23 Mei 2017
4. AJK Majlis Profesor Negara untuk sesi perbincangan dua hala (Malaysia-Indonesia) Forum Pertanian IPIMA 2017
5. Penyelaras Bidang Majlis Profesor Negara Chapter Unviersiti
6. AJK Keinstitusian Biokeselamatan UTM (2015 – 2017)
7. EAC New Panel Evaluator (2016)
8. Lantikan Panel Pakar MOSTI (2016)
9. Panel pemantau projek-projek ScienceFund di bawah Kluster Teras Sains & Teknologi – 24 November 2016
10. Panel penilai permohonan TechnoFund & InnoFund di bawah Kluster Industri – 07 September 2016
11. Panel penilai projek ScienceFund Kluster Bioteknologi – 01 September 2016
12. Panel penilai TechnoFund InnoFund Klaster Industri – 25 August 2016
13. Panel penilai permohonan projek baru ScienceFund di bawah Klaster Bioteknologi – 28 Jun 2016
14. Panel penilai projek ScienceFund bahagian teras Sains & Teknologi – 08 Mei 2015
15. Panel penilai projek ScienceFund bahagian teras Sains & Teknologi – 14 Januari 2015
16. Lantikan Panel Pakar MOSTI (2011)

## **8.4 AWARDS**

### **8.4.1 Products Exhibition/Innovation**

1. “New Invention of 3D Image Reconstruction Using Infrared Sensor Device” Bronze Medal – 17<sup>th</sup> Industrial Art and Technology Exhibition (INATEX), 2015.
2. “Advance Gel Electrophoresis Container” Silver Medal – International Engineering Invention & Innovation Exhibition (i-ENVEX), 2015.

3. "Characterisation of Biomechanical Properties for Articular Cartilage" Silver Medal – UTeM Research and Innovation Expo, 2015.
4. "A dual disc implant for Total Replacement of a Spinal Disc or Disc in Human Body" Gold Medal – Industrial Art and Technology Exhibition (INATEX), 2012.
5. "Apparatus for Simulating the Artificial Human Wrist Joint Movement" Silver Medal – Industrial Art and Technology Exhibition (INATEX), 2012.
6. "Prosthetic Femoral Stem for Hemiarthroplasty" Gold Medal – Industrial Art and Technology Exhibition (INATEX), 2012.
7. "Artificial Human Hip Tribo Simulator" Bronze Medal – Industrial Art and Technology Exhibition (INATEX), 2012.
8. "Low Cost Gel Electrophoresis Unit with New Design Improvement" Gold Prize – International Engineering Invention & Innovation Exhibition (i-ENVEX), 2011.
9. "Low Cost Gel Electrophoresis Unit with New Design Improvement" i-ENVEX Best Award Classed G – International Engineering Invention & Innovation Exhibition (i-ENVEX), 2011.
10. "Low Cost Gel Electrophoresis Unit with New Design Improvement" MOHE Grand Prize Award – International Engineering Invention & Innovation Exhibition (i-ENVEX), 2011.
11. "Knee Joint Simulator" Silver Medal – 21<sup>st</sup> International Invention, Innovation & Technology Exhibition (ITEX), 2010.
12. "Hip Joint Tribo Simulator" Bronze Medal – BioInno Awards, 2010
13. "Wrist Joint Tribo Simulator" Bronze Medal – BioInno Awards, 2010
14. "Hip Joint Simulator" Silver Medal – Ekspo Rekacipta dan Pameran Penyelidikan UniMAP, 2009
15. "Wrist Simulator" Silver Medal – Ekspo Rekacipta dan Pameran Penyelidikan UniMAP, 2009
16. "Elbow Simulator" Silver Medal – Ekspo Rekacipta dan Pameran Penyelidikan UniMAP, 2009
17. "Ankle Simulator" Bronze Medal – Ekspo Rekacipta dan Pameran Penyelidikan UniMAP, 2009
18. "Knee Simulator" Bronze Medal – Ekspo Rekacipta dan Pameran Penyelidikan UniMAP, 2009

#### **8.4.2 Excellence & Scholarship Awards**

1. UTM Distinguished Researcher Award, 2016
2. UTM Overall Best Research Award, 2010
3. UTM Intellectual Property Award, 2010
4. Faculty's Best Researcher Award, 2010
5. Faculty's Best Research Award – Individual Category, 2009.
6. Faculty's Best Research Award – Group Category, 2009.
7. UTM Best Paper Award in National Journal, 2007.
8. Distinction Service Award, 2004.
9. Zimmer Inc. (US) Research Grant Award, 2004-2005.

10. Government scholarship (PhD), 2002-2004.
11. Government scholarship (M.Eng.), 1995-1999.
12. Government scholarship (A-Level), 1993-1995.

## **9.0 ADMINISTRATIVE EXPERIENCE**

POST	TENURE
Dean, Faculty of Biosciences and Medical Engineering, UTM.	June 2017 – present
Deputy Dean (Academic), Faculty of Biosciences and Medical Engineering, UTM.	
Deputy Dean (Development), Faculty of Biosciences and Medical Engineering, UTM.	November 2012 – present
Deputy Dean (Research & Postgraduate Studies), Faculty of Biomedical Engineering & Health Science, UTM.	September 2011 – October 2012
Head of Department, Department of Biomechanics & Biomedical Materials, Faculty of Biomedical Engineering & Health Science, UTM.	June 2008 – August 2011
Management Committee, Materials and Manufacturing Research Alliance (MMRA), UTM.	June 2009 – present
Head of Materials Science Laboratory, Faculty of Mechanical Engineering, UTM.	01 May 2007 – 30 April 2009
Head of Sub-cluster Biomaterials, Research Management Centre, UTM.	01 February 2007 – 31 January 2009
Head of Medical Implant Technology Group (MEDITEG), UTM.	01 January 2006 – present
Editorial Board, Jurnal Mekanikal, UTM.	01 October 2006

	– 30 September 2008
Postgraduate Committee, Faculty of Biomedical Engineering & Health Science, UTM.	05 January 2010 – 04 January 2011
Assistant IT Manager, Faculty of Biomedical Engineering & Health Science, UTM.	10 February 2010 – 08 February 2011
Committee e-Learning, Faculty of Mechanical Engineering, UTM.	01 October 2005 – 30 September 2007
Committee Health, Safety and Environment, Faculty of Mechanical Engineering, UTM.	03 March 2009 – 28 February 2011
Acting Deputy Dean (Development), Faculty of Mechanical Engineering, UTM.	21 November 2006
Acting Head, Department of Materials Engineering, Faculty of Mechanical Engineering, UTM.	<ul style="list-style-type: none"> <li>• 05 – 06 Dec 2007</li> <li>• 07 – 08 Oct 2007</li> <li>• 26 – 27 Jul 2007</li> <li>• 14 – 15 Jun 2007</li> <li>• 06 – 08 Mac 2007</li> <li>• 07 Dec 2006</li> <li>• 30 Nov – 01 Dec 2006</li> <li>• 11 Oct 2006</li> <li>• 03 Jul 2006</li> </ul>
Pioneering Committee of the new Faculty of Biomedical Engineering and Health Science, UTM.	August 2005 – August 2007
Administrative Committee, Faculty of Biomedical Engineering & Health Science, UTM.	August 2007 – May 2008



Academic Committee, Faculty of Biomedical Engineering & Health Science, UTM.	August 2007 – May 2008
Management & Human Resource Development Committee, Faculty of Biomedical Engineering & Health Science, UTM.	August 2007 – May 2008

## **10.0 MEMORANDUM OF UNDERSTANDING**

1. MoU between UTM and OSA Technology Sdn. Bhd.
2. MoU between UTM and MindMatics Sdn. Bhd.
3. MoU between UTM and Afiat Sdn. Bhd.
4. MoU between UTM and HUSM
5. MoU between UTM and UM Faculty of Dentistry
6. MoU between UTM and UIAM Kulliyyah of Medicine

## **11.0 THESIS EVALUATOR**

- ❖ PhD : **8**
- ❖ Master : **5**

1. Name of student : Majid Moayedfar  
Programme : PhD in Engineering  
Title of Thesis : Integrated Manufacturing Method of Customized  
Medical Metal Femoral Component Using  
Incremental Sheet Forming  
Role : External Evaluator
2. Name of student : Krishnan a/l Subramaniam  
Programme : PhD in Engineering  
Title of Thesis : Range of Motion Induced by Shape Memory Alloy  
Actuation on Stewart Platform for Foot/Ankle  
Rehabilitation  
Role : External Evaluator
3. Name of student : Mohd Izuan bin Ibrahim  
Programme : PhD in Medicine

- |                 |   |
|-----------------|---|
| Title of Thesis | : Neuron Activation During Predictive Saccade and Seccade Adaptation: A Functional Magnetic Resonance Imaging Study |
| Role            | : External Evaluator  |
- 
- |                    |  |
|--------------------|--|
| 4. Name of student | : Moones Rahmandoust   |
| Programme          | : PhD in Mechanical Engineering  |
| Title of Thesis    | : On Finite Element Modeling of Single- and Multi-Walled Carbon Nanotubes. |
| Role               | : Internal Evaluator   |
- 
- |                    |   |
|--------------------|---|
| 5. Name of student | : Ab Aziz bin Mohd Yusof                                      |
| Programme          | : PhD in Biomedical Engineering                               |
| Title of Thesis    | : Biomechanical Analysis to enhance Athletes of Rowing Sports |
| Role               | : Internal Evaluator  |
- 
- |                    |   |
|--------------------|---|
| 6. Name of student | : Hadafi Fitri bin Mohd Latip   |
| Programme          | : PhD in Health Science   |
| Title of Thesis    | : Enhanced wobble plate system for rehabilitation of lower extremity. |
| Role               | : Internal Evaluator  |
- 
- |                    |  |
|--------------------|--|
| 7. Name of student | : Nofrizalidris bin Darlis   |
| Programme          | : PhD in Mechanical Engineering  |
| Title of Thesis    | : Abdominal Aortic Aneurysm analysis via Fluid Structure Interaction Technique |
| Role               | : Internal Evaluator   |
- 
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|--------------------|---|
| 8. Name of student | : Norzarini bt. Ab.llah   |
| Programme          | : PhD in Engineering  |
| Title of Thesis    | : Biomechanics of Biological Scaffold for replacement of articular cartilage of knee. |
| Role               | : Internal Evaluator  |
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| 9. Name of student | : Seyed Mohammad Hossein Hosseini              |
| Programme          | : Masters in Mechanical Engineering (research) |

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| Title of Thesis | : Numerical Characterisation of Perforated Metallic Hollow Sphere Structure. |
| Role            | : Internal Evaluator   |
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| 10. Name of student | : Tubagus Noor Rohmannudin   |
| Programme           | : Sarjana (Penyelidikan)   |
| Title of Thesis     | : Fabrikasi Aloji Ti – 10%at.Mo Berfasa $\beta$ Menggunakan Kaedah Metalurgi Serbuk. |
| Role                | : External Evaluator   |
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| 11. Name of student | : Mohd Fazli bin Ghazali   |
| Programme           | : Sarjana (Penyelidikan)   |
| Title of Thesis     | : Study of Stump Flexion Contracture Towards Postural Stability for Transtibial Prosthesis Users |
| Role                | : External Evaluator   |
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| 12. Name of student | : Nur Afiqah binti Hashim  |
| Programme           | : Sarjana (Penyelidikan)   |
| Title of Thesis     | : Development of prosthetic terminal device with Sensory Feedback. |
| Role                | : External Evaluator   |
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| 13. Name of student | : Nor Adzliana bt Sajahan  |
| Programme           | : Master   |
| Title of Thesis     | : Synthesis and characterization of nano-hydroxyapatite from waste materials |
| Role                | : External Evaluator   |