

# CURRICULUM VITAE

## PERSONAL DETAIL



## PROF. DR. TUNKU KAMARUL ZAMAN BIN TUNKU ZAINOL ABIDIN

Professor  
Department of Orthopaedic Surgery  
Faculty of Medicine

+603-79492061

+603-79494642

tkzrea@um.edu.my

Department of Orthopaedic Surgery, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur, W.Persekutuan Kuala Lumpur, Malaysia

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Scopus ID Link <http://www.scopus.com/authid/detail.url?authorId=24172753400> (<http://www.scopus.com/authid/detail.url?authorId=24172753400>)

PubMed ID Link <http://www.ncbi.nlm.nih.gov/sites/myncbi/collections/public/1ps-xmlWbIDLerS-vZgeO7PQi/?sort=date&direction=descending>  
(<http://www.ncbi.nlm.nih.gov/sites/myncbi/collections/public/1ps-xmlWbIDLerS-vZgeO7PQi/?sort=date&direction=descending>)

## BIOGRAPHY

Professor Dr. Tunku Kamarul Zaman is presently the director of University of Malaya Medical Centre (UMMC), a premier 1600+ bedded university hospital in Malaysia staffed by over 6,000 personnel. He is by profession an orthopaedic surgeon with special interest in upper limb and microsurgery. He obtained a medical degree (M.D.) from the National University of Malaysia in 1998. After serving the Ministry of Health as a medical officer, he entered the Masters of Orthopaedics speciality training program i.e. M.S.(Ortho), in University of Malaya in 2000 and was later inducted as a lecturer in the same university upon completing his training in 2004. He also obtained a diploma in tissue banking from National University of Singapore in 2003 during his specialist training. Upon completing his sub-speciality rotations, he was awarded a national scholarship to pursue his sub-specialty training in the Royal Liverpool and Broadgreen hospitals from 2006 till 2010. During that period, he also obtained a PhD degree from The University of Liverpool. He is presently registered with the medical councils in the UK and Malaysia. Upon his return to Malaysia in 2010, he was appointed the head of the tissue engineering group, a division under The National Orthopaedic Centre for Research and Learning (NOCERAL). This research group comprises of many researchers of which Prof. Kamarul (as he is commonly known) supervises many post-doctoral, doctoral and other post-graduate as well as undergraduate students. This group is actively involved in basic science orthopaedic related research that ranges from biomechanics to cell biology. Prof. Kamarul is however presently focused in pursuing fundamental research involving cartilage, tendons and stem cell applications. He has published over 200 peer-reviewed articles in many impact factored journals and has been invited to present the research groups' discoveries in numerous international scientific meetings. Prof. Kamarul is also heavily involved in the administrative duties of his institution. His previous administrative duties also includes being the deputy dean of research for faculty of medicine, acting dean for faculty of medicine, deputy director (clinical) for UMMC, director for the Clinical Investigative Centre in UMMC (an internationally award winning centre that conducts over 200 clinical trials a year) and, head of research in NOCERAL. He sits in many national level committees, national research grant review committee, a member of many international societies, have been invited to speak in several academic subjects in many international meetings, a reviewer and editor to a number of academic journals, and was even the editor-in-chief of The Journal of Health and Translational Medicine. He has received many accolades and has since been appointed as Professor from University of Malaya in 2011 at the age of 38. He has since been nominated and appointed as adjunct and honorary professors in several local and international universities; as well as board members and expert panellist in several organizations including at the Ministerial level.

## ACADEMIC QUALIFICATION

(Qualification), (Institution).

PhD(Liverpool University,UK)2011, LIVERPOOL UNIVERSITY, LIVERPOOL, UK
MOrthSurg(UM)(2004), UNIVERSITY OF MALAYA (UM)
MD(UKM)1998, UNIVERSITI KEBANGSAAN MALAYSIA (UKM)
Dip. Sc. (Tis. Bank)(2003), NATIONAL UNIVERSITY OF SINGAPORE

**PROFESSIONAL**

(Organisation), (Role), (Year), (Level).

Academy of Medicine of Malaysia, Life Member, 2018 to 2025, (University)
UCSI Education Sdn Bhd, Visiting Research Professor, 2019 to 2021, (University)
Academy of Science Malaysia, Member Of Asm I-connect Steering Committee, 2020 to 2023, (University)
Academy of Sciences Malaysia (ASM), Reviewer, 2020 to 2020, (University)

**ADMINISTRATIVE DUTIES**

(Role), (Level), (Start date),(End Date).

Panel Pemeriksa Re-Assessment Peperiksaan Klinikal: Peperiksaan Profesional Peringkat 3.2 MBBS Sesi 2018/2019, University Malaya, 13/03/2020 to 13/03/2020 (Peperiksaan Profesional Peringkat 3.2 MBBS Sesi 2018/2019)
Panel Penilai Sesi Penilaian dan Pembentangan Permohonan Skim Geran Penyelidikan Pembangunan Prototaip (PRGS) Fasa 1 Tahun 2020, National, 26/02/2020 to 19/03/2020
Panel Member of the Vetting Committee, National, 01/01/2020 to 31/12/2020 (Medical and Health Sciences Discipline Group 2020)
Pengerusi Jawatankuasa Pengurusan Big Data/Data Warehouse dan Pengkomersilan Sistem ICT, Pusat Perubatan Universiti Malaya, National, 01/12/2019 to 15/08/2020
Ahli Jawatankuasa Pengurusan Bersama UM-MAIWP, National, 01/11/2019 to 31/10/2024
Pengerusi Jawatankuasa Khidmat Nasihat dan Perundingan Projek Pembangunan Hospital, Pusat Perubatan Universiti Malaya, University Malaya, 01/11/2019 to 15/08/2020
Viva Examiner for Orthopaedic Specialty Committee, National, 09/10/2019 to 10/10/2019
Ahli Jawatankuasa Penilaian Dana Penyelidikan Kementerian Pendidikan Malaysia (DP KPM), National, 28/02/2019 to 31/12/2019 (Ahli Jawatankuasa Penilaian Dana Penyelidikan Kementerian Pendidikan Malaysia (DP KPM) Tahun 2019)
Participant , National, 30/10/2018 to 30/10/2018 (Anti-Corruption Summit 2018 "Good Governance and Integrity for Sustainable Business Growth")
Organising Committee, International, 10/05/2018 to 12/05/2018 (48th Malaysian Orthopaedic Association Annual Scientific Meeting/ Annual General Meeting 2018)
EXAMINER FOR CBO PART 2 EXAMINATION NOVERBBBER 2017, Faculty, 21/11/2017 to 23/11/2017 (EXAMINER FOR CBO PART 2 EXAMINATION NOVERBBBER 2017)
Examiner for CBO Part 2 Examination, National, 02/05/2017 to 04/05/2017 (Examiner for CBO Part 2 Examination)
Basic Science (Ortho) and Conjoint Board Part 1 Examination, University Malaya, 12/04/2017 to 13/04/2017 (Appointment as VIVA Examiner - Physiology)

Review Manuscript for Journal of King Saud University-Science, International, 21/03/2017 (Comparative study of chitosan and chitosan-gelatin scaffold for Tissue Engineering application)
Reviewer for Computers in Biology and Medicine Journal, International, 17/03/2017 (Biomechanical study of different fixation techniques for the treatment of sacroiliac joint injuries using finite element analyses and biomechanical tests)
Reviewer for Oncotarget Journal, International, 15/03/2017 (Synthesis and evaluated the antitumor effects of novel compound 2,2' [Pentane-1,5-diylbis(thio)] bis[3,5,6-tris (aziridinyl) benzo-1,4-quinone in OECM1 oral cancer cells)
Review from Oncotarget Journal, International, 14/03/2017 (Panobinostat Induced Alterations to MicroRNA Biogenesis and Strand Selection in Triple Negative Breast Cancer" submitted in Oncotarget)
Ahli Jawatankuasa Pindaan Akta Tisu Manusia 1974 (Akta 130), National, 03/02/2017 to 02/02/2019 (Ahli Jawatankuasa Pindaan Akta Tisu Manusia 1974 (Akta 130))
Chairman, National, 01/02/2017 to 01/02/2020 (Chairman of the Malaysian Public University Hospitals Consortium (KHUAM))
Review from Oncotarget, International, 15/01/2017 (The role of hesperetin on osteogenesis of human mesenchymal stem cells and its function in bone regeneration)
Reviewer for Oncotarget Journal, International, 04/01/2017 (The role of hesperetin on osteogenesis of human mesenchymal stem cells and its function in bone regeneration" submitted in Oncotarget)
Ahli Jawatankuasa Penilaian Dana Penyelidikan Fundamental Kementerian Pendidikan Tinggi Tahun 2017, National, 01/01/2017 to 31/12/2017 (Ahli Jawatankuasa Penilaian Dana Penyelidikan Fundamental Kementerian Pendidikan Tinggi Tahun 2017)
Plenary & Invited Speaker for 6th Malaysian Tissue Engineering and Regenerative Medicine Scientific Meeting (MTERMS), National, 17/11/2016 to 18/11/2016 (6th Malaysian Tissue Engineering and Regenerative Medicine Scientific Meeting (MTERMS))
Lantikan Pegawai Sebagai Ahli Jawatankuasa Kerja (TWG) National Antimicrobial Resistance Committee (NARC), National, 27/10/2016 to 26/10/2018 (National Antimicrobial Resistance Committee (NARC))
Participate for The 3rd International Symposium Celebrating the Opening of Bitgoeul Chonnam National University Hospital, International, 30/09/2016 to 30/09/2016 (The 3rd International Symposium Celebrating the Opening of Bitgoeul Chonnam National University Hospital)
Penceramah "Inter-Cluster Research Proposal Workshop", National, 07/09/2016 to 09/09/2016 (Inter-Cluster Research Proposal Workshop anjuran Bahagian Penyelidikan dan Jaringan, Institut Perubatan dan Pergigian Termaju (IPPT))
Ahli Jawatankuasa Ad-Hoc Teknikal Penarafan Perkhidmatan Perubatan Dan Kesihatan Hospital Universiti Dengan Hospital Kerajaan, National, 25/07/2016 (Pelantikan ini berkuatkuasa sehingga proses pentadbiran penarafan Hospital Universiti dengan Hospital Kerajaan selesai)
Penilai Untuk Kenaikan Pangkat Staf Akademik Universiti Sains Malaysia, National, 25/05/2016 to 27/05/2016 (Hotel Equatorial Penang, 1 Jalan Bukit Jambul, 11900 Bayan Lepas, Penang)
Panel Penilai Pakar Untuk Penilaian Permohonan Pembiayaan Dana R,D&C Kementerian Sains, Teknologi dan Inovasi (MOSTI), National, 19/05/2016 to 18/05/2018 (Bagi tujuan Pembiayaan Dana R,D&C (MOSTI))
OSCE Examiner For CBO Part 2 Examination, National, 09/05/2016 to 09/05/2016
Clinical Examiner For CBO Part 2 Examination, National, 09/05/2016 to 12/05/2016
BSE (Orth) Examination and CBO Part 1 Examination , National, 11/04/2016 to 14/04/2016
Pengerusi Tabung Kebajikan Pesakit PPUM, University Malaya, 08/12/2015 to 08/12/2015 (No. Rujukan : PPUM/MSW100/01/11 1/JILIDI (13))
Yang Di-Pertua Koperasi Pusat Perubatan Universiti Malaya Berhad, University Malaya, 01/12/2015 to 30/04/2016 (KOPERASI PUSAT PERUBATAN UNIVERSITI MALAYA BERHAD Pusat Perubatan Universiti Malaya Jalan Pantai Baru, 59100 Kuala Lumpur)
Pengerusi Jawatankuasa Pengurusan Kewangan dan Akaun Pusat Perubatan Universiti Malaya, University Malaya, 17/09/2015 to 16/09/2020 (Ruf.Kami : PPUM/F NI500/04 JILID.2 (85))
Ahli Jawatankuasa Pelaburan Pusat Perubatan Universiti Malaya, University Malaya, 02/09/2015 to 01/09/2016 (No. Rujukan : PPUM/FIN/500/04 JLD.z (95 ))

Pengerusi Jawatankuasa Polisi Dalam PPUM, University Malaya, 12/08/2015 to 11/08/2020 (No, Rujukan: PPUM/QSU/300/07/1 0111 2)
Pengerusi, Panel Pembangunan Sumber Manusia, University Malaya, 12/08/2015 to 11/08/2020 (Rujukan KEmi : PPUM/500/08/001)
Pengerusi Jawatankuasa Pemandu Penambahbaikan Kualiti, Pusat Perubatan Universiti Malaya, University Malaya, 12/08/2015 to 11/08/2020 (No. Rujukan : PPUM/QSU 1300107 111)
Ahli Lembaga Pengurus Pusat Perubatan Universiti Malaya, University Malaya, 12/08/2015 to 11/08/2020 (Rujukan Kami : PPUM/300/10)
Director of Ummc, University Malaya, 11/08/2015 to 11/08/2021
Director of Ummc, University Malaya, 01/07/2015 to 18/08/2015 (Acting director)
Pemeriksa Klinikal Untuk Peperiksaan Ortopedik Bahagian ke-2, National, 05/05/2015 to 07/05/2015
Perlantikan Sebagai Ketua Auditor Bgai Menjalankan Audit Di Makmal Sel Stem Cryocord Sdn Bhd, National, 07/04/2015
Selection Committe Meeting: Assoc Prof (Research), BRIMS, School of Medicine and Health Sciences, Monash Malaysia, National, 13/02/2015 (Venue: PVC Meeting Room (Building 2, Level 3, Room 31) Monash University Malaysia)
Pakar Bidang Khusus (Subject Matter Expert -SME) DI DALAM MAKMAL PENGURUSAN NILAI (VALUE MANAGEMENT LAB) BAGI PROJEK DEVELOPMENT OF 30 MEV CYCLOTRON FACILITY , National, 26/01/2015 to 30/01/2015
Mesyuarat "Cell and Gene Therapy Products (CGTPs)" Bil 1/2015 , National, 07/01/2015 to 07/01/2015
Pencalonan Sebagai Ahli Majlis Keselamatan Pesakit Malaysia Sesi 2015-2016, National, 01/01/2015 to 31/12/2016
Ketua Pusat Penyelidikan Bagi Clinical Investigation Centre (CIC), University Malaya, 01/01/2015 to 31/12/2015
Ahli Jawatankuasa Penilaian Bagi Permohonan Geran Penyelidikan Di Bawah Tadbir Urus Institut Pengurusan & Pemantauan Penyelidikan (IPPP), University Malaya, 01/01/2015 to 31/03/2016
Head, Clinical Research Centre, Faculty of Medicine, 01/01/2015 to 31/12/2015
Examiner (Orthopaedic Surgery) and CBO Part 1 Examination 2014, University Malaya, 17/11/2014 to 19/11/2014
Pemeriksa Klinikal Untuk Peperiksaan Ortopedik Bahagian ke-2, National, 04/11/2014 to 06/11/2014
Ahli Jawatankuasa Kecil Panel Penilai bagi Anugerah Cemerlang Universiti Malaya (ACUM) 2014, University Malaya, 11/09/2014 to 11/09/2014
Ahli Jawatankuasa PRA Akreditasi dan Pensijilan Pusat Perubatan Universiti Malaya (PPUM), University Malaya, 28/01/2014
Deputy Director of Professional at University Malaya Medical Centre (UMMC), Orthopaedic Surgery, Faculty of Medicine, 28/01/2014 to 27/01/2016
Panel Penemuduga Bagi Calon Sarjana Surg. Orto Sesi 2014/2015, Faculty, 10/01/2014 to 10/01/2014
Project Champion bagi Projek Akreditasi di bawah Standard Malaysian Society For Quality in Health (MSQH) Edisi Ke-4, University Malaya, 03/01/2014 (Projek Akreditasi di bawah Standard Malaysian Society For Quality in Health (MSQH) Edisi Ke-4)
Head, Clinical Research Centre, Faculty of Medicine, 02/01/2014 to 31/12/2014
Chairman for UMMC Bone Bank, University Malaya, 01/01/2014 to 31/12/2014 (for UMMC Bone Bank)
Penyelia Lapangan Kursus JIB 490, National, 06/12/2013 to 31/12/2014 (Penyelia lapangan kepada Nur Liyana Bt Azmi (870730565580) iaitu pelajar Sarjana Muda Sains (Major Sains Biologi) di Pusat Pengajian Pendidikan Jarak Jauh, USM)
Pemeriksa Klinikal Peperiksaan Bersama (Cbo) Bahagian Kedua Ortopedik, National, 11/11/2013 to 14/11/2013 (Perlantikan Sebagai Pemeriksa Klinikal Peperiksaan Bersama (Cbo) Bahagian Kedua Ortopedik di Fakulti Perubatan, Universiti Islam Antarabangsa, Kuantan, Pahang.)
Ahli Jawatankuasa Kecil Panel Penilai Bagi Anugerah Cemerlang, University Malaya, 16/08/2013
Ahli Kumpulan Kerja Pakar Sains Kesihatan Dan Perubatan Di Bawah Majlis Sains Dan Penyelidikan Kebangsaan (MSPK)., National, 01/08/2013 to 31/07/2015

External Assessor for the position of Associate Professor , National, 23/07/2013
Ketua, Jawatankuasa "Research Strategic Planning for Faculty of Medicine", Faculty, 03/06/2013
Supervisor, University Malaya, 11/04/2013 to 11/04/2013 (MASTER CANDIDATE SUPERVISOR FOR ORTHOPEDIC SURGERY DEPARTMENT, 2012/2013 SESSION)
Pemeriksa Luar Tesis, National, 03/04/2013
Facilitator for UMMC Basic Microsurgery Course, University Malaya, 09/01/2013 to 11/01/2013
Panel Member for Health and Translational Medicine (HTM) Research Cluster, University Malaya, 01/01/2013 to 31/12/2014
Interviewer Committee for University Malaya's Academic Programme Enrollment, University Malaya, 01/01/2013 to 01/01/2013
Ahli Jawatankuasa Penambahbaikan Penerbitan Ilmiah, University Malaya, 01/01/2013 to 31/12/2014
Pemeriksa Bagi Peperiksaan Bersama (Cbo) Sarjana Surgeri Ortopedik, National, 05/11/2012 to 08/11/2012
Deputy Dean of Research, Dean's Office, Faculty of Medicine, 01/09/2012 to 01/02/2014
Facilitator for UMMC Basic Microsurgery Course, University Malaya, 11/07/2012 to 13/07/2012
Deputy Dean of Research, Dean's Office, Faculty of Medicine, 01/07/2012 to 31/08/2012
Ahli Jawatankuasa Kecil Panel Penilai Bagi Anugerah Cemerlang , University Malaya, 14/06/2012
Jawatankuasa Pemeriksa untuk Peperiksaan Akhir (Bersama), Faculty, 24/05/2012 (Ijazah Sarjana Surgeri Ortopedik, Sesi 2011/2012)
Panel Penilai Geran Penyelidikan UMRG-Program, University Malaya, 14/05/2012
Selection Panel for the Academic Appointments at Monash University (Sunway Campus), National, 04/04/2012 to 04/04/2012
Panel Penilai Pakar untuk Penilaian Permohonan Pembiayaan Dana R,D & C Kementerian Sains, Teknologi dan Inovasi, National, 21/09/2011 to 20/09/2012
Committee Member for EWG (Expert Working Group) under the National Science & Research Council (NSRC), National, 09/08/2011 to 10/08/2012
Jawatankuasa Spesifikasi dan Teknikal bagi Tawaran Membekal, Menghantar, Memasang, Menguji dan Mentauliah '1 Unit High Resolution Mass Spectrometry System' untuk Um, University Malaya, 25/07/2011
Quality Manager, Faculty, 13/07/2011 to 13/09/2011
Deputy Dean of Research, Dean's Office, Faculty of Medicine, 09/07/2011 to 30/06/2012
Deputy Dean (Research), Faculty of Medicine, University Malaya, 09/07/2011 to 30/06/2012
Director of Clinical Investigative Centre (CIC), Faculty, 01/07/2011 to 30/06/2011
Facilitator for UMMC Basic Microsurgery Course, University Malaya, 20/06/2011 to 22/06/2011
Ahli Jawatankuasa Kerja Penyelidikan, University Malaya, 01/05/2011 to 30/04/2012
Head of Research Development & Collaboration Unit, Health & Translational Medicine Cluster (HTMC), University Malaya, 02/01/2011 to 31/12/2011
Director of Research/ Head of Research National Orthopaedic Centre for Research and Learning (NOCERAL), Faculty, 01/01/2010
Head of MBBS exam coordinator, Faculty, 01/01/2010 to 31/12/2010 (MBBS final exam clinical coordinator)
Head of Tissue Engineering Group, Faculty, 20/05/2004

**AREAS OF EXPERTISE**

(Area).

Basic Sciences Orthopaedic Research (BASIC LIFE SCIENCES)
Clinical Engineering (CLINICAL TISSUE ENGINEERING)
Graft Engineering (TISSUE ENGINEERING, AUTOLOGOUS CELL TRANSPLANTATION, MEDICAL MATERIALS DESIGN AND CELL BASED THERAPY )
Orthopaedics (SHOULDER, ELBOW AND WRIST)
Orthopaedic Trauma Surgery (TRAUMA AND EMERGENCY)
Orthopaedics (HAND AND MICROSURGERY)
Stem Cell Technology (MESENCHYMAL STEM CELL, TISSUE ENGINEERING, BIOMATERIALS DESIGN)

**RECENT SELECTED PUBLICATIONS**

(Publication).

**Book****2011**

NOCERAL (National Orthopaedic Centre of Excellence for research and learning). 5 year report on the activities, finances and outputs for 2005-2010.  
Tunku Kamarul Zaman; Nor Azarina A. Malek

**2008**

T. Kamarul Zaman, T. Sara T Ahmad. Supplemental guidelines to Masters of Orthopaedic Surgery UM ISBN:983-42600-1-6

**2006**

Guidelines to the Masters of Orthopaedic Surgery Programme University Malaya: Supplement 2006/2007 ISBN: 983-42600-1-6

Tunku Kamarul Zaman, Tunku Sara Tunku Ahmad, Azlina Amir Abbas, Lim Saw Kim. Guidelines to the Masters of Orthopaedic Surgery Programme University Malaya: Appendix. 2006/2007 ISBN: 983-42600-0-8

**2005**

T. Kamarul Zaman, T. Sara T Ahmad. 2005. Guidelines to the Masters of Orthopaedic Surgery, University Malaya ISBN: 983-42600-0-8

**Chapter in Book****2012**

T. Kamarul Zaman, 2012. Chapter 114: Hand Infections and Chapter 115: Replantation and Microsurgery. Dlm. Mercer's Textbook of Orthopaedics and Trauma 10E.

**Article in Academic Journals**

**2020**

Sue May Koh; Chee Ken Chan; Seow Hui Teo; Simmrat Singh; Azhar Mahmood Merican; Wuey Min Ng; Azlina Amir Abbas; Tunku Kamarul Zaman (2019). Elevated plasma and synovial fluid IL-8 and IL-18 may be associated with the pathogenesis of knee Osteoarthritis. *Knee (ISI-Indexed)*

**2019**

Krishnamurthy G, Mohan S, Yahya NA, Mansor A, Murali MR, Raghavendran HRB, Choudhary R, Sasikumar S, Kamarul T. The physicochemical and biomechanical profile of forsterite and its osteogenic potential of mesenchymal stromal cells. *PLoS One*. 2019 Mar 27;14(3):e0214212. *(ISI-Indexed)*

Baig S, Azizan AHS, Raghavendran HRB, Natarajan E, Naveen S, Murali MR, Nam HY, Kamarul T. Effect of Chitosan Nanoparticle-Loaded Thymus serpyllum on Hydrogen Peroxide-Induced Bone Marrow Stromal Cell Damage. *Stem Cells Int*. 2019 Feb 26;2019:5142518 *(ISI-Indexed)*

Hosseinzadeh A, Juybari KB, Kamarul T, Sharifi AM (2019). Protective effects of atorvastatin on high glucose-induced oxidative stress and mitochondrial apoptotic signaling pathways in cultured chondrocytes. *Journal Of Physiology And Biochemistry*; 75 (2):153-162. DOI: 10.1007/s13105-019-00666-8 *(ISI-Indexed)*

Pourshahrestani S, Zeimaran E, Kadri NA, Gargiulo N, Jindal HM, Hasikin K, Naveen SV, Sekaran SD, Kamarul T (2019). Elastomeric biocomposite of silver-containing mesoporous bioactive glass and poly(1,8-octanediol citrate): Physicochemistry and in vitro antibacterial capacity in tissue engineering applications. *Materials Science & Engineering C-Materials For Biological Applications*; 98: 1022-1033. DOI: 10.1016/j.msec.2019.01.022 *(ISI-Indexed)*

Aizah, N., Chong, P. P., & Kamarul, T. (2019). Early Alterations of Subchondral Bone in the Rat Anterior Cruciate Ligament Transection Model of Osteoarthritis. *CARTILAGE*. <https://doi.org/10.1177/1947603519878479> *(ISI-Indexed)*

Samuel, S; Ahmad, RE; Ramasamy, TS; Karunanithi, P; Naveen, SV; Kamarul, T 2019. Platelet-rich concentrate in serum-free medium enhances cartilage-specific extracellular matrix synthesis and reduces chondrocyte hypertrophy of human mesenchymal stromal cells encapsulated in alginate. *PLATELETS (ISI-Indexed)*

Nam HY, Pinguan-Murphy B, Abbas AA, Merican AM, Kamarul T. (2019). Uniaxial Cyclic Tensile Stretching at 8% Strain Exclusively Promotes Tenogenic Differentiation Of Human Bone Marrow Derived Mesenchymal Stromal Cells. *Stem Cells International*, 2019, 1-12 *(ISI-Indexed)*

Choong PF, Teh HX, Teoh HK, Ong HK, Cheong SK, Kamarul T. (2019). DNA repair efficiency associated with reprogrammed osteosarcoma cells. *Gene Report. (ISI-Indexed)*

**2018**

Kamarul T, Mansor A, Robson N, Albusaidi SHH, Suhaeb AM & Samsudin, EZ (2018). Replantation and revascularization of amputated upper limb appendages outcome and predicting the factors influencing the success rates of these procedures in a tertiary hospital: An 8-year retrospective, cross-sectional study. *JOURNAL OF ORTHOPAEDIC SURGERY*, 26(1) *(ISI-Indexed)*

Bahrampour, Kobra; Kamarul, T ; Najafi, Mohammad; Jafari, Davood; Sharifi, Ali Mohammad (2018). Restoring the IL-1 $\beta$ /NF- $\kappa$ B induced impaired chondrogenesis by Diallyl disulfide in human adipose-derived mesenchymal stem cells via attenuation of reactive oxygen species and elevation of antioxidant enzymes, 373 (2): 407-419 *(ISI-Indexed)*

Pourshahrestani, S., Kadri, N. A., Zeimaran, E., Gargiulo, N., Samuel, S., Naveen, S. V., ... & Towler, M. R. (2018). Comparative efficacy of hemorrhage control of a novel mesoporous bioactive glass versus two commercial hemostats. *Biomedical Materials*, 13(2), 025020. *(ISI-Indexed)*

Mohd S, Ghazali MI, Yusof N, Sulaiman S, Ramalingam S, Kamarul T, Mansor A. QUANTIFYING THE ULTRASTRUCTURE CHANGES OF AIR-DRIED AND IRRADIATED HUMAN AMNIOTIC MEMBRANE USING ATOMIC FORCE MICROSCOPY: A PRELIMINARY STUDY. *Cell and Tissue Banking (ISI-Indexed)*

Samuel S, Ahmad RE, Ramasamy TS, Manan F, Kamarul T (2018). Platelet Rich Concentrate Enhances Mesenchymal Stem Cells Capacity To Repair Focal Cartilage Injury in Rabbits injury. *ScienceDirect*, 49(4): 775-783 *(ISI-Indexed)*

Md. Murad Hossain; Md. Ashraf Islam; Tunku Kamarul; Md. Golam Hossain (2018). Exclusive breastfeeding practice during first six months of an infant's life in Bangladesh: a country based cross-sectional study. *BMC Pediatrics*, *(ISI-Indexed)*

HM Larsson, G Vythilingam, K Pinnagoda, E Vardar, EM Engelhardt, S Sothilingam, RC Thambidorai, T Kamarul, JA Hubbell & P Frey. (2018) Fiber density of collagen grafts impacts rabbit urethral regeneration. *Scientific Report*. 8, Article number: 10057 *(ISI-Indexed)*

Chong PP, Selvaratnam L, Abbas AA, Kamarul T (2019). Factors Influencing the Successful Isolation and Expansion of Aging Human Mesenchymal Stem Cells. *Open Life Science*. 13(1), 35-42 (*ISI-Indexed*)

Ayu HM, Izman S, Daud R, Shah A, Anwar M, Krishnamurthy G, Kamarul T. (2019). IN-VITRO BIOCOMPATIBILITY STUDY OF HYDROXYAPATITE COATED ON CO-CR-MO WITH OXIDE INTERLAYER. *Jurnal Teknologi*. 18(1),35-42 (*ISI-Indexed*)

Hiew MSY, Cheng HP, Huang CJ, Chong KY, Cheong SK, Choo KB, Kamarul, T (2019). Incomplete cellular reprogramming of colorectal cancer cells elicits an epithelial/mesenchymal hybrid phenotype. *Journal of Biomedical Science*, 25(57) (*ISI-Indexed*)

## 2017

Pourshahrestani, S., Zeimaran, E., Kadri, N. A., Gargiulo, N., Jindal, H. M., Naveen, S. V., ... & Towler, M. R. (2017). Potency and Cytotoxicity of a Novel Gallium-Containing Mesoporous Bioactive Glass/Chitosan Composite Scaffold as Hemostatic Agents. *ACS applied materials & interfaces*, 9(37), 31381-31392 (*ISI-Indexed*)

Zeimaran, E., Pourshahrestani, S., Pinguang-Murphy, B., Kong, D., Naveen, S. V., Kamarul, T., & Kadri, N. A. (2017). Development of poly (1, 8-octanediol citrate)/chitosan blend films for tissue engineering applications. *Carbohydrate Polymers*, 175, 618-627. (*ISI-Indexed*)

Wu Y, Yang Z, Law JB, He AY, Abbas AA, Denslin V, Kamarul T, Hui JH, Lee EH (2017). The Combined Effect of Substrate Stiffness and Surface Topography on Chondrogenic Differentiation of Mesenchymal Stem Cells. *Tissue Eng Part A*, 23:43-54 (*ISI-Indexed*)

Phan Nguyen Nhi Nguyen, Kong Bung Choo, Chiu-Jung Huang, Shigeki Sugii, Soon Keng Cheong and Tunku Kamarul (2017). miR-524-5p of the primate-specific C19MC miRNA cluster targets TP53IPN1- and EMT- associated genes to regulate cellular reprogramming. *Stem Cell Research & Therapy*, (*ISI-Indexed*)

Yeap, SK ; Abu, N; Akthar, N; Ho, WY; Ky, H; Tan, SW; Alitheen, NB; Kamarul, T (2017). Gene Expression Analysis Reveals the Concurrent Activation of Proapoptotic and Antioxidant-Defensive Mechanisms in Flavokawain B-Treated Cervical Cancer HeLa Cells. *INTEGRATIVE CANCER THERAPIES (ISI-Indexed)*

Hui Yin Nam, Hanumantha Rao Balaji Raghavendran, Belinda Pinguang-Murphy, Azlina Amir Abbas, Azhar Mahmood Merican, and Tunku Kamarul (2017). Fate of Tenogenic Differentiation Potential of Human Bone Marrow Stromal Cells by Uniaxial Stretching Affected by Stretch-Activated Calcium Channel Agonist Gadolinium. *PLOS One*, (*ISI-Indexed*)

Mohan S, Raghavendran HB, Karunanithi P, Murali MR, Naveen SV, Talebian S, Mehrali M, Mehrali M, Natarajan E, Chan CK, Kamarul T. Incorporation of Human-Platelet-Derived Growth Factor-BB Encapsulated Poly(lactic-co-glycolic acid) Microspheres into 3D CORAGRAF Enhances Osteogenic Differentiation of Mesenchymal Stromal Cells. *ACS Appl Mater Interfaces*. 2017 Mar 22;9(11):9291-9303. doi: 10.1021/acsami.6b13422. (*ISI-Indexed*)

Wahab AHA, Kadir MRA, Harun MN, Kamarul T, Syahrom A (2017). Number of pegs influence focal stress distributions and micromotion in glenoid implants: a finite element study. *Medical & Biological Engineering & Computing*, 55(3): 439-447 (*ISI-Indexed*)

Verusingam ND, Yeap SK, Ky H, Paterson IC, Khoo SP, Cheong SK, Ong AHK, Kamarul T (2017). Susceptibility of Human Oral Squamous Cell Carcinoma (OSCC) H103 and H376 cell lines to Retroviral OSKM mediated reprogramming. *PeerJ*, doi: 10.7717/peerj.3174 (*ISI-Indexed*)

Hosseinzadeh A, Jafari D, Kamarul T, Bagheri A, Sharifi AM (2017). Evaluating the Protective Effects and Mechanisms of Diallyl Disulfide on Interlukin-1 $\beta$ -induced Oxidative Stress and Mitochondrial Apoptotic Signaling Pathways in Cultured. *Journal of Cellular Biochemistry*, 118(7):1879-1888 (*ISI-Indexed*)

Hossain MM, Murali MR, Kamarul T. Genetically modified mesenchymal stem/stromal cells transfected with adiponectin gene can stably secrete adiponectin. *Life Sciences*. 2017, 182: 50-56. (*ISI-Indexed*)

Zheng Yang, Vinitha Denslin, Yingnan Wu, Lee Eng Hin, Azlina A Abbas, Tunku Kamarul, James HP Hui. (2017). Influence of fibrinogen concentration on mesenchymal stem cells and chondrocytes chondrogenesis in fibrin hydrogels. *J Biomaterials & Tissue Engineering (ISI-Indexed)*

A. Niakan, S. Ramesh, Sangeetha Vasudevaraj Naveen, Saktiswaren Mohan, Tunku Kamarul. (2017). Osteogenic priming potential of bovine hydroxyapatite sintered at different temperatures for tissue engineering applications. *Materials Letters* 197,83-86. (*ISI-Indexed*)

Parate, D; Franco-Obregon, A; Frohlich, J; Beyer, C; Abbas, AA; Kamarul, T; Hui, JHP; Yang, Z (2017). Enhancement of mesenchymal stem cell chondrogenesis with short-term low intensity pulsed electromagnetic fields. *SCIENTIFIC REPORTS*, (*ISI-Indexed*)

## 2016



- Pourshahrestani, Ehsan Zeimaran, Nahrizul Adib Kadri, Nicola Gargiulo, Shani Samuel, Sangeetha Vasudevaraj Naveen, Tunku Kamarul and Mark R. Towler. Gallium-containing mesoporous bioactive glass with potent hemostatic activity and antibacterial efficacy. *Journal of Materials Chemistry B*. DOI: 10.1039/c5tb02062j (*ISI-Indexed*)
- D. Almasi, R. Sharifi, M. R. Abdul Kadir, G. Krishnamurthy, and T. Kamarul. Study on the AFM Force Curve Common Errors and Their Effects on the Calculated Nanomechanical Properties of Materials. *Journal of Engineering*, vol. 2016, Article ID 2456378, 8 pages, 2016. doi:10.1155/2016/2456378 (*SCOPUS-Indexed*)
- Krishnamurthy G, Yahah NA, Mehrali M, Mehrali M, Mohan S, Murali MR, Raghavendran HRB, Kamarul T. 2016. Effects of carbon doping on the microstructural, micro/nano-mechanical, and mesenchymal stromal cells biocompatibility and osteogenic differentiation properties of alumina. *Ceramics International*. 42(16), 18247-18256. (*ISI-Indexed*)
- Balaji Raghavendran HR, Saktiswaren, Genesan K, Murali MR, Naveen SV, Talebian S, McKean R, Kamarul T. Synergistic interaction of platelet derived growth factor (PDGF) with the surface of PLLA/HA/Col and PLLA/HA scaffolds produces rapid osteogenic differentiation. *Colloids and Surfaces B: Biointerfaces*. 2016; 139: 68-78. (*ISI-Indexed*)
- Choudhary R, Vecstaudza J, Krishnamurthy G, Raghavendran HRB, Murali MR, Kamarul T, Swamiappan S, Locs J. 2016. In-vitro Bioactivity, Biocompatibility and Dissolution Studies of Diopside prepared from Biowaste by using Sol-Gel Combustion Method. *Materials Science and Engineering C*. 68:89-100. (*ISI-Indexed*)
- Vattam KK, Raghavendran HRB, Murali MR, Savatey H, Kamarul T. Coadministration of alloxan and nicotinamide in rats produces biochemical changes in blood and pathological alterations comparable to the changes in Type II diabetes mellitus. *Human and Experimental Toxicology*. Oct 2015. (*ISI/SCOPUS Indexed Publication*)
- Zeimaran E, Mohan S, Pourshahrestani S, Murphy BP, Kadri NA, Murali MR, Raghavendran HRB, Hasikin K, Kamarul T, Towler MR. 2016. Osteogenic differentiation of mesenchymal stem cells on a poly (octanediol citrate)/ bioglass composite scaffold in vitro. *Materials & Design*. 109; 434-442. (*ISI/SCOPUS Indexed Publication*)
- Samuel S, Ahmad RE, Ramasamy TS, Karunanithi P, Naveen SV, Murali, MR, Abbas AA, Kamarul T. 2016. Platelet-rich concentrate in serum free medium enhances osteogenic differentiation of bone marrow-derived human mesenchymal stromal cells. *PeerJ* 4:e2347; DOI 10.7717/peerj.2347 (*ISI-Indexed*)
- Dashtdar H, Murali MR, Selvaratnam L, Balaji Raghavendran H, Suhaeb AM, Ahmad TS, Kamarul T. (2016). Ultra-structural changes and expression of chondrogenic and hypertrophic genes during chondrogenic differentiation of mesenchymal stromal cells in alginate beads. *PeerJ* 4:e1650 (*ISI-Indexed*)
- Puvanewary S, Balaji Raghavendran H, Talebian S, Murali MR, Mahmud SA, Singh S, Kamarul T. (2016). Incorporation of Fucoïdan in  $\beta$ -Tricalcium phosphate-Chitosan scaffold prompts the differentiation of human bone marrow stromal cells into osteogenic lineage. *Scientific Reports*. 6, 24202. (*ISI-Indexed*)
- Kamruzzaman M, Mamun AS, Bakar SM, Saw A, Kamarul T, Islam MN, Hossain MG. "Multilevel linear regression analysis of factors influencing body mass index among Bangladeshi married non-pregnant women", *J Biosoc Sci*. 2016;1-11 (*ISI-Indexed*)
- Dr. Yingnan Wu, Dr. Zheng Yang, Dr. Jaslyn Bee Khuan Law, Miss Ai Yu He, Prof. Azlina A Abbas, Miss Vinitha Denslin, Prof. Tunku Kamarul, Dr. James H Hui, and Prof. Eng Hin Lee (2016). The Combined Effect of Substrate Stiffness and Surface Topography on Chondrogenic Differentiation of Mesenchymal Stem Cells. *Tissue Engineering Part A*. ahead of print. doi:10.1089/ten.TEA.2016.0123. (*ISI-Indexed*)
- Lim KL, Teoh HK, Choon PF, Teh HX, Cheong SK, Kamarul T. 2016. Reprogramming cancer cells: overview & current progress. *Expert Opin Biol Ther*. 21:1-11. (*ISI/SCOPUS Indexed Publication*)
- Almasi D, Iqbal N, Sadeghi M, Sudin I, Abdul Kadir MR, Kamarul T. 2016. Preparation Methods for Improving PEEK's Bioactivity for Orthopedic and Dental Application: A Review. *Int J Biomater*. 2016; 8202653. (*SCOPUS-Indexed*)
- Karunanithi P, Murali MR, Samuel S, Raghavendran HB, Abbas AA, Kamarul T. 2016. Three dimensional alginate-fucoïdan composite hydrogel augments the chondrogenic differentiation of mesenchymal stromal cells. *Carbohydrate polymers*. 147: 294-303. (*ISI/SCOPUS Indexed Publication*)
- Ibrahim MR, Singh S, Merican AM, Raghavendran HR, Murali MR, Naveen SV, Kamarul T. (2016). The effect of strontium ranelate on the healing of a fractured ulna with bone gap in rabbit. *BMC Veterinary Research*. 12(1), 112. (*ISI-Indexed*)
- Chadda H, Naveen SV, Mohan S, Satapathy BK, Ray AR, Kamarul T. Cytotoxic evaluation of hydroxyapatite- filled and silica/hydroxyapatite-filled acrylate-based restorative composite resins: An in vitro study. *J Prosthet Dent*. 2016 Feb 9. pii: S0022-3913(16)00035-4. (*ISI/SCOPUS Indexed Publication*)
- Baig S, Seevasant I, Mohamad J, Mukheem A, Huri HZ, Kamarul T. Potential of apoptotic pathway-targeted cancer therapeutic research: Where do we stand? *Cell Death Dis*. 2016 Jan 14;7:e2058. (*ISI/SCOPUS Indexed Publication*)

Moradi A, Ataollahi F, Sayar K, Pramanik S, Chong PP, Khalil AA, Kamarul T, Murphy BP. Chondrogenic potential of physically treated bovine cartilage matrix derived porous scaffolds on human dermal fibroblast cells. *Journal Of Biomedical Materials Research Part A*. 2016; 104(1): 245-256 (*ISI/SCOPUS Indexed Publication*)

Ali NM, Boo L, Yeap SK, Ky H, Satharasinghe DA, Liew WC, Ong HK, Cheong SK, Kamarul T. Probable impact of age and hypoxia on proliferation and microRNA expression profile of bone marrow-derived human mesenchymal stem cells. *PeerJ*, 2016. (*ISI/SCOPUS Indexed Publication*)

## 2015

Naveen SV, Irene TKP, Shan GY, Balaji Raghavendran HR, Murali MR, Kamarul T. 2015. Unmodified medium chain length polyhydroxyalkanoate (uMCL-PHA) as a thin film for tissue engineering application characterization and in vitro biocompatibility. *Materials Letters*. 141; 55-58. (*ISI/SCOPUS Indexed Publication*)

Gopal K, Gowtham M, Sachin S, Ram MR, Shankar EM, Kamarul T. 2015. Attrition of Hepatic Damage Inflicted by Angiotensin II with  $\alpha$ -Tocopherol and  $\beta$ -Carotene in Experimental Apolipoprotein E Knock-out Mice. *Scientific Reports* 5, Article number: 18300 (*ISI/SCOPUS Indexed Publication*)

Moradi A, Ataollahi F, Sayar K, Pramanik S, Chong PP, Khalil AA, Kamarul T, Pingguan-Murphy B. 2015. Chondrogenic potential of physically treated bovine cartilage matrix derived porous scaffolds on human dermal fibroblast cells. *J Biomed Mater Res Part A* Sep 12. doi: 10.1002/jbm.a.35561 (*ISI/SCOPUS Indexed Publication*)

Mehrabani M, Najafi M, Kamarul T, Mansouri K, Iranpour M, Nematollahi MH, Ghazi-Khansari M, Sharifi AM. Deferoxamine preconditioning to restore impaired HIF-1-mediated angiogenic mechanisms in adipose-derived stem cells from STZ-induced type 1 diabetic rats. *Cell Prolif*. 2015 Oct;48(5):532-49. (*ISI/SCOPUS Indexed Publication*)

Sharaniza Ab-Rahim, Lakshmi Selvaratnam, Iekhsan Othman & Tunku Kamarul. 2015. Reliability and reproducibility of 2-dimensional electrophoresis in determining the standard protein profile of healthy rabbit chondrocytes. *Global Journal of advanced research*. 2(9): 1376-1389. (*Non-ISI/Non-SCOPUS*)

Chidambaram SB, Pandian A, Sekar S, Haridass S, Vijayan R, Thiyagarajan LK, Ravindran J, Balaji Raghavendran HR, Kamarul T. Sesame indicum, a nutritional supplement, elicits anti-amnesic effect via cholinergic pathway in scopolamine intoxicated mice. *Environ Toxicol*. 2015 (*ISI/SCOPUS Indexed Publication*)

Fatihhi SJ, Rabiatal AAR, MN, Abdul Kadir MR, Kamarul T, Ardiyansyah Syahrom. Effect of torsional loading on compressive fatigue behaviour of trabecular bone. *Journal of the Mechanical Behavior of Biomedical Materials*. 54, 2016; 21-32. (*ISI/SCOPUS Indexed Publication*)

Krishnamurthy G, Murali MR, Hamdi M, Abbas AA, Raghavendran HB, Kamarul T. Proliferation and osteogenic differentiation of mesenchymal stromal cells in a novel porous hydroxyapatite scaffold. *Regen Med*. 2015 Aug;10(5):579-590. (*ISI-Indexed*)

Naghizadeh F, Abdul Kadir MR, Doostmohammadi A, Roozbahani F, Iqbal N, Taheri MM, Naveen SV, Kamarul T. Rice husk derived bioactive glass-ceramic as a functional bioceramic: Synthesis, characterization and biological testing. *Journal of Non-Crystalline Solids*. 427, 1; 54-61. (*ISI/SCOPUS Indexed Publication*)

Nouri F, Salehinejad P, Nematollahi-Mahani SN, Kamarul T, Zarrindast MR, Sharifi AM. Deferoxamine Preconditioning of Neural-Like Cells Derived from Human Wharton's Jelly Mesenchymal Stem Cells as a Strategy to Promote Their Tolerance and Therapeutic Potential: An In Vitro Study. *Cell Mol Neurobiol*. 2015 Aug 5. (*ISI/SCOPUS Indexed Publication*)

Rana M, Sayem A, Karim R, Islam N, Islam R, Kamarul T and Hossain G. Assessment of knowledge regarding tuberculosis among non-medical university students in Bangladesh: a cross-sectional study. *BMC Public Health* 2015, 15:716 (*ISI/SCOPUS Indexed Publication*)

Tan S-L, Ahmad TS, Ng W-M, Azlina AA, Azhar MM, Selvaratnam L, et al. (2015) Identification of Pathways Mediating Growth Differentiation Factor-5-Induced Tenogenic Differentiation in Human Bone Marrow Stromal Cells. *PLoS ONE* 10(11): e0140869. doi:10.1371/journal.pone.0140869 (*ISI-Indexed*)

Puvanewary S, Talebian S, Balaji Raghavendran HR, Murali MR, Mehrali M, Afifi AM, Kamarul T. Fabrication and in vitro biological activity of Fucoidan-chitosan-TCP composite for bone tissue engineering. *Carbohydrate polymers*. (*ISI/SCOPUS Indexed Publication*)

Dashtdar H, Murali MR, Abbas AA, Suhaeb AM, Selvaratnam L, Tay LX and Kamarul T. (2015) PVA-chitosan composite hydrogel versus alginate beads as a potential mesenchymal stem cell carrier for the treatment of focal cartilage defects. *Knee Surgery, Sports Traumatology, Arthroscopy*. 23, 1368-1377. (*ISI-Indexed*)

Samsudin EZ, Kamarul T. The comparison between the different generations of autologous chondrocyte implantation with other treatment modalities: a systematic review of clinical trials. *Knee Surg Sports Traumatol Arthrosc*. 2015 May 24. (*ISI/SCOPUS Indexed Publication*)

Samsudin EZ, Kamarul T, Mansor A. Avoiding diagnostic pitfalls in mimics of neoplasia: the importance of a comprehensive diagnostic approach.

Singapore Med J. 2015 May; 56(5):e92-5. (ISI/SCOPUS Indexed Publication)

Suhaili Mohd, Sharifah Mazni Samsuddin, Saravana Ramalingam, Ng Wuey Min, Norimah Yusof, T. Kamarul Zaman, Azura Mansor. (2015). Assessing bone banking activities at University of Malaya medical centre. Cell and Tissue Banking. 2015 Dec;16(4):523-30. (ISI-Indexed)

Fatihhi SJ, Harun MN, Abdul Kadir MR, Abdullah J, Kamarul T, chsner A, Syahrom A. Uniaxial and Multiaxial Fatigue Life Prediction of the Trabecular Bone Based on Physiological Loading: A Comparative Study. Ann Biomed Eng. 2015 Apr 1. (ISI/SCOPUS Indexed Publication)

Hossain M, Mukheem A, Kamarul T. The prevention and treatment of hypo adiponectinemia-associated human diseases by up-regulation of plasma adiponectin. Life Sci. 2015 Mar 26 (ISI/SCOPUS Indexed Publication)

Mohd S, Samsuddin SM, Ramalingam S, Min NW, Yusof N, Zaman TK, Mansor A. 2015. Assessing bone banking activities at University of Malaya medical centre. Cell Tissue Bank. (ISI/SCOPUS Indexed Publication)

Iqbal N, AbdulKadir MR, Mahmood NH, Iqbal S, Almasi D, Naghizadeh F, Balaji HR, Kamarul T. 2015. Characterization and biological evaluation of silver containing fluoroapatite nanoparticles prepared through microwave synthesis. Ceramics International (ISI/SCOPUS Indexed Publication)

Almasi D, Izman S, Sadeghi M, Iqbal N, Roozbahani F, Krishnamurthy G, Kamarul T, Abdul Kadir MR. 2015. In Vitro Evaluation of Bioactivity of Chemically Deposited Hydroxyapatite on Polyether Ether Ketone. International Journal of Biomaterials. (SCOPUS-Indexed)

Sharaniza Ab-Rahim, Azura Mansor, Zulaika Roslan, Effat Omar, Khalilah Mastura Zahari, Mudiana Muhamad and Tunku Kamarul. 2015. Proteome Comparisons between Pre-Chemotherapy and Post-Chemotherapy Serum of Metastatic Osteosarcoma Patients Reveals Potential Novel Biomarker. Biochemistry & Molecular Biology Journal. Vol. 1 No. 1: 7 (Non-ISI/Non-SCOPUS)

Mirzamohammadi S, Aali E, Najafi R, Kamarul T, Mehrabani M, Aminzadeh A, Sharifi AM. 2015. Effect of 17 $\beta$ -estradiol on mediators involved in mesenchymal stromal cell trafficking in cell therapy of diabetes. Cytotherapy. Jan;17(1):46-57 (ISI/SCOPUS Indexed Publication)

Barathan M, Gopal K, Mohamed R, Elleg rd R, Saeidi A, Vadivelu J, Ansari AW, Rothan HA, Ravishankar Ram M, Zandi K, Chang LY, Vignesh R, Che KF, Kamarulzaman A, Velu V, Larsson M, Kamarul T, Shankar EM. 2015. Chronic hepatitis C virus infection triggers spontaneous differential expression of biosignatures associated with T cell exhaustion and apoptosis signaling in peripheral blood mononucleocytes. Apoptosis. Jan 11. (ISI/SCOPUS Indexed Publication)

## 2014

Shani S, Ahmad RE, Naveen SV, Murali MR, Puvanan K, Abbas AA and Kamarul T. 2014. Platelet Rich Concentrate Promotes Early Cellular Proliferation And Multiple Lineage Differentiation Of Human Mesenchymal Stromal Cells In Vitro. Scientific World Journal. Article ID 845293, 12 pages, 2014. (SCOPUS-Indexed)

Kwong P, Nam HY, Wan Khadijah W, Kamarul T, Abdullah R. Comparison of In Vitro Developmental Competence of Cloned Caprine Embryos Using Donor Karyoplasts from Adult Bone Marrow Mesenchymal stem Cells vs Ear Fibroblast Cells. Reprod Domest Anim. 2014 Jan 23. doi:10.1111/rda.12262. (ISI-Cited Publication) (ISI-Indexed)

Ramlee MH, Abdul Kadir MR, Murali MR and Kamarul T. 2014. Biomechanical Evaluation Of Two Commonly Used External Fixators In The Treatment Of Open Subtalar Dislocation- A Finite Element Analysis. Medical Engineering & Physics. (ISI/SCOPUS Indexed Publication)

Naveen SV, Ahmad RE, Hui WJ, Suhaeb AM, Murali MR, Shanmugam R, Kamarul T. "Histology, glycosaminoglycan level and cartilage stiffness in monoiodoacetate-induced osteoarthritis: comparative analysis with anterior cruciate ligament transection in rat model and human osteoarthritis", Int J Med Sci 2014; 11(1):97-105 (ISI/SCOPUS Indexed Publication)

Gopal K, Nagarajan P, Shankar EM, Kamarul T, Kumar JM. 2014. High-fat diet- and angiotensin II-induced aneurysm concurrently elicits splenic hypertrophy. Eur J Clin Invest. doi: 10.1111/eci.12351. (ISI/SCOPUS Indexed Publication)

Moradi A, Pramanik S, Ataollahi F, Abdul Khalil A, Kamarul T, Murphy BP. A comparison study of different physical treatments on cartilage matrix derived porous scaffolds for tissue engineering applications. Sci. Technol. Adv. Mater. 15 (2014) 065001 (12pp) (ISI/SCOPUS Indexed Publication)

Tay LX, Lim CK, Mansor A, Kamarul T. Differential Protein Expression between Chondrogenic Differentiated MSCs, Undifferentiated MSCs and Adult Chondrocytes Derived from Oryctolagus cuniculus in vitro. Int J Med Sci. 2014; 11(1):24-33. (ISI-Cited Publication) (ISI-Indexed)

Choo KB, Tai L, Hymavathees KS, Wong CY, Nguyen PN, Huang CJ, Cheong SK, Kamarul T. Oxidative Stress- Induced Premature Senescence in Wharton's Jelly- Derived Mesenchymal Stem Cells. Int J Med Sci. 2014 Sep 13;11(11):1201-7. (ISI/SCOPUS Indexed Publication)

Talebian S, Mehrali M, Mohan S, Balaji raghavendran HR, Mehrali M, Khanlou HM, Kamarul T, Afifi AM and Abass AA. Chitosan (PEO)/bioactive glass hybrid nanofibers for bone tissue engineering. RSC Adv., 2014,4, 49144-49152 (ISI/SCOPUS Indexed Publication)

<p>Balaji Raghavendran HR, Puvaneswary S, Talebian S, Murali MR, Naveen SV, Krishnamurthy G, McKean R, Kamarul T. 2014. A Comparative Study on In Vitro Osteogenic Priming Potential of Electron Spun Scaffold PLLA/HA/Col, PLLA/HA, and PLLA/Col for Tissue Engineering Application. PLoS One. Aug 20;9(8):e104389. (ISI-Indexed)</p>
<p>Samsudin Ez, Kamarul T. Cell-based therapy for the treatment of focal articular cartilage lesions: A review of six years of studies in a Malaysian university medical centre. Journal of Health and Translational Medicine. 2014; 17(2): 1-11. (SCOPUS-Indexed)</p>
<p>Fallahiarezoodar A, Abdul Kadir MR, Alizadeh M, Naveen SV, Kamarul T. Geometric variable designs of cam/post mechanisms influence the kinematics of knee implants. Knee Surg Sports Traumatol Arthrosc. 2014. (ISI/SCOPUS Indexed Publication)</p>
<p>Kamarul T, Krishnamurthy G, Salih ND, Ibrahim NS, Raghavendran HRB, Suhaeb, AR and Choon DSK. Biocompatibility and Toxicity of Poly(vinyl alcohol)/N,O-Carboxymethyl Chitosan Scaffold. The Scientific World Journal. 2014, Article ID 905103, 7 pages (ISI-Indexed)</p>
<p>Rifa Aquidah Subhan, Karunanithi Puvanan, Malliga Raman Murali, Hanumantha Rao Balaji Raghavendran, Samuel Shani, Basri Johan Jeet Abdullah, Azlina Amir Abbas, Jamal Azmi Mohamed, and Tunku Kamarul. Fluoroscopy Assisted Minimally Invasive Transplantation of Allogenic Mesenchymal Stromal Cells Embedded in HyStem Reduces the Progression of Nucleus Pulposus Degeneration in the Damaged Intervertebral Disc: A Preliminary Study in Rabbits. The Scientific World Journal. Volume 2014 (2014), Article ID 818502, 11 pages. <a href="http://dx.doi.org/10.1155/2014/818502">http://dx.doi.org/10.1155/2014/818502</a> (ISI-Indexed)</p>
<p>Krishnamurthy G, Murali MR, Hamdi M, Abbas AA, Raghavendran HB, and Kamarul T. Characterization of bovine-derived porous hydroxyapatite scaffold and its potential to support osteogenic differentiation of human bone marrow derived mesenchymal stem cells. Ceramics International 2014. 40:771-777 <a href="http://dx.doi.org/10.1016/j.ceramint.2013.06.067">http://dx.doi.org/10.1016/j.ceramint.2013.06.067</a> . (ISI-Indexed)</p>
<p>Choong PF, Teh HX, Teoh HK, Ong HK, Choo KB, Sugii S, Cheong SK, Kamarul T. 2014. Heterogeneity of Osteosarcoma Cell Lines Led to Variable Responses in Reprogramming. Int J Med Sci ; 11(11):1154-1160. (ISI/SCOPUS Indexed Publication)</p>
<p>Iqbal N, Abdul Kadir MR, Mahmood NH, Mohammad Yusoff MF, Siddique JA, Salim N, Froemming GRA, Sarian MN, Balaji Raghavendran HR, Kamarul T. 2014. Microwave synthesis, characterization, bioactivity and in vitro biocompatibility of zeolite hydroxyapatite (Zeo HA) composite for bone tissue engineering applications. Ceramics International. (ISI/SCOPUS Indexed Publication)</p>
<p>Ramlee MH, Abdul Kadir MR, Murali MR and Kamarul T. 2014. Finite Element Analysis Of Three Commonly Used External Fixation Devices For Treating Type III Pilon Fractures. Medical Engineering &amp; Physics. (ISI/SCOPUS Indexed Publication)</p>
<p>Huang CJ, Nguyen PN, Choo KB, Sugii S, Wee K, Cheong SK and Kamarul T. Frequent Co-Expression of miRNA-5p and -3p Species and Cross-Targeting in Induced Pluripotent Stem Cells. Int J Med Sci. 2014 Jun 5;11(8):824-33. (SCOPUS-Indexed)</p>
<p>Uddin SM, Hossain MG, Islam MA, Islam MN, Saw A and Kamarul T. High-Risk Behavior of HIV/AIDS among Females Sex Workers in Bangladesh: Survey in Rajshahi City. 2014 Jpn. J. Infect. Dis., 67, 191-196 (ISI-Indexed)</p>
<p>Rosli R, Abdul Kadir MR and Kamarul T. 2014. Stability of Cervical Spine After One-Level Corpectomy Using Different Numbers of Screws and Plate Systems. J Engineering in Medicine 228(4)342-349 (ISI-Indexed)</p>
<p>Gopal K, Amirhamed HA and Kamarul T. Advances of Human Bone Marrow-Derived Mesenchymal Stem Cells in the Treatment of Cartilage Defects: A Systematic Review. Experimental Biology and Medicine. 2014;0:1-7 (ISI-Indexed)</p>
<p>Moradi A, Pramanik S, Ataollahi F, Kamarul T, Pingguan-Murphy B. 2014. Archimedes revisited: computer assisted micro-volumetric modification of the liquid displacement method for porosity measurement of highly porous light materials. Analytical Methods 6:4396-4401 (ISI/SCOPUS Indexed Publication)</p>
<p>Subhan RA, Puvanan K, Murali MR, Raghavendran HRB, Shani S, Abdullah BJ, Abbas AA, Mohamed JA, Kamarul T. 2014. Fluoroscopy Assisted Minimally Invasive Transplantation of Allogenic Mesenchymal Stromal Cells Embedded in HyStem Reduces the Progression of Nucleus Pulposus Degeneration in the Damaged Intervertebral Disc: A Preliminary Study in Rabbits. The Scientific World Journal. (ISI-Indexed)</p>
<p>Mas-Ayu H, Izman S, Abdul Kadir MR, Daud R, Shah A, Mohd Yusoff MF, Shamsiah MW, Yong TM, Kamarul T. 2014. Influence of Carbon Concentrations in Reducing Co and Cr Ions Release in Cobalt Based Implant: A Preliminary Report. Advanced Materials Research. 845: 462-466. (SCOPUS Cited Publication) (SCOPUS-Indexed)</p>
<p>Iqbal N, Abdul Kadir MR, Mahmood NH, Salim N, Froemming GRA, Balaji HB, Kamarul T. 2014. Characterization, antibacterial and in vitro compatibility of zinc silver doped hydroxyl apatite nanoparticles prepared through microwave synthesis. Ceramics International. 40:4507-4513. (ISI-Indexed)</p>
<p>Farnaz Naghizadeh, Naznin Sultana, Mohammed Rafiq Abd Kadir, Tengku Muzaffar Tengku Md Shihabudin, Rafaqat Hussain and Tunku Kamarul. The Fabrication and Characterization of PCL/Rice Husk Derived Bioactive Glass-Ceramic Composite Scaffolds. Journal of Nanomaterials, vol. 2014, Article ID 253185, 9 pages, 2014. (ISI-Cited Publication) (ISI-Indexed)</p>
<p>Tay LX, Lim CK, Mansor A, Kamarul T. Differential Protein Expression between Chondrogenic Differentiated MSCs, Undifferentiated MSCs and Adult Chondrocytes Derived from Oryctolagus cuniculus in vitro. Int J Med Sci. 2014; 11(1):24-33. (ISI-Indexed)</p>

**2013**

- Havva Dashtdar, Malliga Raman Murali, Azlina Amir Abbas, Abdulrazzaq Mahmod Suhaeb, Lakshmi Selvaratnam, Liang Xin Tay, Tunku Kamarul. PVA-chitosan composite hydrogel versus alginate beads as a potential mesenchymal stem cell carrier for the treatment of focal cartilage defects. *Knee Surgery, Sports Traumatology, Arthroscopy*, 2013. *(ISI-Indexed)*
- A Fallahiazoodar, MRA Kadir, M Alizadeh, M Heidari, J Kashani, MR Murali, SR Kanthan, MNB Harun T Kamarul. "Effects of femoral cam design variables on degree of flexion of posterior stabilized knee arthroplasty", *Advanced Science Letters*. 2013; 19(11):3223-3226 *(ISI/SCOPUS Indexed Publication)*
- R. Zyroul, M.G. Hossain, M. Azura, A.A. Abbas, T. Kamarul. Knee laxity of Malaysian adults: Gender differentials, and association with age and anthropometric measures. *The Knee* 2014.21(2):557-562 *(ISI-Indexed)*
- Bajuri MN, Abdul Kadir MR, Murali MR, Kamarul T. 2012. Biomechanical analysis of the wrist arthroplasty in rheumatoid arthritis: a finite element analysis. *Medical & Biological Engineering & Computing*. 2013 Feb;51(1-2):175- 86. *(ISI-Indexed)*
- Rothan HA, Suhaeb AM, Kamarul T. Recombinant Human Adiponectin as a Potential Protein for Treating Diabetic Tendinopathy Promotes Tenocyte Progenitor Cells Proliferation and Tenogenic Differentiation In Vitro. *Int J Med Sci* 2013; 10(13):1899-1906. doi:10.7150/ijms.6774. *(ISI-Indexed)*
- Ab-Rahim S, Selvaratnam L, Raghavendran HR, Kamarul T. Chondrocyte-alginate constructs with or without TGF- $\beta$ 1 produces superior extracellular matrix expression than monolayer cultures. *Molecular and Cellular Biochemistry* 2013 April;376(1-2):11-20
- K. Norazian , N. Sangeetha , R. E. Ahmad and T. Kamarul. Chondrocyte density, proteoglycan content and gene expressions from native cartilage are species specific and not dependent on cartilage thickness: A comparative analysis between rat, rabbit and goat. *(ISI-Indexed)*
- Hui Yin N, Wagner CPL, Naveen SV, Chen HC, Hussin P, Chan L and Kamarul T. 2013. The effects of staged intra-articular injection of cultured autologous mesenchymal stromal cells on the repair of damaged cartilage: a pilot study in caprine model. *Arthritis Research & Therapy*. *(ISI-Indexed)*
- Zeimarana E, Abdul Kadir MR, Nora HM, Kamarul T, Djordjevic I. Synthesis and characterization of polyacids from palm acid oil and sunflower oil via addition reaction. *Bioorganic & Medicinal Chemistry Letters*. ISI- Cited Publication. *(ISI-Indexed)*
- Wee AS, Lim CK, Merican AM, Ahmad TS and Kamarul T.2013. Total cell pooling in vitro: An effective isolation method for bone marrow-derived multipotent stromal cells. *Journal In Vitro Cellular & Developmental Biology - Animal*.49:424-432 *(ISI-Indexed)*
- Heidari M, Kadir MRA, Kashani J, Fallahiazoodar A, Alizadeh M, Robson N, Kamarul T, Harun MN. Influences of rheumatoid arthritis on elbow: A finite element analysis. *Advanced Science Letters*. 2013; 19(11): 3219- 3222 *(SCOPUS-Indexed)*
- Zyroul R, Hossain MG, Azura M, Abbas AA, Kamarul T. Knee laxity of Malaysian adults: Gender differentials, and association with age and anthropometric measures. *Knee*. 2013 Mar 5. doi:pii: S0968- 0160(12)00261-X. 10.1016/j.knee.2012.12.013. [Epub ahead of print] *(ISI-Indexed)*
- MD. GOLAM HOSSAIN, AISZE WEE, MAEIRAH ASHAIE and T. KAMARUL (2013), ADULT ANTHROPOMETRIC MEASURES AND SOCIODEMOGRAPHIC FACTORS INFLUENCING AGE AT MENARCHE OF UNIVERSITY STUDENTS IN MALAYSIA. *Journal of Biosocial Science*. March 2013, pp 1-13. *(ISI-Indexed)*
- Alizadeh M, Kadir MR, Fadhli MM, Fallahiazoodar A, Azmi B, Murali MR, Kamarul T. The Use of X-Shaped Cross-Link in Posterior Spinal Constructs Improves Stability in Thoracolumbar Burst Fracture: A Finite Element Analysis. *J Orthop Res*. 2013 May 2. doi: 10.1002/jor.22376. [Epub ahead of print] *(ISI-Indexed)*
- Lee SY, Wee AS, Lim CK, Abbas AA, Selvaratnam L, Merican AM, Ahmad TS, Kamarul T. 2013. Supermacroporous poly(vinyl alcohol)-carboxymethyl chitosan- poly(ethylene glycol) scaffold: an in vitro and in vivo pre-assessments for cartilage tissue engineering. *Journal of Materials Science Materials in Medicine*;24:1561-1570 *(ISI-Indexed)*
- Puvanewary S, Rao Balaji Raghavendran H, Ibrahim NS, Murali MR, Merican AM, Kamarul T. 2013. A Comparative Study on Morphochemical Properties and Osteogenic Cell Differentiation within Bone Graft and Coral Graft Culture Systems. *International Journal of Medical Sciences*. 10(11):1608-1614 *(ISI-Cited Publication) (ISI/SCOPUS Indexed Publication)*
- Lee SY, Kamarul T. NO, carboxymethyl chitosan enhanced scaffold porosity and biocompatibility under e-beam irradiation at 50kGy. *Int J Biol Macromol*. 2013 Dec 8;64C:115-122. *(ISI-Indexed)*
- Hossain MG, Saw A, Alam R, Ohtsuki F, Kamarul T. Multiple regression analysis of anthropometric measurements influencing the cephalic index of male Japanese university students. *Singapore Med J*. 2013 Sep; 54(9):516-520. *(ISI-Indexed)*
- Kamarul T. Advances in stem cells technologies and their commercialization potential. *Expert Rev Clin Pharmacol*. 2013 Jul;6(4):363-5. Scopus cited

publication. (*SCOPUS-Indexed*)

Aizat RM, Abdul Kadir MR, Rahman SA, Shihabudin, Robson N, Kamarul T. Biomechanical Comparative Analyses between the Anterolateral and Medial Distal Tibia Locking Plates in Treating Complex Distal Tibia Fracture: A Finite Element Study. *Journal of Medical Imaging and Health Informatics*. Scopus cited publication. (*SCOPUS-Indexed*)

Hussain F, Abdul Kadir MR, Zulkifly AH, Sa'at A, Aziz AA, Hossain G, Kamarul T, Syahrom A. Anthropometric Measurements of the Human Distal Femur: A study of the Adult Malay Population. *Biomed Research International*. ISI-Cited Publication. (*ISI-Indexed*)

Lee HC, Wong CY, Nguyen Phan NN, Cheong SK, Choo KB, Kamarul T. 2013. Establishment and characterization of replicate senescence study models of human mesenchymal stem cells. *Cytotherapy*. 15(4):S15. (*ISI-Indexed*)

Ibrahim NS, Krishnamurthy G, Raghavendran HRB, Puvaneswary S, Ng WM, Kamarul T. Novel HA-PVA/NOCC bilayered scaffold for osteochondral tissue-engineering applications- Fabrication, characterization, in vitro and in vivo biocompatibility study. *Materials Letters*. 2013; 113:25-29. ISI-Cited Publication. (*ISI-Indexed*)

Iqbal N, Abdul Kadir MR, Nik Malekb NAN, Mahmood NHB, Murali MN and Kamarul T. Characterization and Antibacterial Properties of Stable Silver Substituted Hydroxyapatite Nanoparticles Synthesized through Surfactant assisted Microwave Process. *Materials Research Bulletin*. 2013; 48(9):3172-3177. (*ISI-Indexed*)

Sik-Loo Tan, Tunku Sara Ahmad, Lakshmi Selvaratnam, Tunku Kamarul 2013. Isolation, Characterization and the Multi- lineage Differentiation Potential of Rabbit Bone-Marrow Derived Mesenchymal Stem Cells. *Journal of Anatomy*, 222(4): 437-450. (*ISI-Indexed*)

Dashtdar H, Murali MR, Abbas AA, Suhaeb AM, Selvaratnam L, Tay LX, Kamarul T. PVA-chitosan composite hydrogel versus alginate beads as a potential mesenchymal stem cell carrier for the treatment of focal cartilage defects. *Knee Surg Sports Traumatol Arthrosc*. 2013 Oct 22. (*ISI-Indexed*)

## 2012

Raja Mohd Aizat Raja Izaham, Mohammed Rafiq Abdul Kadir, Abdul Halim Abdul Rashid, Md. Golam Hossain, T. Kamarul. Finite element analysis of Puddu and Tomofix plate fixation for open wedge high tibial osteotomy. *Injury*. 2011. doi:10.1016/j.injury.2011.12.006 (*ISI-Indexed*)

Differential Strain Patterns in the Achilles Tendon may be the Cause for Achilles Tendinopathy Observed in the Critical Zone: An In Vitro Study. DD Lee, Razif b Mohamed Ali, T Kamarul.2012. p103 (*ISI/SCOPUS Indexed Publication*)

Tan SL, Ahmad RE, Ahmad TS, Merican AM, Abbas AA, Ng WM, Kamarul T. Effect of Growth Differentiation Factor 5 on the Proliferation and Tenogenic Differentiation Potential of Human Mesenchymal Stem Cells in vitro. *Cells Tissues Organs*. 2012;196(4):325-38. (*ISI-Indexed*)

Tay LX, Ahmad RE, Dashtdar H, Tay KW, Masjuddin T, Ab- Rahim S, Chong PP, Selvaratnam L, Kamarul T. Treatment Outcomes of Alginate-Embedded Allogenic Mesenchymal Stem Cells Versus Autologous Chondrocytes for the Repair of Focal Articular Cartilage Defects in a Rabbit Model. *Am J Sports Med*. 2012; 40(1):83 (*ISI-Indexed*)

Iqbal N, Kadir MRA, Malek NANN, Mahmood NH, Murali MR and Kamarul T. Rapid Microwave Assisted Synthesis and Characterization of Nanosized Silver-Doped Hydroxyapatite with Antibacterial Properties. *Materials Letters* 2012; 89:118-122 (*ISI-Indexed*)

Suhaeb AM, Naveen S, Mansor A, Kamarul T. Hyaluronic acid with or without bone marrow derived mesenchymal stem cells improves arthritic knee changes in rat models: A preliminary study. *Indian Journal of Experimental Biology*. 2012;50:383-390. (*ISI-Indexed*)

Latifi H, Rukmanikathan S, Mansor A, Kamarul T, Bilgen M. Prospects of implant with locking plate in fixation of subtrochanteric fracture: experimental demonstration of its potential benefits on synthetic femur model with supportive hierarchical nonlinear hyperelastic finite element analysis. *Biomed Eng Online*. 2012 Apr 30;11(1):23. [Epub ahead of print]. (*ISI-Indexed*)

M G Hossain, P Bharati, Saw Aik, Pete E Lestrel, Almasri Abeer & T Kamarul, 2012. Body mass index of married Bangladesh women: trends and association with socio- demographic factors. *Journal of Biosocial Science* : 1-15 (*ISI-Indexed*)

Bajuri MN, Kadir MR, Raman MM, Kamarul T. Mechanical and functional assessment of the wrist affected by rheumatoid arthritis: A finite element analysis. *Med Eng Phys*. 2012 Nov;34(9):1294-302. ISI-Cited Publication. (*ISI-Indexed*)

## 2011

Kanthan SR, Kavitha K, Addi S, Choon DSK, T. Kamarul. "Platelet-rich plasma (PRP) enhances bone healing in non-united critical-sized defects: A preliminary study involving rabbit models", *Int J Care Injured*. 2011; 42(8):782-789 (*ISI-Indexed*)

- Pan-Pan Chong, Lakshmi Selvaratnam, Azlina A. Abbas and Tunku Kamarul. Human peripheral blood derived mesenchymal stem cells demonstrate similar characteristics and chondrogenic differentiation potential to bone marrow derived mesenchymal stem cells. *Journal of Orthopedic Research JOR-11-0124.R2 (ISI-Indexed)*
- G. Krishnamurthy, P. N. Shilpa, R. E. Ahmad, Sofiah Sulaiman, C. L. L. Ng, T. Kamarul. Human amniotic membrane as a chondrocyte carrier vehicle/substrate: In vitro study. *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH A*. 2011, Dec, 99(3):500-6 (*ISI-Indexed*)
- Havva Dashtdar, Hussin A. Rothan, Terence Tay, Razif Ali, Liang Xin Tay, Raja Elina Ahmad, Pan Pan Chong, Tunku Kamarul. A Preliminary Study Comparing the Use of Allogenic Chondrogenic Pre-Differentiated and Undifferentiated Mesenchymal Stem Cells for the Repair of Full Thickness Articular Cartilage Defects in Rabbits. *Journal of Orthopaedic Research*. 2011. 29:1336 1342 (DOI 10.1002/jor.21413) (*ISI-Indexed*)
- Hussin MG, Zyroule R., Periera B., Kamarul T. Multi- regression analysis on factors influencing dominant hand grip strength in an adult Malaysian population *Journal of Hand Surgery: European Volume* 2012;37(1):65-70 (*ISI-Indexed*)
- Sangeetha N, Noorzurani Robson, T. Kamarul. Comparative analysis of autologous chondrocyte implantation (ACI) and other treatment modalities: A systematic review. *European Journal of Orthopaedic Surgery & Traumatology*(e-pub ahead March 2011) DOI 10.1007/s00590-011- 0798-6 (*ISI-Indexed*)
- Kamarul T, Ab Rahim S, Tumin M, Selvaratnam L, Ahmad TS. A Preliminary Study of The Effects of Glucosamine Sulphate and Chondroitin Sulphate on Surgically Treated and Untreated Focal Cartilage Damage. *The European Cells and Material*.2011; 21: 259-271. (*ISI-Indexed*)
- B. Lily, S.Lakshmi, Cheh Chin Tai, T. Sara Ahmad, Kamarul T, Expansion and preservation of multipotentiality of rabbit bone- marrow derived mesenchymal stem cells in dextran-based microcarrier spin culture, *J Mater Sci: Mater Med*. 2011. May;22(5):1343- 56 (*ISI-Indexed*)
- Nam HY, Pinguang Murphy B, Abbas AA, Merican AM and Kamarul T. Dynamic Behaviour of Human Marrow Derived- Mesenchymal Stem Cells on Uniaxial Cyclical Stretched Substrate-A Preliminary Study.2011;35:815-818 (*ISI-Indexed*)
- Hossain MG, Saw A, Ohtsuki F, Lestrel PE, Kamarul T. Change in facial shape in two cohorts of Japanese adult female students twenty one years apart. *Singapore Medical Journal*. 2011; 52(11)818-823 (*ISI-Indexed*)
- S.R. Kanthan, Hadi A, Fong CK, T. Kamarul. A biomechanical study comparing plate fixation using unicortical and bicortical screws in transverse metacarpal fracture models subjected to cyclic loading. *Journal of Hand Surgery (Eur. Edition)*. JHSE-D-10-00505R1. (Provisionally accepted) (*ISI-Indexed*)
- Hossain MG, Sabiruzzaman M, Islam S, Hisyam RZ, Lestrel PE and Kamarul T. Influence of anthropometric measures and sociodemographic factors on menstrual pain and irregular menstrual cycles among university students in Bangladesh. *Journal of Anthropological Science* 2011;119(3)239-246 (*ISI-Indexed*)
- Pan-Pan Chong, Lakshmi Selvaratnam, Azlina A. Abbas, Tunku Kamarul. Human Peripheral Blood Derived Mesenchymal Stem Cells Demonstrate Similar Characteristics and Chondrogenic Differentiation Potential to Bone Marrow Derived Mesenchymal Stem Cells. *Journal of Orthopaedic Research* 2011; 30(4):634-642 (*ISI-Indexed*)
- Synthesis of PVA-NOCC-PEG Composite Scaffold and Cell Cultivation for Articular Cartilage Regeneration (*ISI/SCOPUS Indexed Publication*)
- Lilly Boo, Lakshmi Selvaratnam, Cheh Chin Tai, Tunku Sara Ahmad, Tunku Kamarul. Expansion and preservation of multipotentiality of rabbit bone-marrow derived mesenchymal stem cells in dextran-based microcarrier spin culture. *J Mater Sci: Mater Med*. April 2011. Published online. (*ISI-Cited Publication*) (*ISI-Indexed*)

## 2010

- Pan-Pan Chong, Azlina A. Abbas, T. Kamarul. Analysis of TGF- $\beta$ 3 and BFGF Induced Chondrogenic Differentiation In Human Bone Marrow- Derived Mesenchymal Stem Cells. *European Cells and Materials* Vol. 20. Suppl. 2, 2010 (page 36) ISSN 1473-2262 (*ISI-Indexed*)
- S.R. Kanthan, K. Ganesan, Azura. M, T. Kamarul. THE DIFFERENT PREPARATIONS OF HUMAN AMNIOTIC MEMBRANE (HAM) AS A POTENTIAL CELL CARRIER FOR CHONDROCYTES. *European Cells and Materials* Vol. 20. Suppl. 2, 2010 (page 46) ISSN 1473-2262. (*ISI-Indexed*)
- Rahim, SA; Selvaratnam, L; Kamarul, T. Proteome of chondrocyte-alginate constructs and monolayer cultures in relation to extracellular matrix modulation. *FEBS JOURNAL*. Conference Information: 35th Congress of the Federation-of-European-Biochemical-Societies. JUN 26-JUL 01, 2010 Gothenburg SWEDEN. 2010; 277:200 (*ISI-Indexed*)
- Golam Md. H., Saima Islam, Saw Aik, T.K. Zaman. P. E. Lestrel. Age at menarche of university student in Bangladesh: secular trends and association with adult anthropometric measures and socio-demographic factors. *J Biosoc Sci*. 2010 Sep;42(5):677-87. Epub 2010 Jun 9. (*ISI-Indexed*)
- Raja A., R.K., Yap, A.-P., Lin, P.-Q., Kamarul, T. Linear and nonlinear modeling of adult Malaysian population's hand grip strength. *AMS2010: Asia*

Modelling Symposium 2010 - 4th International Conference on Mathematical Modelling and Computer Simulation. IEEE T COMPUT. 2010; 5489210: 258-260 (SCOPUS-Indexed)

T. Kamarul, Terence Tay, H. Dashtar, Tay L.X., Pan-Pan Chong, R. Ali, Azlina A. Abbas. The use of chondrogenic differentiated mesenchymal stem cells in treating focal cartilage damage: preliminary study in animal model. European Cells and Materials 2010; 20(2): 45 (ISI-Indexed)

## 2009

T Kamarul, P Chong, L Selvaratnam, CC Tai, AA Abbas. Quantitative real-time PCR analysis for chondrogenic differentiation of human mesenchymal stem cell in alginate scaffolds. European Cells and Materials. 2009; 18(Suppl.1): 44 (ISI-Indexed)

T Kamarul, SL Tan, L Selvaratnam, CC Tai. The effect of growth and differentiation factor 5 in tenogenic differentiation. European Cells and Materials. 2009; 18(Suppl.1): 47 (ISI-Indexed)

T Kamarul, AS Wee, SY Lee, L Selvaratnam, AA Abbas. A comparative study using negative selection and standard methods for adult mesenchymal stem cells isolation. European Cells and Materials. 2009; 18(Suppl.1): 46 (ISI-Indexed)

T Kamarul, L Boo, L Selvaratnam, CC Tai. Three-dimensional culture of rabbit bone marrow mesenchymal stem cells using microcarrier beads in spin culture. European Cells and Materials. 2009; 18(Suppl.1): 45 (ISI-Indexed)

L Boo, S Sofiah, L Selvaratnam, CC Tai, PM Belinda, T Kamarul. 2009. A Preliminary Study of Human Amniotic Membrane as a Potential Chondrocyte Carrier. Malaysian Orthopaedic Journal. Vol:3, No:2. (Non-ISI/Non-SCOPUS)

Unconfined compression properties of a porous poly(vinyl alcohol)-chitosan-based hydrogel after hydration. Lee SY, Pereira BP, Yusof N, Selvaratnam L, Yu Z, Abbas AA, Kamarul T. Acta Biomater. 2009;5(6):1919-1925 (ISI-Indexed)

Sik-Loo Tan, Sofiah Sulaiman, Belinda Pinguang-Murphy, L. Selvaratnam, Cheh-Chin Tai & T. Kamarul. 2009. Human amnion as a novel cell delivery vehicle for chondrogenic mesenchymal stem cells. Cell and Tissue Banking. [Epub ahead of print 1389-9333] (ISI/SCOPUS Cited Publication) (ISI/SCOPUS Indexed Publication)

T. Kamarul, AS. Wee, SY. Lee, L. Selvaratnam, AA. Abbas 2009. A Comparative Study using Negative Selection and Standard Methods for Adult Mesenchymal Stem Cells Isolation. European Cells and Materials 18(1):46 (ISI-Indexed)

## 2008

AA Abbas, JA Mohamad, AL Lydia, J George, L Selvaratnam, A Razif, WM Ng, JHP Hui, S Ab-Rahim, T Kamarul. Early Experience in Autologous Chondrocyte Transplantation: A Report of 2 Cases. J ASEAN Orthopaedic Association 2008 June; 19(1):13-21 (Non-ISI/Non-SCOPUS)

Sharaniza Ab-Rahim, L. Selvaratnam and T. Kamarul (2008). The Effect of TGF- $\beta$ 1 and  $\beta$ -Estradiol on glycosaminoglycan and Type II Collagen Distribution in Articular Chondrocyte Cultures. Cell Biology International, 32:842-847 (ISI-Indexed)

T Kamarul. The Malaysian Delegation to the 57th Meeting of Nobel Laureates in Lindau, Germany. University of Malaya Medical Centre Research Bulletin 2008; 1-4 (ISSN: 1823-40621). (Non-ISI/Non-SCOPUS Cited Publication) (Non-ISI/Non-SCOPUS)

Teo soo chin, John george, T. Kamarul. Tubercular synovitis mimicking rheumatoid nodule. Med J Malaysia. June 2008: 63(2): 159-61 (SCOPUS-Indexed)

Sharaniza Ab-Rahim, L. Selvaratnam, I. Othman, T. Kamarul (2008). The Role of TGF- $\beta$ 1 on Chondrocyte Focal Adhesion and Regulation of Extracellular Matrix Synthesis The FEBS Journal, 275(Suppl. 1):439 (ISI-Indexed)

AA. Abbas, SY Lee, L. Selvaratnam, N. Yusof, T. Kamarul 2008. Porous PVA-Chitosan Based Hydrogel as an Extracellular Matrix Scaffold for Cartilage Regeneration. European Cells and Materials 16(2): 50 (ISI-Indexed)

Azura Mansor, Pan-Pan Chong, L. Selvaratnam, Veera Sekaran Nadarajah, T. Sara and T. Kamarul. (2008). Chondrogenesis of bone marrow and peripheral blood derived adult human mesenchymal stem cells. European Cell and Materials Vol. 16. Suppl. 2: 64 (ISI/SCOPUS Indexed Publication)

T. Kamarul, L. Selvaratnam, T. Masjudin, S. Ab-Rahim, C. Ng, KY Chan, TS Ahmad (2008). Autologous Chondrocyte Transplantation in the Repair of Full-thickness Focal Cartilage Damage in Rabbits. Journal of Orthopaedic Surgery, 16(2):84-87 (ISI/SCOPUS Indexed Publication)

T. Kamarul, Masjudin T., S. Ab-Rahim, Razif A., L. Selvaratnam (2008). The Effects of Oral Glucosamine Sulphate and Chondroitin Sulphate on Focal (traumatic) Cartilage Damage. European Cells and Materials Journal, 16(Suppl.2):61 (ISI/SCOPUS Indexed Publication)



Pan-Pan Chong, T. Kamarul, Khairussulhi Jalil, Noor Azera Bakar and Ng LL. Processing and bioburden analysis of human amniotic membrane for biological and tissue engineering application. The Journal of the Asean Orthopaedic Association, 19(1):28-34 (*Non-ISI/Non-SCOPUS*)

T. Kamarul, M.M.Roebuck, R.L.Williams, S.P.Frostick. TENOCYTE ALIGNMENT IS DEPENDANT UPON CELL DENSITY AND TENSIONAL LOADING. European Cell and Materials Vol. 16. Suppl. 2: 62 (*ISI/SCOPUS Indexed Publication*)

### 2007

T.Kamarul, A. Razif, R. Elina, M. Azura, Chan KY. Normal Anterior Cruciate Ligament Laxity in the Malaysian Population. Malaysian Orthopaedic Journal 2007, Vol 1 (2):11-16. (*SCOPUS-Indexed*)

Masjudin T, Chong PP, Kamarul T, Selvaratnam L, Ab Rahim S, Ahmad TS. Repair of rabbit focal articular cartilage defects with autologous chondrocytes embedded in alginate. IFMBE Proceedings 2006;15:700-703

S Ab Rahim, T Kamarul, AA Abbas, L Selvaratnam. Effect of TGF-B and B-Estradiol on Extracellular Matrix Secretion in Articular Chondrocyte Culture. International Federation for Medical and Biological Engineering. IFMBE proceedings. 2006; 15: 684-687 (ISSN 1680-0737), published in 2007

Chuah UC, T Kamarul, TSara Ahmad. Free radial forearm flap after partial glossectomy for squamous cell carcinoma of the tongue. Journal of University of Malaya Medical Centre (JUMMEC), 2006; 9 (2): 28-31 (*SCOPUS-Indexed*)

### 2006

The accuracy of the Jamar@ against a novel method of predicting hand grip strength in the adult Malaysian population. T.Kamarul, T. Sara Ahmad, William YC Loh. Malaysian Journal Of Medicine (Orthopaedic Supplement), 2006;14(4): 44-47 (*SCOPUS-Indexed*)

T Kamarul, T Sara Ahmad, William Y C Loh "A Novel and Improved method of predicting hand grip strength in the adult Malaysian population", 2006, Med J Malaysia, Vol. 61, Supp B, Dec 2006 pg. 37 - 44 (*SCOPUS-Indexed*)

Ahmad Hafiz, Selvanathan, S. Anandan, T. Kamarul. Recognition of Human Grip Strength Patterns Using Neuro Fuzzy Technique. Proceedings of the Third International Conference on Artificial Intelligence in Engineering & Technology. 2006; 214-218. (Non-ISI/Non- SCOPUS Cited Publication) (*Non-ISI/Non-SCOPUS*)

T.Kamarul, William Y.C.Loh, T.Sara Ahmad. Normal hand grip strength in the Malaysian population. Journal of Orthopaedic Surgery, 2006; 14(2): 172-71 (*ISI/SCOPUS Indexed Publication*)

Case Report: A Modified Blatt Dorsal Capsulodesis in the Treatment of Dynamic Scapholunate Instability. Lynn Azura, T.Kamarul, T. Sara Ahmad. Malaysian Journal Of Medicine (Orthopaedic Supplement), 2006; 14(4): 51-54 (*ISI/SCOPUS Indexed Publication*)

### 2005

T. Kamarul, Masjudin T., S. Abd Rahim, Ng L.L., Chan KY, Deepak AS, R. Penafort, L. Selvaratnam. Early experience in Chondrocyte culture for autologous transplantation in University Malaya Medical Centre. The Journal of the Asean Orthopaedics Association Vol 17, No.1, 21-25 July 2005. ISSN: 0219-2748 (*Non-ISI/Non-SCOPUS*)

T Kamarul, T Sara. Normal hand grip strength in the adult Malaysian population. Journal of Orthopaedic Surgery Vol 17, No 1 July 2005 (*ISI/SCOPUS Indexed Publication*)

L. Selvaratnam, S.Ab. Rahim, T. Kamarul, K.Y. Chan, C.L.L. Ng, S. Sureshan\*\* and R. Penafort\*\*. Colonies in engineered articular cartilage express superior differentiation. Malaysian Medical Journal Orthopaedic Supplement. Vol 60: C: 49-52, July 2005 (*SCOPUS-Indexed*)

T. Kamarul, W. Loh. Traumatic hip dislocation in pregnancy: A case report. M Med J. 2005; 60(c); 114-6 (*SCOPUS-Indexed*)


Tunku Kamarul Zaman. The Orthopaedic Research Group (ORG): The solution to increase research output. UMMC research bulletin. Vol. 1: 4; 2005. ISSN 1823-4062 (*Non-ISI/Non-SCOPUS*)

Azura M, Razif A, Chan K.Y., Mukundala V.V, MK Kwan, T. Kamarul. Outcome of different autogenous ACL reconstruction in University of Malaya Medical Centre. The Journal of the Asean Orthopaedics Association Vol 17, No.1, 49-53 July 2005. ISSN: 0219-2748 (*Non-ISI/Non-SCOPUS*)

Haris Ali, T. Kamarul, Ng LL, R. Penafort. Procurement of cadaveric bone allografts: How long will it remain infection free? The Journal of the Asean Orthopaedics Association Vol 17, No.1, 45-48, July 2005. ISSN: 0219- 2748 (Non-ISI/Non-SCOPUS)

## Review

### 2014

Patntirapong S, Singhatanadgit W, Meesap P, Theerathanagorn T, Toso M, Janvikul W. 2014. Stem cell adhesion and proliferation on hydrolyzed poly(butylene succinate)/ $\beta$ -tricalcium phosphate composites. Journal of Biomedical Materials Research (ISI/SCOPUS Indexed Publication)  (public\_view.php?type=publication&row=MzM3OTg%3D)

## Proceeding

### 2013

Sharaniza Ab-Rahim, Lakshmi Selvaratnam, Hanumantha Rao Balaji Raghavendran & Tunku Kamarul, 2013. Chondrocyte- alginate constructs with or without TGF- $\beta$ 1 produces superior extracellular matrix expression than monolayer cultures, Molecular and Cellular Biochemistry. pg 11-20

### 2011

Tan, S-L; 1Merican, AM; 1Abas, AA; 1Ng, W-M; Chan, 1C-C; 1Zyroul, R; Selvaratnam, L; 1Tai, C-C; R.E Ahmad, Sara, T; 1Kamarul, T, Optimizing Tenogenic Differentiation of Human Mesenchymal Stem Cells using Growth & Differentiation Factor-5, Poster No. 1759, ORS 2011 Annual Meeting (Non-ISI/Non-SCOPUS)

Chong, P P; Selvaratnam, L; Ahmad, R E; Abbas, A A; Kamarul, T, Characterization of Human Blood-Derived Mesenchymal Stem Cells and Their Potential for Chondrogenic Differentiation, Paper No. 281  $\zeta$  ORS 2011 Annual Meeting. (Non-ISI/Non-SCOPUS)

Hossain, MG; Syima, NN; Kanthan, SR; Tai, CC; R E Ahmad; Kamarul, T, Determining the Predictive Factors for Non-Union and Osteomyelitis in Open Tibia Fractures, Poster No. 1437, ORS 2011 Annual Meeting. (Non-ISI/Non-SCOPUS)

Tay, L X; Dashtdar, H; Chong, P P; Ab-Rahim, S; Hossain, G; Terence Tay, K W; Masjuddin, T; Selvaratnam, L; R E Ahmad; Kamarul, T, Comparing Treatment of Focal Articular Cartilage Defect using Mesenchymal Stem Cell to Autologous Chondrocytes, Poster No. 2073, ORS 2011 Annual Meeting. (Non-ISI/Non-SCOPUS)

### 2010

Chong, P P, Selvaratnam, L, Nadarajah, V S, Tai, C C, Abbas, A A, Kamarul, T. Regulatory Gene Expression in the Chondrogenesis of Adult Mesenchymal Stem Cells. 56th Annual Meeting of the Orthopaedic Research Society, March 6-9, 2010. (Proceedings). Pg. 95

Sik Loo Tan, Lakshmi Selvaratnam, Cheh Tai, Tunku Zaman. Tenogenic expression of Differentiated Mesenchymal Stem Cells is Dependant on growth and differentiation factor-5. 56th Annual Meeting of the Orthopaedic Research Society, March 6-9, 2010. (Proceedings). Pg. 109

T. Kamarul, M.M. Roebuck, R.L. Williams, S.P. Frostick. The effects of cyclical loading on tendon fibroblast metabolism in vitro. 56th Annual Meeting of the Orthopaedic Research Society, March 6-9, 2010. (Proceedings). Pg. 100

### 2007

The use of alginate construct in autologous chondrocyte transplantation in focal cartilage damage repair. T. Masjudin, P.P. Chong, T. Kamarul, L. Selvaratnam, S. Ab-Rahim and T. Sara IFMBE proceedings. 2006 ;15: 738-741 (ISSN 1680-0737) International Conference on Biomedical Engineering 2006 (SCOPUS-Indexed)

The effect of TGF $\beta$ , Estrogen and the combination on chondrocyte expression International Federation for Medical and Biological Engineering. IFMBE proceedings. 2006; 8: 721-4 (ISSN 1680-0737) International Conference on Biomedical Engineering 2006 (SCOPUS-Indexed)

**2006**

Recognition of Human Grip Strength Patterns Using Neuro Fuzzy Technique Ahmad Hafiz, Selvanathan, S. Anandan, T. Kamarul. Proceedings of the Third International Conference on Artificial Intelligence in Engineering & Technology. 2006; 214-218. (*Non-ISI/Non-SCOPUS*)

**2004**

IN vitro chondrocyte Morphology is dependant on colony formation IFMBE proceedings.2004; 7: 363-366 (ISSN 1680-0737) International Conference on Biomedical Engineering 2004. (*SCOPUS-Indexed*)

**Mass Media(Newspaper,Radio,Tv,Popular Magazine)****2011**

Assoc. Prof. Tunku Kamarul Zaman.Tissue Engineering:new-Age Technology.2011. Insight@mastic Magazine. Volume 11&12. Bumper Issue. Page 10-11. Ministry of Science,Technology and Innovation Malaysia.

**Other Media(Tape,Video,Internet)****2009**

Novel Scaffolding for Tissue Engineered Cartilage

**2008**

Development of Autologous Chondrocyte Transplantation in UMMC

Stem cells and autologous cell therapy for the treatment of rotator cuff tears

**2007**

Mesenchymal stem cell (MSCs) for lineage commitment of MSCs to chondrocytes for repair of focal cartilage damage

**Others****2008**

The Malaysian Delegation to the 57th Meeting of Nobel Laureates in Lindau, Germany University of Malaya Medical Centre Research Bulletin 2008; 1-4 (ISSN: 1823-40621). (*Non-ISI/Non-SCOPUS*)

**2005**

The Orthopaedic Reseach Group (ORG): The solution to increase research output. UMMC research bulletin. Vol. 1: 4; 2005. ISSN 1823-4062

**AREAS OF RESEARCH**

(Project title), (Role), (From)-(Until), (Level), (Source).

A comparative study on characterization and osteogenic differentiation potential of 3D scaffolds hydroxyapatite and a novel Alumina dopped carbon

scaffold as a carrier for bone tissue engineering applications, Co-Investigator, 2013 - 2015, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i>
Multicentre study for evaluation of the efficacy and safety of buprenorphine transdermal patch (5mg and 10mg) in patients with non-malignant pain of moderate intensity due to osteoarthritis, rheumatoid arthritis, lower back pain and joint/muscle pain when an opioid is necessary for obtaining adequate analgesia, Principal Investigator(PI), 2012 - 2013, <i>Veras Research Sdn Bhd and Mundipharma Pharmaceuticals Sdn Bhd</i>
In Vitro Hepatic Differentiation Of Stem Cells/c-kit Positive Cells Derived From Full-term Amniotic Fluid, Consultant, 2012 - 2015, <i>Geran Penyelidikan Universiti Malaya (UMRG) - HTM (Wellness)</i> , (University)
In Vitro And In Vivo Study On The Toxicity And Infection Risk Of Pre-operative Wound Disinfectants, Principal Investigator(PI), 2012 - 2017, <i>Geran Penyelidikan Universiti Malaya (UMRG) - HTM (Wellness)</i> , (University)
Improving articular disease prediction and management, regenerative therapy and sarcoma management, Principal Investigator(PI), 2011 - 2015, <i>High Impact Research (HIR)</i> , (University)
Understanding The Fundamental Aspects Throughmolecular And Cellular Studies To Determine The Lineage Mechanisms Involved In Mesenchymal Stem Cells Differentiation For Potential Upscaling And Clinical Applications, Principal Investigator(PI), 2011 - 2015, <i>High Impact Research (HIR)</i> , (University)
Biomechanical analysis and implant development for total arthroplasty of the shoulder and elbow joint, Principal Investigator(PI), 2011 - 2012, <i>ScienceFund</i> , (University)
Understanding The Fundamental Aspects Through Molecular and Cellular Studies To Determine the Lineage Commitment Mechanisms Involved in Mesenchymal stem cells Differentiation for potential Upscaling and clinical applications, Principal Investigator(PI), 2011 - 2015, <i>High Impact Research (HIR)</i> , (University)
In Vivo Study to Determine the Use of Mesenchymal Stem Cell (MSC) for the Treatment of Osteoarthritis, Co-Investigator, 2011 - 2013, <i>Exploratory Research Grant Scheme (ERGS)</i> , (University)
THE EFFECT OF INTRA-ARTICULAR HYALURONIC ACID AND BONE MARROW-DERIVED MESENCHYMAL STEM CELLS INJECTION IN THE TREATMENT OF OSTEOARTHRITIS IN RAT MODEL, Main Supervisor, 2010 - 2011, <i>Postgraduate Research Grant (PPP) - Research</i> , (National)
Characterization, cell mechanics; effects and evaluation of naturally occurring growth factor on cell proliferation and pathway induced differentiation, Principal Investigator(PI), 2010 - 2012, <i>High Impact Research (HIR)</i> , (National)
mechanosensing and signal transduction: evaluating the cellular changes, role of surface adhesion receptors involved in signalling pathways and determination of apoptic regulation, Principal Investigator(PI), 2010 - 2012, <i>High Impact Research (HIR)</i> , (National)
Wound Healing Potential of Mesenchymal Stem CellsOn Burn Wounds In Rats, Co-Investigator, 2010 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
THE EFFECTS OF STATIC AND CYCLIC TENSILE LOADING ON HUMAN BONE MARROW DERIVED MESENCHYMAL STEM CELLS IN VITRO, Main Supervisor, 2010 - 2011, <i>Postgraduate Research Grant (PPP) - Research</i> , (National)
COMPARTIVE PROTEOMIC ANALYSIS OF BONE MARROW DERIVED MESENCHYMAL STEM CELLS WITH IN-VITRO CHONDROGENIC DIFFERENTIATED MESENCHYMAL STEM CELLS FROM NZW RABBIT, Main Supervisor, 2010 - 2011, <i>Postgraduate Research Grant (PPP) - Research</i> , (National)
Rapid prototyping for bone regeneration analyses in New Zealand white rabbits as animal model, Co-Investigator, 2010 - 2012, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
MESENCHYMAL STEM CELLS FOR TREATMENT OF MUSCLE INJURY, Co-Investigator, 2010 - 2012, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Genetic Polymorphisms of Cytochrome P450s, CYP2B6, CYP2D6,CYP2A6,CYP2C19 and CYP2E1:: cigarette smoking and risk of COPD among Malays, Chinese and Indian in Malaysia, Co-Investigator, 2010 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Role of Epithelial Sodium Channel (Enac) in Mechanotransduced Mesenchymal Stem Cell (MSC) Differentiation, Co-Investigator, 2010 - 2012, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
ATTACHMENT, PROLIFERATION AND DIFFERENTIATION OF MESENCHYMAL STEM CELLS ON A NOVEL MEDIUM CHAIN LENGTH-POLYHYDROXYALKANOTE SCAFFOLDS, Principal Investigator(PI), 2010 - 2012, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
in vivo trial of bone marrow derived mesenchymal stem cells (MSCc) as a potential source for the repair of degenerated disc (nucleus pulposus), Co-Investigator, 2010 - 2012, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)

NATIONAL ORTHOPAEDIC CENTRE OF EXCELLENCE FOR RESEARCH AND LEARNING (NOCERAL) - OPEX, Principal Investigator(PI), 2010 - 2011, <i>Centre of Research</i> , (National)
Attachment, proliferation and differentiation of mesenchymal stem cells on a novel medium chain length- polyhydroxyalkanote scaffolds, Principal Investigator(PI), 2010 - 2012, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
STUDY COMPARING THE BIOMECHANICAL STRENGTH OF UNICORTICAL AND BICORTICAL PLATE-SCREW FIXATION IN TRANSVERSE METACARPAL FRACTURE MODELS, Main Supervisor, 2010 - 2011, <i>Postgraduate Research Grant (PPP) - Research</i> , (National)
Comparison between biomechanical and chemical induction of osteoarthritis in rat model, Co-Investigator, 2010 - 2012, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
In vivo study of the effects of intra-articular hyaluronic acid, autologous bone marrow derived- mesenchymal stem cells and microfracture in the treatment of articular cartilage defects, Co-Investigator, 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Histological and biochemical properties of neocartilage using autologous chondrocytes seeded on PVA/NOCC scaffold in vivo, Co-Investigator, 2009 - 2012, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Comparison of TGF-B1 and TGF-B3 on chondrogenic differentiation of rabbit bone marrow derived MSC, Co-Investigator, 2009 - 2012, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Optimization and tenogenic differentiation in rabbit bone marrow derived MSC, Principal Investigator(PI), 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
OPTIMIZATION AND TENOGENIC DIFFERENTIATION IN RABBIT BONE MARROW DERIVED MESENCHYMAL STEM CELLS, Principal Investigator(PI), 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
The effects of in vitro cultivation of osteogenic MSC derived from bone marrow on different environment, Co-Investigator, 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Optimization in isolation of MSC derived from bone marrow for preclinical studies, Co-Investigator, 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Comparison Of Differential Expressed Proteins In Cartilage Tissues Between New Zealand White Rabbit Osteoarthritis Models And Normal Cartilage, Co-Investigator, 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Feasibility Study Of A Novel Designed Hydroxyapatite/Pva-Nocc Bilayered Scaffold For Osteochondral Tissue-Engineering Application, Co-Investigator, 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
In Vivo testing on the biodegradability of hydrogel versus human amniotic membrane, Co-Investigator, 2009 - 2011, <i>Geran Penyelidikan Universiti Malaya (UMRG)</i> , (National)
Rotator cuff and tendon degeneration: Tenocyte function, directional loading effects, cellular alignment and cellular expression.
Feasibility study of a novel designed hydroxyapatite/PVA-NOCC bilayered scaffold for osteochondral tissue-engineering application, Co-Investigator, 2009 - 2011, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
comparative study of autologous tenocyte tenogenic mesenchymal stromal cell protein profile, Director, 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
Proteomic profiling of chondrocytes isolated from human articular cartilage for biomarker identification, Principal Investigator(PI), 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
In vitro study of rabbit chondrogenic MSC seeding in amniotic scaffolds, Director, 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
Investigation of mini- bioreactor cultivation of human peripheral blood- derived MSC, Director, 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
The study of PVA/NOCC composite hydrogel as a biodegradable scaffold for tissue engineering application, Director, 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
In vitro study of human amniotic membrane as a chondrocyte carrier, Director, 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
Mesenchymal stem cell (MSCs) for lineage commitment of MSCs to chondrocytes and tenocytes for repair of focal cartilage damage and degenerated

tendon, Director, 2008 - 2010, <i>MOSTI (TECHNOFUND)</i> , (National)
PROTEOMIC PROFILLING OF CHONDROCYTES ISOLATED FROM HUMAN ARTICULAR CARTILAGE FOR BIOMARKER IDENTIFICATION, Principal Investigator(PI), 2008 - 2009, <i>RU Geran</i> , (National)
Knee ligamentous and meniscal pathology
Bioengineering application for orhopaedic applications
An in vitro study of the induction of osteogenic potential of cell and protein sources for the repair of osteal defect, Co-Investigator, 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
Proteomic characterization of human bone-marrow and blood-derived chondrogenic MSC: a novel tool for study of chondrogenesis, Co-Investigator, 2008 - 2009, <i>Short Term Research Fund (Vote F)(PJP)</i> , (National)
Tumour tissue banking and applications
Tissue engineering
Tissue banking and transplantation
Articular cartilage repair and regeneration
Autologous chondrocyte transplantation
Hand grip analysis for therapeutic and diagnostic studies
Hand and microsurgery
Carpal instabilities
Biomaterials for biological repair
PROTEOMIC ANALYSIS OF CHONDROCYTES IN MONOLAYER CULTURE AND 3-DIMENSIONAL CONSTRUCT, Principal Investigator(PI), 2007 - 2009, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
The investigation to the cause of rotator cuff tears in humans and the role of tissue engineering methods using mesenchymal stem and autologous cell for the repair of rotator cuff tear., Principal Investigator(PI), 2006 - 2009, <i>ScienceFund</i> , (National)
Development of hydrogel as a scaffold for the treatment of focal cartilage defect., Director, 2006 - 2009, <i>ScienceFund</i> , (National)
The use of direct stem cell extraction for cartilage repair in comparison to conventional ACT, Co-Investigator, 2005 - 2007, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
Development of hydrogel as a scaffold for biomaterial in the treatment of articular cartilage defects, Co-Investigator, 2005 - 2007, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
Human Autologous Chondrocyte Transplantation (HACT) in UMMC, Co-Investigator, 2005 - 2007, <i>Fundamental Research Grant Scheme (FRGS)</i> , (National)
Mesenchymal stem cell applications in orthopaedic surgery

#### INTELLECTUAL PROPERTY RIGHTS

(Product Name), (Type), (Reference), (Year), (Level).

Human Blood-Derived Mesenchymal Stem Cell To Repair Cartilage Defect University of Malaya, PATENT, MY-157059-A, 10/06/2011, (NATIONAL)
Air-dried amniotic scaffolds for chondrocytes or chondrogenic mesenchymal stem cells, PATENT, MY 150818, 06/12/2011, (NATIONAL)
three-dimensional culture of rabbit bone marrow mesenchymal stem cells using microcarrier beads in spin culture, PATENT, PI2010004545, 29/09/2010, (NATIONAL)

PVA-NO as a hydrogel scaffold for the repair of articular cartilage transplantation . Extracellular scaffolds (radiation crosslinked porous extracellular matrix scaffold) , PATENT, (PT 72976), 15/05/2007

Unconfined compression properties of a porous poly (vinyl alcohol)- chitosan based hydrogel after hydration (PATENT pending- PI 20081246/ 2007), PATENT, PI 20081246, 15/05/2007, (UNIVERSITY)

Human Autologous Chondrocyte Transplantation (HACT), COPYRIGHT, 04/03/2008, (NATIONAL)

Hand grip device development: The design of hand grip device with the electronic board interface., PATENT, PI 2020051, 01/09/2004, (NATIONAL)

Operative electronic list booking system software, COPYRIGHT, CR/2023/UM/05/ccc, 01/09/2005, (NATIONAL)

Operative log book database software and networking system., COPYRIGHT, CR/2023/UM/05/ccc, 01/09/2005, (NATIONAL)

Hand grip pattern predictive software, PATENT, pending, 01/09/2005, (NATIONAL)