



# KRW2016

KAHS Research Week 2016

**1st Allied Health  
Scientific Colloquium  
(AHSC) 2016** in conjunction with

*“Enhancing  
Academic and  
Research Quality”*

November 21 – 25, 2016  
21 – 25 Safar 1438H

Kulliyah of Allied Health Sciences  
IIUM Kuantan Campus, Pahang

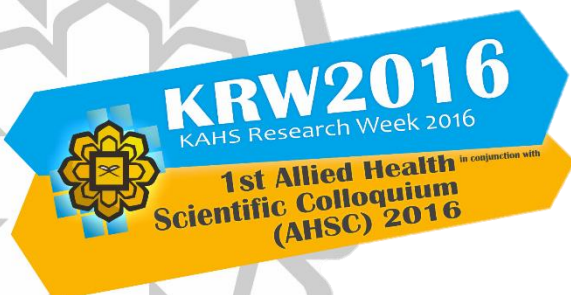
**PROGRAMME  
&  
ABSTRACT  
BOOK**



RESEARCH WEEK (KRW)  
SHAH ALI  
in conjunction with

## APPRECIATION

The Kulliyyah of Allied Health Sciences expresses its sincere gratitude and appreciation to all parties and many individuals who have contributed towards the success of the 2<sup>nd</sup> KAHS Research Week 2016 and the 1<sup>st</sup> Allied Health Scientific Colloquium 2016.



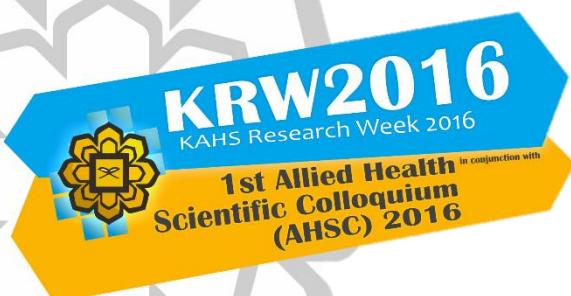
All rights reserved.

No part of this publication maybe reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior permission of the Organizing Committee, the 2nd KAHS Research Week 2016 in conjunction with the 1st Allied Health Scientific Colloquium 2016, Kulliyah of Allied Health Sciences, International Islamic University Malaysia, Kuantan Campus.

Published by:

Kulliyah of Allied Health Sciences  
International Islamic University Malaysia  
Kuantan Campus  
Jalan Sultan Ahmad Shah  
Bandar Indera Mahkota  
25200 Kuantan, Pahang, MALAYSIA  
Tel: +60 9 571 6400  
Fax: +60 9 571 6776  
Website: [www.iium.edu.my/kahs](http://www.iium.edu.my/kahs)

*Disclaimer:* The author is wholly responsible for the accuracy of the abstract. The Organizing Committee cannot take responsibility for the specific accuracy of the details of the abstract contents.



# TABLE OF CONTENTS

	Page
APPRECIATION .....	1
FOREWORD .....	7
ORGANIZING COMMITTEE .....	8
REVIEWERS AND ASSESSORS .....	9
ABOUT .....	11
PROGRAMME SCHEDULE .....	14
SPEAKERS AND FACILITATORS PROFILE	
Dato' Sri Dr. Mushrifah Idris .....	21
Dr. Ahmad Aidil Arafat Dzulkarnain .....	22
Dr. Zainul Ibrahim Zainuddin .....	23
Dato' Dr. Hj. Ridzwan Bin Hashim .....	24
Dr. Rozlin Abd Rahman .....	26
Mohd Hafidz Ithnin .....	26
Nadia Hanis Abdul Samat .....	27
Dr. Muhammad Ibrahim .....	27
Dr. Mohd. Arifin Kaderi .....	28
Fairuz Nadira Zainal .....	28
TRADE EXHIBITORS .....	29
KEYNOTE 01 Exploring Natural Resources for The Advancement of Sustainable Research and Development .....	32
KEYNOTE 02 Research Networking .....	33
KEYNOTE 03 Integration and Islamisation in Allied Health Disciplines .....	34
KEYNOTE 04 Driving Innovation and Ideas .....	35
ABSTRACT ID AND PRESENTER .....	37
Antinociceptive Activity of Methanolic Extract of <i>Melastoma malabathricum</i> L. Leaves and Mechanisms of Action in Experimental Animals .....	38
Sugar Craving and Sugar Intake Pattern among Malay Adults .....	39
Application of Material Filter for Scatter Correction in Planar Imaging of Thyroid with Tc-99m: Phantom Study .....	40
Modified LogMAR Chart: New Insight of Vision Chart .....	41
Investigation on Common Errors Made by Audiology Students during Clinical Training .....	42
Performance of Computed Radiography and Direct Radiography: .....	43
Dose Containment and Image Quality .....	43
Modified LogMAR Chart: Can We Make It Real? .....	44
Comparison between Cold Temperature ( $\leq 4^{\circ}\text{C}$ ) and Room Temperature ( $\approx 25^{\circ}\text{C}$ ) Mediated Synthesis for Putrescine-Sulphur Compound .....	45
Development of a Bahasa Melayu Version of Ocular Surface Disease Index (OSDI) .....	46
Psychosocial Impact of Hearing Loss on Hearing-Impaired Patients and Their Spouses .....	47
Monolayer Culture Expansion of Annulus Fibrosus Cells for Intervertebral Disc Regeneration .....	48
Cancer Chemoprevention Study of <i>Luffa Aegyptiaca</i> Seed Extract on Human Breast Cancer Cell Lines (MCF-7) .....	49

In Vitro and In Vivo Non-viral SRY (Sex Determining Region Y)-Box 9 (SOX9) and Telomerase Reverse Transcriptase (TERT) Genes Transfer in Chondrocytes: Work in Progress.....	50
Macrominerals and Their Correlations with Ash, Electrical Conductivity and PH of Malaysian Trigona and Tualang Bee Honey .....	51
Circulating and Salivary microRNA Expression Analysis in Nasopharyngeal Carcinoma in East Coast Region of Peninsular Malaysia .....	52
DNA-Based Typing of HLA-A and Profiling of RET Gene Polymorphisms for Identification of Genetic Susceptibility Factor in Nasopharyngeal Carcinoma in East Coast Region of Peninsular Malaysia .....	53
A Review on Radiation Effects towards Cell Culture.....	54
Elderly Perception on Their Dietary Practices and Prophetic Foods Intake: Preliminary Findings .....	55
Understanding of Anti-Cancer Properties of Neolamarckia cadamba Leaves Extract on Breast Cancer Cell.....	56
Reflective Approaches in Medical Imaging Education:.....	57
An Initial Review .....	57
Effects of Eurycoma longifolia (TAF 273) on Oestrous Cycle and Reproductive Hormones of Normal Rats During 14-days Treatment .....	58
The Challenges of Maternal Health Services Utilization and Prevention of Maternal Mortality in Northern Nigeria: Community's Perspective in Zamfara State .....	59
The Potential of Nigella sativa and Thymoquinone in Salvaging the Embryo from Effects of Toxic Paternal Exposure .....	60
Characterising Textual Memorization of Brain Structure Using Fractal Analysis.....	61
Animal Studies on Fertility Enhancing Properties of Plants in Malaysia: .....	62
A Review of the Past 17 Years.....	62
Conceptualising the Criteria of the Islamic Personality traits for Muslim Medical Imaging Practitioners .....	63
Structural Changes and Molecular Mechanisms of Bone Remodelling in the Tibial Subchondral Bone Plate and Trabecular Bone during the Development of Osteoarthritis: Method Optimization.....	64
Establishment of Growth Kinetics Profile and Measurement of Sulphated Glycosaminoglycans (sGAG) Production in Monolayer Cultured Chondrocytes Following Qur'anic Recitation Exposure.....	65
Aviation-Based Teamwork and Communication Training Program in Healthcare Settings: A Systemic Review .....	66
Occurrence of Gastrointestinal Helminths Infection of Goats Isolated from a Farm in Pahang .....	67
Optimization of Signalling Biomarkers in Detecting Male Infertility .....	68
Epidemiology of Nasopharyngeal Carcinoma (NPC) in Pahang, Malaysia.....	69
Anticancer Effects of Eurycoma longifolia, Nigella sativa and Hibiscus sabdariffa on Ovarian Cancer Cells .....	70
Non-Invasive Prenatal Testing Using Cell-Free Fetal DNA from Maternal Plasma: A Review .....	71
Systems Thinking Approach to 2013 Genting Highlands Bus Crash on Technical Document Requirements and Standardised Operating Procedure for Transportation Safety.....	72
Antioxidant Characterization of Soft Jelly Prepared from Baccaurea angulata Fruit and Trigona Bee Honey Using Response Surface Methodology .....	73

The Nutritional Composition of Human Milk and Dietary Status of Nursing Mothers in Kuantan, Pahang.....	74
Early Response in Antibacterial Activity of Orthopaedic Metal Implant Coated with Silver Composite for Future Osteomyelitis Treatment: Preliminary Results .....	75
Histology Staining On In Vitro 3D Poly(Lactic-Co-Glycolic Acid) Seeded With Annulus Fibrosus, Nucleus Pulposus, and a Combination of Annulus Fibrosus: Nucleus Pulposus (1:1) Cells With and Without Fibrin Scaffold.....	76
Enhancing Effects of Trichosanthes cucumerina extracts on Adipogenesis, Adipolysis and Glucose Uptake in 3T3-L1 Adipocytes.....	77
Collagen I and Collagen II Immunohistochemistry Analyses On In Vitro 3D Poly(Lactic-Co-Glycolic Acid) Seeded With Intervertebral Disc Cells With and Without Fibrin Scaffold .....	78
Anaemia Prevalence and Its Predictors among Children Aged 6 to 59 Months in a Pastoralist and Agro Pastoralist Community of Somali Region, Eastern Ethiopia .....	79
Undernutrition Prevalence and Its Determinants among Children below Five Years of Age in a Pastoralist Community of Somali Region, Eastern Ethiopia .....	80
Knowledge, Attitude and Practice of Mothers/Caregivers on Infant and Young Child Feeding, In Shabelle Zone of Somali Region, Eastern Ethiopia: A Cross Sectional Study .....	81
The Effect of Three Combination of Honey on Total Phenolic Content by Using Response Surface Methodology.....	82
Antihyperglycemic Activities of Purified Protein Containing Adiponectin from Abdominal Adipose Tissues of Halal Meat on the Streptozotocin-Induced Diabetic Rats .....	83
The Antioxidant and Sensory Characteristics of Jellies made from Musa paradisiaca and Trigona sp honey .....	84
An overview of the Islamic Legal Maxim Vis-A-Vis Cartilage Tissue Engineering Experimentation.....	85
YB-1 Gene Expression in A375 Malignant Melanoma Cells .....	87
Screening the influencing factors of gentamicin-N. sativa oil emulsions (GNE) characteristic using Plackett-Burmann design (PBD) .....	88





# Abstracts

## Collagen I and Collagen II Immunohistochemistry Analyses On *In Vitro* 3D Poly(Lactic-Co-Glycolic Acid) Seeded With Intervertebral Disc Cells With and Without Fibrin Scaffold

*Muhammad Azri Ifwat Mohamed Amin, Noor Faizatul Husna Shuib, Noorhidayah Md Nazir, Mohd Yusof Mohamad, Muhammad Aa'zamuddin Ahmad Radzi & Munirah Sha'ban\**

Department of Biomedical Science, Kulliyyah of Allied Health Sciences, International Islamic University Malaysia

### ABSTRACT

*Objectives/Research Problem:* Successful formation of 3D tissue constructs requires appropriate combination of the three established tissue engineering principles. The principles include quality cell source, biocompatible material scaffold and suitable biological signalling factors. This preliminary study aims to evaluate in vitro tissue constructs engineered from poly(lactic-co-glycolic acid) (PLGA) seeded with intervertebral disc (IVD) cells namely annulus fibrosus (AF), nucleus pulposus (NP), and a combination of AF:NP (1:1) with and without fibrin using specific cartilaginous markers i.e. collagen I and II immunohistochemistry staining.

*Materials and Method:* Porous PLGA discs (7.0mm dia. X 3.0mm height) were fabricated using solvent casting and salt leaching method. The cells were harvested from rabbits' IVD, cultured and seeded onto the pre-fabricated PLGA-based scaffolds. The resulting six "cells-scaffolds" construct groups were cultured for 3-weeks. The immunohistochemistry procedure and microscopic observation were performed at week 1, 2 and 3.

*Results and Discussion:* Minimal cartilaginous tissue formation is noted in all constructs at week 1 until week 3. This can be appreciated by the presence of cartilage-isolated cells in lacunae embedded within extracellular matrix (ECM) ground substance. Cellular and ECM distribution are better in PLGA+Fibrin+AF:NP group than the other groups. Presence of brownish precipitation in most of the constructs after the immunolocalization of collagen I and II indicates positive results. It demonstrates that certain constructs have cartilaginous properties.

*Conclusion:* The combination of PLGA and fibrin has the potential in facilitating early chondrogenesis of in vitro constructs engineered from AF, NP, and the combination of AF:NP (1:1) cells. The minimal cartilaginous tissue formation may be due to inefficient cells seeding. While it is apparent that human factor is unavoidable, there is much evidence in biomedical research and other fields that certain methodology can be refined to prevent errors before one's experiment is compromised. In this case, the cells seeding method should be observed and improved for future IVD tissue engineering research.

**KEYWORDS:** Annulus Fibrosus, Nucleus Pulposus, Collagen II, Collagen I, Intervertebral Disc Tissue Engineering

\*CORRESPONDENCE: munirahshaban@iium.edu.my



**KRW2016**

KAHS Research Week 2016



**1st Allied Health  
Scientific Colloquium  
(AHSC) 2016** in conjunction with

**RESEARCH WEEK (KBW)  
2016 KAHS**  
in conjunction with

