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Prof. Ir. Dr.
Mohd. Hamdi
UKM's New VC





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2018 has been a wonderful year for UKM - filled with numerous achievements and successes. It has been an honour for us to be able to publish and document these remarkable accomplishments in Resonance. Thank you for sharing your stories with us. We hope it has touched or inspired our lovely readers. Here's to a great new year!



Message from the Vice-Chancellor

PROF. IR. DR. MOHD HAMDI ABD SHUKOR

Progress and innovation over the past 20 years have changed the world in countless ways and we have seen changes in technology, politics and global demographics. Accordingly, educational institutions need to reinvent themselves to address the performance gaps to keep abreast with the dynamism of these changes.

The Sustainable Development Goals (SDGs) was announced on the 25th of September 2015 by the United Nations with 17 goals to be achieved by 2030. As the successor to the UN Millennium Development Goals (MDGs), the SDGs aimed to steer development efforts towards 2030. The 17 SDGs are the extension of the MDGs which covers the areas of poverty, health, education, gender equality, clean water and sanitation, energy, economic growth, industry, innovation and infrastructure, inequality, sustainability, responsible consumption and production, climate action, life below water and on land, peace, justice and institutions and partnerships to achieve the goal.

UKM's transformational research are designed to address these goals. We have moved from fundamental to applied research, humanising science and technology to benefit the society. The excellent research of our scholars in this issue reflects our commitment and contribution to the SDGs.

Globally, UKM is currently ranked 160th in the 2019/2020 Quacquarelli Symonds (QS) World University Ranking, placing us in the top one percentile in the world. This a strong recognition of UKM as one of the world's best and Malaysia's leading universities in teaching and learning, research, innovation and internationalization. As UKM strives to move forward our research and innovation to the highest level, we believe the highlights in this issue will give you a glimpse of our research excellence. Please enjoy this bumper edition and feel free to share our success stories with others.

Thank you.

CONTENT

UKM EXCELLENCE

- 06 Prof. Ir. Dr. Mohd. Hamdi: UKM's New VC
- 08 26 Distinguished International Professors to be Appointed to Spruce Up UKM
- 10 Bariatric Surgery as the New Option for Healthy Lifestyle
- 12 UKM Host Malaysia's Second International Cricket Oval
- 14 UKM is World's 160th Best



STRATEGIC PARTNERSHIP

- 15 UKM Solar Dryer System is Now Available for All
- 16 Knee Arthritis Pain Treatment Made Possible Through Injection

EXPERT@UKM

- 18 Prof. Dr. Dayang Anita Appointed by the First Paediatrician in Southeast Asia as EBPS Senior Examiner
- 20 Malaysia First UNESCO Chair Honoured to KITA-UKM
- 22 Fireflies Study is Given the Capital Injection RM 1.09 Million



- 24 UKM has the Largest Biobank in Southeast Asia
- 26 Pioneering Mobile Qibla Direction Device: UKM Leads the Way
- 28 2019 Venus International Women Awards Conferred to Prof. Datuk Dr. Rokiah Omar
- 26 Braille Quran with Tajweed is Now a Reality
- 30 The Less is More - Dr. Aizan Sofia Amin a Living Proof

STUDENTS EXCELLENCE

- 32 UKM Students Become a Millionaire Via Entrepreneurship



Prof Ir. Dr. Mohd. Hamdi UKM's New VC

The new UKM Vice-Chancellor, Prof. Ir. Mohd. Hamdi Abd Shukor, pledged his commitment to improve the university's ranking in the world, at the Vice-Chancellor's Documents Handover Ceremony, recently.

During his inaugural speech, he voiced his hope for everyone in UKM to be more strategic in assisting the leadership of the university. This, he added, greatly depends on cooperation and integration of the various departments, colleges, institutes and faculties in UKM .

Meanwhile, UKM Chairman Tan Sri Abdul Wahid Omar believed that Prof. Ir. Hamdi's excellent qualification and extensive experience in administration would bring a new perspective and further improve the university's performance ranking-wise, and in terms of human development, ability to market graduates, and reputation as a national university.

Prof. Ir. Dr. Mohd Hamdi is a former Universiti Malaya Deputy Vice-Chancellor (Academic and International Affairs) and officially commenced his duties as the new UKM Vice-Chancellor effective 1 January 2019, replacing Prof. Tan Sri Dato' Seri Dr. Noor Azlan Ghazali who has concluded duration of appointment on 31 December 2018.





Prof. Ir. Dr. Mohd Hamdi holds a Bachelor of Engineering (Mechanical) Degree from the Imperial College, London, England; a Masters Degree in Advanced Manufacturing and Management Technology from the University of Manchester Institute of Science and Technology, UK; and Doctor of Philosophy (PhD) from Kyoto University, Japan.



26 Distinguished International Professors to be Appointed to Spruce Up UKM

To strengthen the foundation as a research university as well as in improving UKM's ranking, UKM will appoint 26 distinguished international professors in internationalizing the university.

Vice-Chancellor, Prof. Ir. Dr. Mohd Hamdi Abd Shukor said, when talking about internationalization, UKM needs to rejuvenate in some strategic research areas that can be filled by the international expert.

At least three years' appointment period will be made for the professors in allowing them

to provide impactful outputs such as securing international grants and publication in top tier journals, he added.

Prof. Ir. Dr. Mohd Hamdi also explained that the identification of the distinguished professors will be done by faculty and the institute. This enable the appointment of the distinguished professors to be more objective in addressing the important aspects of improvement in each echelon of the faculties and institutes.

The appointment will be made this year at the cost of around RM6 million.





Bariatric Surgery as the New Option for Healthy Lifestyle

Malaysia is Asia's fattest country with approximately half of the population overweight or obese. Until recently, the only options for combating obesity were lifestyle modification, medications and, if those methods proved ineffective, bariatric surgery. The procedures significantly reduce a patient's stomach volume or alter other parts of the digestive tract to treat obesity and other metabolic diseases.



Gastrointestinal Specialists and Obesity Surgeon, Assoc. Prof. Dato' Dr. Nik Ritza Kosai Nik Mahmood said, the treatment has evolved from a laparoscopic surgery utilising about eight holes to only a single incision through the umbilicus. The patient will only have a small surgical wound of about 5mm. Therefore, only one week is needed for recovery.

The surgery, which alters stomach structure (small intestine), is not specifically for weight loss, but also benefits patients with diabetic problems. Assoc. Prof. Dato' Dr. Nik Rtiza Kosai added that through the surgery, hormone structure is altered in the body to increase incretin hormones that will control diabetes better.

Hospital Canselor Tuanku Muhriz (HCTM), Universiti Kebangsaan Malaysia (UKM) have successfully performed over 1,200 of Bariatric surgery since 1996, the highest number recorded by any hospital in Malaysia.

The most severe patient treated ever recorded by the team of Gastrointestinal and Obesity Surgery HCTM have more than 300 kilograms (kg).

The majority of patients treated, love their new condition and said that their quality of life has improved. The surgery has successfully changed their health condition and enabled them to be more confident with themselves.

UKM Host Malaysia's Second International Cricket Oval





The International Oval Cricket, Universiti Kebangsaan Malaysia – Sime Darby Foundation (UKM-YSD) Cricket Oval which was recently launched, is the second best in Malaysia, after the Bayuemas Cricket Oval, said the President of Malaysian Malay Cricket Association, Tun Ahmad Sarji Abdul Hamid.

The oval, which is worth RM2.3 million was constructed, as part of a strategic collaboration between UKM and the Sime Darby Foundation (YSD).

Tun Ahmad Sarji, who is also UKM Pro-Chancellor said with the construction of the cricket oval, there would be many new talents for cricket can be found. He added that it would also be easier to form a team and conduct training.

Meanwhile, UKM Vice-Chancellor, Prof. Ir. Dr. Mohd Hamdi Abd Shukor said various tournaments were held at the oval such as the *Kejohanan Perisai Raja-Raja* and the World Cricket League Division 4. He is confident that the oval would be a catalyst for sports excellence in UKM, especially in cricket.



UKM is World's 160th Best

Universiti Kebangsaan Malaysia (UKM) ranked 160th in the 2019/2020 Quacquarelli Symonds (QS) World Ranking announced recently. UKM leaps 24 places from last year rankings with the overall score of 48.3, keeping UKM in the top one (1) percent in the world.

The new ranking has shown a tremendous growth of UKM reputation evaluated by QS on the academic and employer reputation, international faculty, faculty student, citation per faculty, international students and overall score.

This success shows a consistent and strong increase in recognition of UKM as one of the world's best and Malaysia's leading universities in teaching and learning, research, innovation, and internationalization.

UKM Solar Dryer System is Now Available for All

UKM aims to commercialize solar dryer system to the industry especially on agriculture and dry food. The solar dryer system is developed by Solar Energy Research Institute (SERI) and Faculty of Science and Technology (FST).

The solar system is currently being used by dried product entrepreneurs in Chuping, Perlis; Taiping, Bidor and Tanjung Malim in Perak; Semporna, Sabah and Pontian, Johor. The system facilitates the speed of drying process of foods product such as *kenaf*, seafood including seaweed, medical herbs, sliced tamarind and other. The system capabilities have been proven through its success in producing hygiene dried products described by the entrepreneurs who using the system.

As described by the Principle Research Fellow, SERI, Prof. Dr. Mohd Hafidz, the motivation for the development of the system was made after the observation on the drying process of agricultural products and seafood are carried out in which most are discovered using the traditional method, open exposure under the sun. This method is proven to have an adverse effect on the quality and hygiene which has the impact on the quality of the end product delivered to the customer.

By using solar drying system, several advantages can be attained, among them are; the drying process can be controlled, cleaner, and safeguarding the product from the threat of insects and animals or in other words more hygienic. In a nutshell, the solar drying process can ensure the quality of the product and improve the efficiency of the drying process.



STRATEGIC PARTNERSHIP

Knee Arthritis Pain Treatment Made Possible Through Injection





Knee arthritis sufferer should be relieved when they can cure themselves in a simpler way now. Neither surgery nor pelvic bone marrow harvesting is needed, but with a simple injection into the knee through the local anaesthetic, patients with knee arthritis will be able to walk normally. The new treatment uses allogeneic mesenchymal stem cells from the umbilical cord, namely Chondrogen®™ and has been registered under the National Pharmaceutical Regulatory Agency.

A study led by Head of Arthroscopy and Sports Injuries Unit (Orthosports-UKM), Hospital Canselor Tuanku Muhriz (HCTM), Dato' Dr. Badrul Akmal Hisham Md Yusoff has progressed to an advanced level since January 2019 involving 10 patients. He is happy to share that the treatment does not have a side effect and it provides relief to patients as early as two weeks.

UKM is collaborating with Meluha Life Sciences Sdn Bhd (MLS), a biotechnology company in developing the product called Chondrogen®™ for knee osteoarthritis treatment and jointly owned the Chondrogen®™.

The Chondrogen®™ was first used in January 2019 that need and tested to 50 to 150 patients, said Dato' Dr. Badrul Akmal Hisham.

He further explained that his team will continue the observation for up to 12 months and will go for a more advanced phase of the randomise control trail, which requires more patients as well as more precise research.

The Department of Orthopaedic and Traumatology, HCTM can be reached at 03-9145 6031 for further information.

A portrait of Prof. Dr. Dayang Anita, a woman wearing a brown hijab and a dark blue blazer over a light pink shirt. She is smiling and holding a clear glass award with both hands. The award has a circular logo on it that reads 'UEMS'. The background is slightly blurred, showing what appears to be a bookshelf and some framed pictures on the wall.

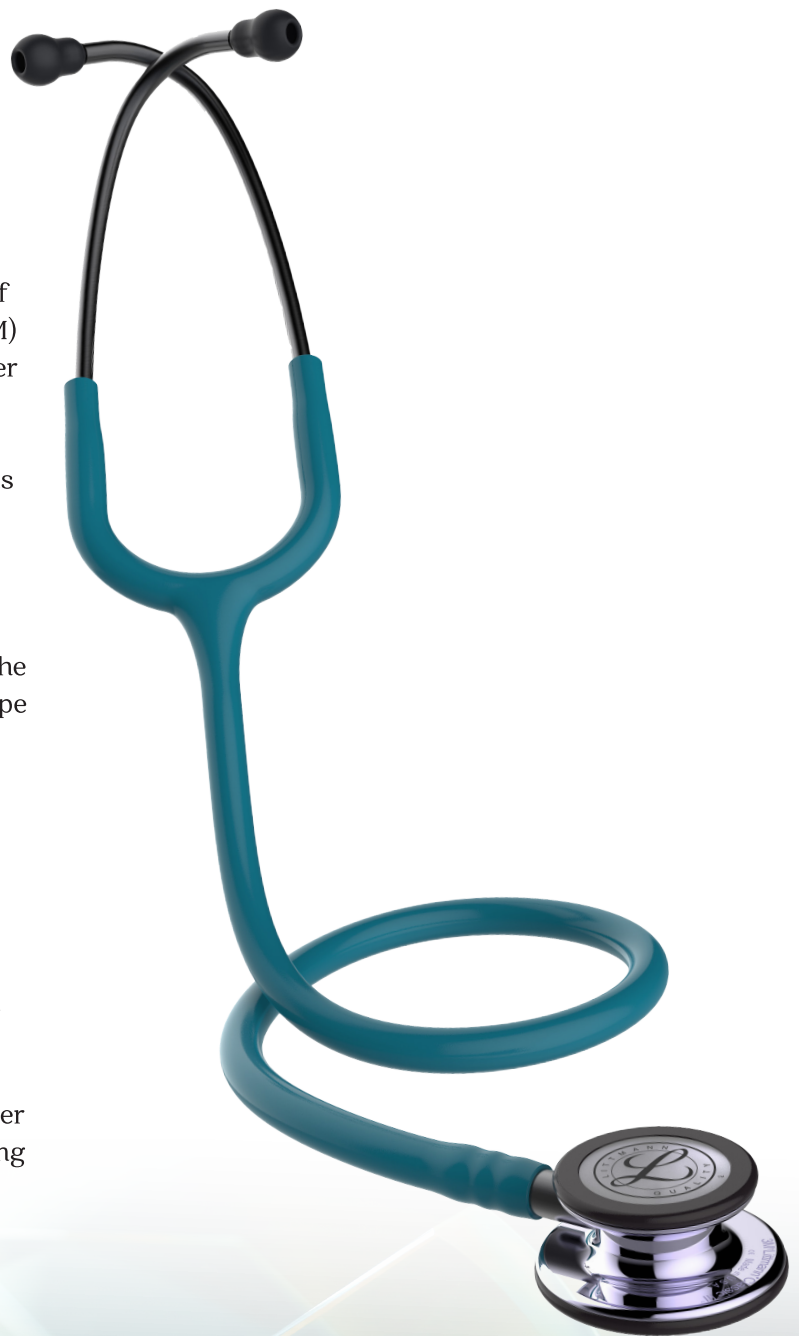
Prof. Dr.
Dayang Anita
Appointed
by the First
Paediatrician in
Southeast Asia
as EBPS Senior
Examiner

Prof. Dr. Dayang Anita Abdul Aziz, a Paediatric Senior Surgery Consultant Experts, Department of Surgery, Hospital Canselor Tuanku Muhriz (HCTM) UKM, has been appointed as EBPS Senior Examiner 2019, which is the first Paediatrician in Southeast Asia. The appointment was made by EBPS after acknowledging Prof. Dr. Dayang Anita's success as Examination Head at PPUKM since 2012.

Prof. Dr. Dayang Anita said PPUKM received the accreditation status as a Centre of EBPS Examination Part I and Part II in 2012. PPUKM is the first and the only examination centre outside Europe that can conduct such examinations.

The centre is not only as an examination centre but also training centres to the local paediatrician and ASEAN medical practitioners with expertise training.

She said within 10 years the examination was held at PPUKM, many benefits were obtained from the aspect of establishing a more holistic approach to human capital. She also highlighted that the number of candidates who come for the exam are increasing from year to year.

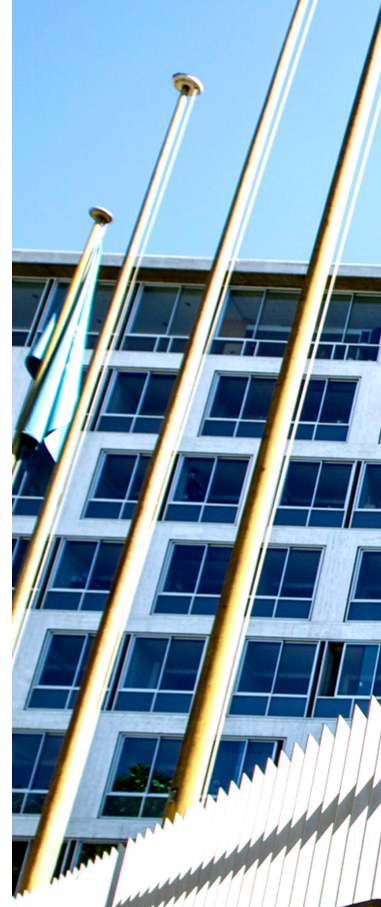


Malaysia First UNESCO Chair Honoured to KITA-UKM

UKM has created history for being honoured with UNESCO Chair in Social Practices in Intercultural Communication and Social Cohesion to the Institute of Ethnic Studies (KITA-UKM) by United Nations Educational, Scientific and Cultural Organisation (UNESCO).

This is the very first UNESCO Chair to be awarded to UKM and Malaysia within the field of intercultural communication, focusing on ethnic studies and social cohesion. The honor signifies the leading role of KITA-UKM in the field.

This Chair will be lead by Founder Director of KITA-UKM, Distinguished Professor Datuk Dr. Shamsul Amri Baharuddin, who is one of the five Distinguished Professors in Malaysia and a Fellow of the Academy of Science Malaysia.





Fireflies Study is Given the Capital Injection RM1.09 Million





UKM through the Faculty of Science and Technology received Malaysia largest fund of RM1.09 million from Tenaga Nasional Berhad (TNB), to make research about the fireflies.

Chief Researcher of the Fireflies Habitat Conservation Project (KELIP2@UKM Group) Kampung Dew, Prof. Madya Dr. Norela Sulaiman said the research covers diverse studies on fireflies. The research includes insects riverbank plant, and habitats associated with the fireflies. For example, the study of air quality in every river that affects the *berembang* tree (*Sonneratia casseroles*) and the study of birds, bats and aquatic lives involved with the health of mangrove ecosystems is also covered under the project.

The effort of replanting *berembang* trees is hoped to increase the population of fireflies in each study area that eventually improve the socio-economy of the locals through boat rental to bring ecotourism tourists who came to see the fireflies. Prof. Madya Dr. Norela said the villagers involved should be proud because the firefly habitat is unique, not all countries in the world are blessed with this firefly.

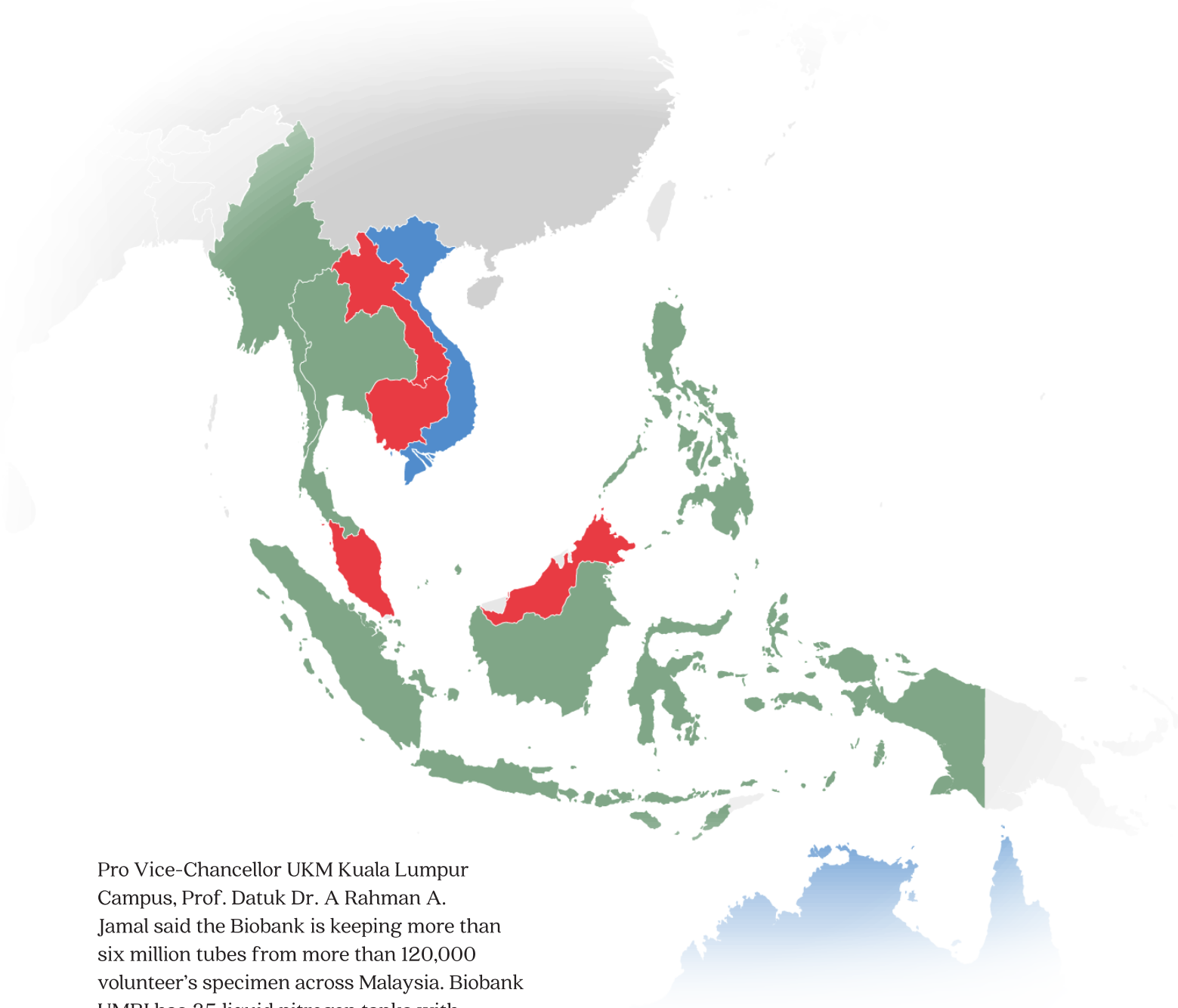
“Fireflies in Malaysia describe among those who have been successfully restored following community awareness to conserve ecosystems where fireflies breed. “Fireflies in Malaysia are also very unique as they flash simultaneously,” she explained.

Three spotted conservation areas is covered under this fund, namely, Kampung Dew, Semanggol, Perak; Yak Yah, Kemaman, Terengganu and Kampung Sg. Timun, Rembau, Negeri Sembilan.

UKM has the Largest Biobank in Southeast Asia

UKM through the Medical Molecular Biology Institute (UMBI), UKM Medical Center has the largest Biobank in Southeast Asia.

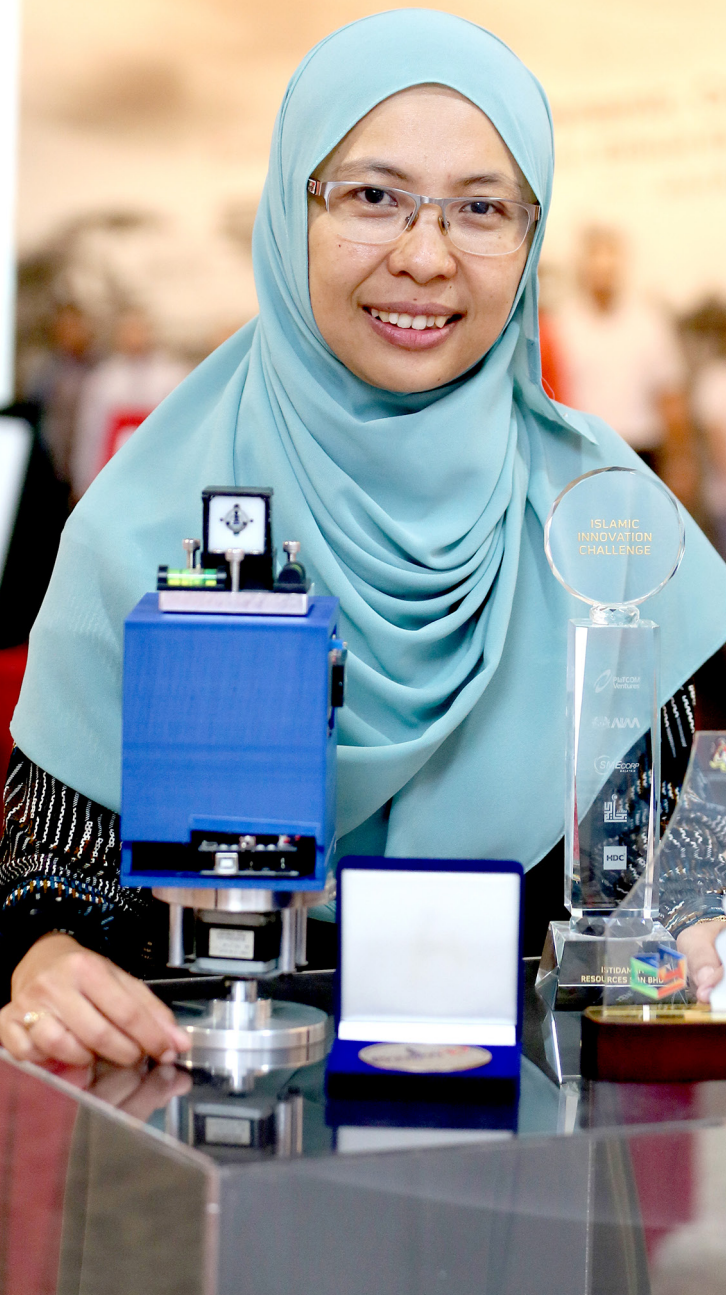




Pro Vice-Chancellor UKM Kuala Lumpur Campus, Prof. Datuk Dr. A Rahman A. Jamal said the Biobank is keeping more than six million tubes from more than 120,000 volunteer's specimen across Malaysia. Biobank UMBI has 35 liquid nitrogen tanks with temperatures of -196 degrees Celsius and 38 refrigerators with the temperatures of -80 degrees Celsius where all the specimens are stored.

The specimens are a valuable resource for research in various fields of medicine. UKM is proud of the Biobank UMBI for being a reference at the national and international level. Biobank UMBI was established in conjunction with The Malaysian Cohort project, as one of Malaysia's largest health screening project approved by the Cabinet in 2005 with the aim of Malaysia to be involved in a global large research consortium.





Pioneering Mobile Qibla Direction Device: UKM Leads the Way



Faculty of Engineering and Built Environment (FKAB), Universiti Kebangsaan Malaysia (UKM) has created a new technology to search for the Qibla direction in Malaysia named InnoQibla.

UKM is the first university that has filed the intellectual property which is the determination of mobile Qibla direction with latest innovation.

Prof. Madya Ir. Dr. Norhana Arsad, who is leading this research said the idea of innovation emerged during the FKAB's prayer hall Qibla direction determination by the Malaysia Islamic Affairs Department (JAKIM) in 2012. They believe that the qibla direction needs to be injected with the latest technology and since then has developed InnoQibla.

She said the InnoQibla innovation used Microelectromechanical technology (MEMS) to locate the true north according to the rotation of the earth and the direction along the surface of the earth towards the geographical North Pole, and then determining the Qibla direction. The Qibla direction is then transferred into the building.

She explained the accurate reading of the direction of the Qibla is very important because the deflection of one degree from the direction of determination in Malaysia can cause a mismatch up to 122 kilometres off from the true position of the Kaaba.





2019 Venus International Women Awards Conferred to Prof. Datuk Dr. Rokiah Omar



Prof. Datuk Dr. Rokiah Omar is a leading optometrist and academician at Faculty of Health Sciences, UKM. She is also involved in many volunteer and community engagement projects to provide free vision screening and free spectacles to needy families, school children, elderly and disadvantaged population in Malaysia

The UKM professor and low-vision specialist researches on low-vision impairment, which led her to receive the Venus International Women Awards (VIWA 2019) for the Distinguished Woman in Health and Medical Sciences (Optometry) in Chennai, India.

Prof. Datuk Dr. Rokiah Omar has involved in low-vision rehabilitation for 29 years. She sees the VIWA 2019 award is just a bonus to her service that is focusing to help the community. She highlighted that what is more important now is to translate the findings of various fields of research for society.

She, who is also the Director of the University Community Transformation Centre (UCTC-UKM) was also honoured as the guest of honour and keynote speaker in the 4th Annual Women Meet (AWM 2019). She presented her keynote with the title *Prevent of Blindness - Empowering Pre-School Teachers Does it Works?*

VIWA is an award for professional women who successfully contributed in science and technology, launched in 2016 by the Centre for Advanced Research and Design (CARD), the Venus International Foundation (VIF), held annually in March.



**Braille Quran with
Tajweed is now a
Reality**



The innovation of *Al-Quran Braille Bertajwid* (Braille Quran with Tajweed) stemmed from the non-existence of such in the market. Prof. Dr. Khairuddin Omar from Faculty of Information Science and Technology UKM and his team has developed the research of instrument called as *Alat PdP Braille Al-Quran Bertajwid/Jawi* with the aim of assisting visually impaired people to read the Al-Quran easily.

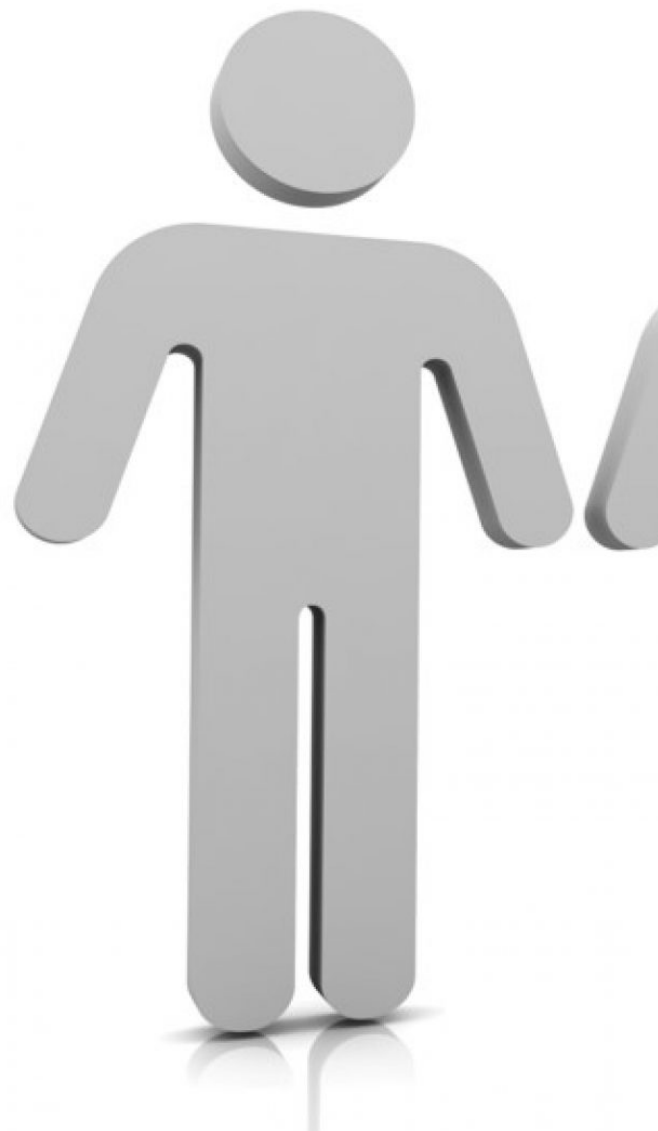
Prof. Dr. Khairuddin said, the *Al-Quran Braille Bertajwid* enable the visually impaired person to memorize the verses beyond the traditional method that is known as *talaqqi* (one to one). This *Al-Quran Braille Bertajwid* uses the basic Arabic Braille code, representing the Arabic letters, row sign such as *fathah*, *dammah*, and *kasrah* and symbols *shaddah*, *sukun*, dan *mad*, and it will be further equipped with the punctuation in the Al-Quran such as the *waqaf* sign, *Imalah's* reading and more.

This research focusing on the software application that can transcribe and produce the Braille Quran learning material using newly introduced braille code for Al-Quran braille *bertajwid/jawi*. The texts development are based on the Quran Braille PERTIS (*Persatuan Orang-Orang Cacat Penglihatan Malaysia*) structure and method of writing. In addition, the fingers' sensitivity are also involved in improving the learning skills of these letters.

The project was awarded RM350,000 from *Cabaran Perdana* Grant in December 2018 and is expected to be completed by December 2020 is also involving Dr. Dahlila Putri Dahnil Sikumbang (FTSM) and Dr. Ahmad Yunus Mohd Noor (Faculty of Islamic Studies). UKM welcomes the collaboration from the industry in developing the *Alat PdP Braille Al-Quran Bertajwid/Jawi*. For those who are interested are welcome to drop an email to Prof. Dr. Khairuddin at ko@ukm.edu.my.



The Less is
More –
Dr. Aizan
Sofia Amin
a living
proof



Dr. Aizan Sofia Amin, Senior Lecturer of Psychology and Human Well-Being Research Centre, Faculty of Social Sciences and Humanities proved herself as a significant contributor to society even after amputated at the age of 16 due to bone cancer.


For her, the loss of the left leg was not used as an excuse, but as a driving force in helping disabled people in building a better life.

For her, disabled people should be seen as a group of people who are capable in the society. Their talents are to be discovered instead of being oppressed, marginalized and left behind group of people. Dr. Aizan Sofia is an active member of volunteerism and joins volunteers with Islamic Relief Malaysia (IRM) until she is appointed as the Humanitarian Icon of IRM. She encourages other people to join her in doing volunteering work especially in helping the community.



Dr. Aizan Sofia previously a TN50 Ambassador and recently, she was awarded the Tokoh Pekerja (OKU) Negara 2019 in conjunction with Labour Day Celebration, delivered by the Prime Minister, Tun Dr. Mahathir Mohamad.





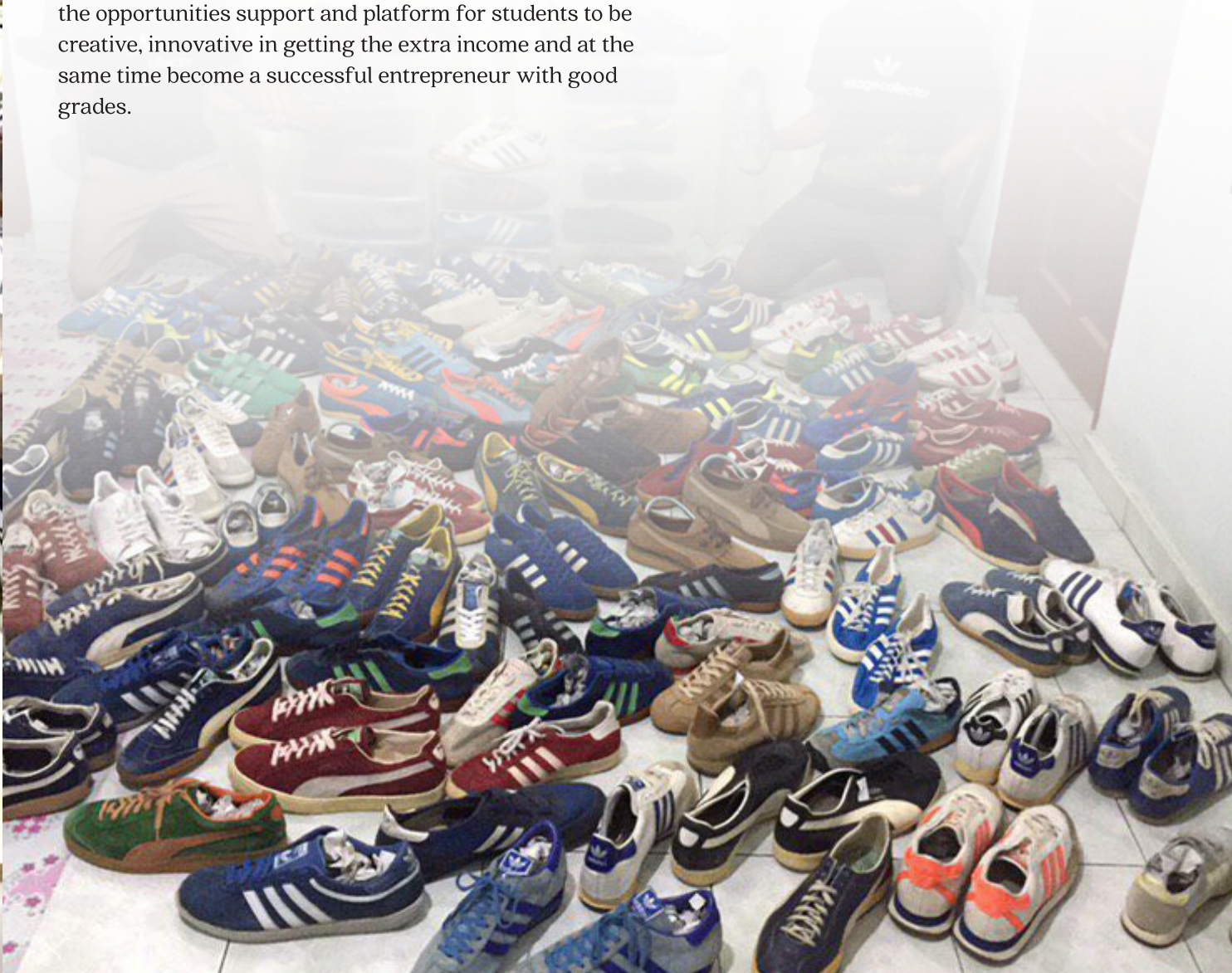
STUDENTS' EXCELLENCE

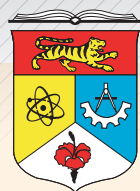
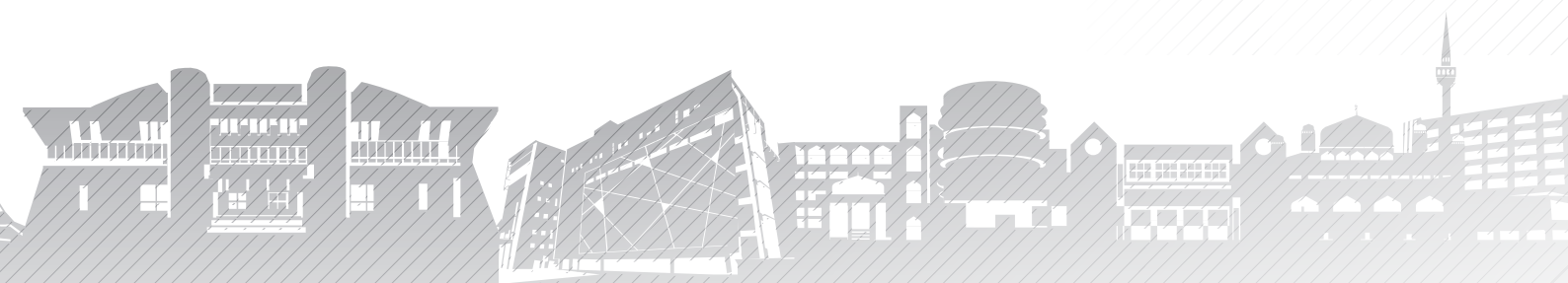
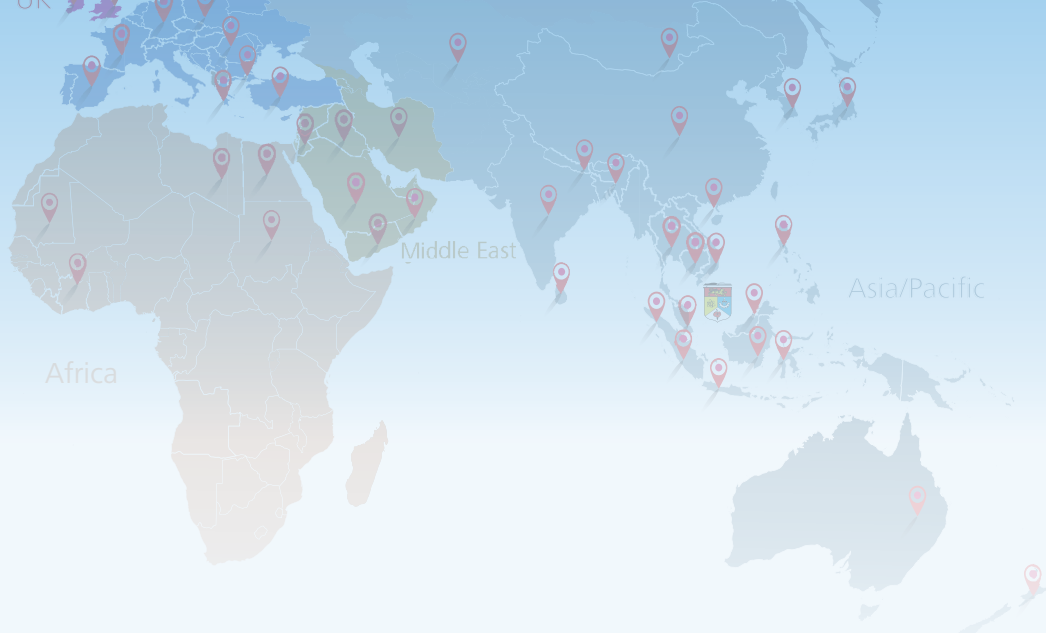
UKM Students Become a Millionaire Via Entrepreneurship

Two brothers Muhammad Izzat Razali and Muhammad Syakir Razali, both students of Faculty of Islamic Studies (FPI), UKM generate sales of more than RM600,000 from the initial RM500 capital when they first started the business

Muhammad Izzat who is a third year Syariah Master and his brother, Muhammad Syakir who currently in the second year of Master of Dakwah started selling renowned designer shoes such as Adidas, Puma and Converse on a small scale. Currently, they have their own stores that house more than 1,000 pairs of international branded shoes. Besides having the physical stored, they also market their business on online business such as Facebook, Instagram and eBay. Their customer is at a global scale and currently, they have expanded the shoe business to clothing, bags and hiking requirements.

The two brothers aim to pursue PhD study to strengthen the family economy and to help others. This success story can be exemplary that studying in UKM provides the opportunities support and platform for students to be creative, innovative in getting the extra income and at the same time become a successful entrepreneur with good grades.





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