

RESONANCE

Inspiring Futures, Nurturing Possibilities



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06 | **UKM The First University to Collaborate with World Bank**

14 | **UKM Royal Concert 2017 Gathers 60 Musicians**

18 | **UKM Researchers Receive £300,000 Research Grant**

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Photographer

Centre for Corporate Communications
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Articles are welcomed and can be sent to:
pkk@ukm.edu.my

Universiti Kebangsaan Malaysia is one of Malaysia's premier research university. Its' astounding and renowned presence in the academia is reflected through the various contributions it has made to the society, remarkable research that its researchers take part in and the many cooperation it made with the industry. Flip through Resonance's pages to read about UKM's prestigious achievements in research, publications and student and staff related activities. Happy reading.

Editorial Team

Message from the **Vice-Chancellor**

Change is inevitable.

Since its first inception, UKM has gone through a lot of innovative changes, which have carved the university's name at the forefront of the academic industry.

If before, we used to teach face to face in conventional way, the technology today has seen UKM academicians utilizing latest tools and applications, as an initiative to create interesting and meaningful learning environment.

Not only that, researches done by UKM experts, which champion the prime challenges set by the government and additionally contribute to the community, are cutting edge, creative and innovative.

I believe, that with everyone's support, the university will continue to soar upwards. There is so much to look forward to this year and I am confident that our innovative and creative streak will pave the way to greater accomplishments.



Prof. Dato' Seri Dr. Noor Azlan Ghazali

Table of **CONTENTS**



06
UKM
the First
University to
Collaborate
with **World**
Bank

07
Oil Palm Plant
Disease Prevention



08
UKM and MDEC
Embark on Big Data
Project



09
Industry@UKM
to Establish Farm
University



Malaysia-Window-to-Cambridge Launched	12
UKM-Negeri Sembilan Entrepreneurship Collaboration	13
UKM Royal Concert 2017 Gathers 60 Musicians	14
UKM Conducts Comprehensive Research on Palm Oil Mill Effluent Treatment	16
UKM First Government Agency to Have Gamma Knife Centre	17
UKM Researchers Receive £300,000 Research Grant	18
Foreign Investment Does Not Threaten Malaysia's Sovereignty	19
UKM First in Asia to Offer Global Business Course	20
UKM-OUEL Promotes Importance of Conserving Environment	21
UKM@Media	22

UKM the First University to Collaborate with World Bank



The research project covers a wide variety of subject areas, such as finance, economic growth, poverty reduction, and social protection and labor. The idea of the program was first suggested by Malaysian Second Finance Minister Datuk Johari Abdul Ghani. This pilot program is part of the Bank's effort to partner with local institutions to advance the Hub's goals of sharing the country's development experience and carrying out innovative development policy research.

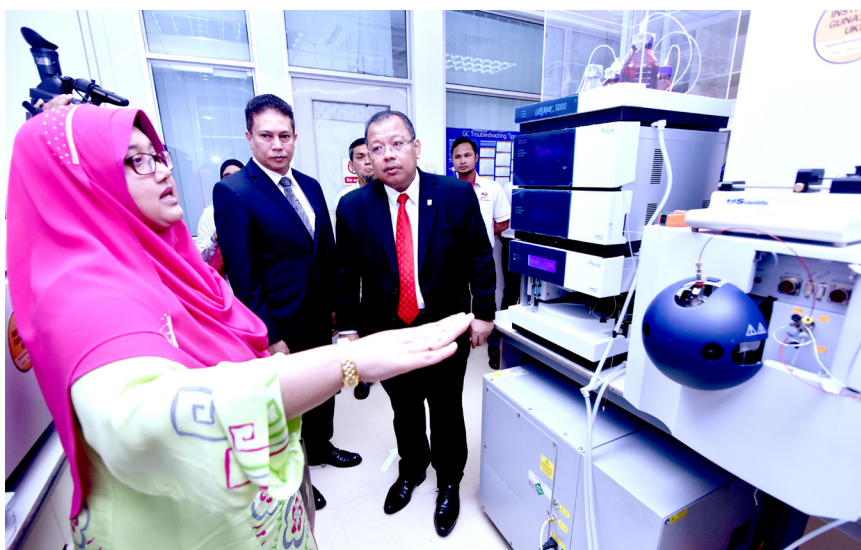
UKM Vice-Chancellor, Prof. Dato' Seri Dr. Noor Azlan Ghazali said a panel from UKM and the World Bank will be set up to choose a candidate most worthy to participate in the programme. They must be currently enrolled in a postgraduate program at the university. Successful applicants will join the World Bank Group office in Malaysia in April.

He added that the research industry internship programmes will be helmed by both parties and UKM will be spearheaded by the Institute of Malaysian and International Studies (IKMAS).

Universiti Kebangsaan Malaysia (UKM) is the first university in Malaysia to collaborate with the World Bank, to run a new research program for interns. The UKM-World Bank Research Intern Pilot Program, which was announced recently at UKM, will offer vocational training in international development and opportunities to contribute to an initiative or research project at the World Bank Group Global Knowledge and Research Hub in Malaysia.

At the ceremony, Prof. Dato' Seri Dr. Noor Azlan signed the MoU on behalf of UKM, while World Bank was represented by the World Bank Group Global Knowledge and Research Hub in Malaysia Country Manager, Faris Hadad-Zervos. The ceremony was witnessed by UKM Royal Fellow Tunku Zain Al-Abidin Ibni Tuanku Muhriz.

Oil Palm Plant Disease Prevention



The oil palm plant is commercially and economically important to Malaysia as it is a major source of contribution to the economy. Unfortunately, there's a rampant fatal oil palm disease called Ganoderma Basal Stem Rot (GBSR).

Ganoderma is deadly lethal and incurable although it has been discovered for more than 50 years ago. If not controlled or taken care of, the plant may die from 6 – 12 months after all the symptoms started to develop.

In light of this issue, researchers from UKM's Biology System Institute (INBIOSIS) will be collaborating with Felda Global Ventures (FGV) Research and Development (R&D) Sdn Bhd in conducting a study on oil palm plant disease

prevention. The high impact research project is titled "Development of stimulatory microbial metabolites and optimization of beneficial microbes against Ganoderma: Towards understanding the plant-diseases interaction and improved control protocols."

UKM Vice-Chancellor, Prof. Dato' Seri Dr. Noor Azlan Ghazali said the research aims to develop trigger antibiotic residues and antibiotic that could potentially increase the production of metabolite-bearing and thus produce microbial

agents bio-control and bio-fertilizer that have the potential to be commercialized.

FGV R&D Sdn Bhd allocated RM150, 000 for the two-year research project. UKM's research team will be led by Dr. Syarul Nataqain Baharum who is the Head of Plant Biotechnology and Genome Technology Analysis Research Centre.

The research group will undertake the metabolomics using Metabolomics Module developed by the INBIOSIS metabolomics group and the research team hopes that other collaboration will follow suit to give opportunity for other researchers to be involved.



UKM and MDEC

Embark on Big Data Project

UKM, through its Medical Research Cluster, will be collaborating with Malaysia Digital Economy Corporation (MDEC) in Big Data Analytics in Healthcare. The collaboration is part of UKM Healthcare Technopolis project, which will be implemented at the UKM Medical Centre.

UKM Vice-Chancellor, Prof. Dato' Seri Dr. Noor Azlan Ghazali said the initiative aims to encourage research culture and innovation among those in the UKM Medical Cluster and cultivate interest in entrepreneurship as well as generate income for the university.

He added that Big Data Analytics in health services is a new approach and an innovation

in the healthcare industry. The challenge, he explained, is to store the data in a systematic manner. He hopes that all parties in the Medical Cluster, Institute of Excellence, Research Group and individuals are able to equally contribute in the Big Data Project.

UKM aims to be able to work with various government agencies as a strategic partner to promote Big Data Projects and introduce this to potential business partners. The cooperation will hopefully continue to be sustainable and expanded in other areas that can benefit UKM, MDEC and other stakeholders in the field of health.



Industry@UKM to Establish Farm University



UKM through the Faculty of Engineering and Built Environment (FKAB), and Perladangan Peserta Kundang Sdn Bhd (PPK), a bumiputera company which is based on farming and livestock, will be collaborating to realise the Farm University concept.

UKM Vice-Chancellor, Prof. Dato' Seri Dr. Noor Azlan Ghazali said the Farm University is an outdoor education concept, coined by a plantation company, that is keen in ensuring the sustainability of education instead of merely prioritising on profit.

UKM, is believed to be able to make a substantial contribution in developing this new learning concept as the university has many experts in the area. Not only that, existing research results at UKM may be utilized in the implementation of the Farming University concept.

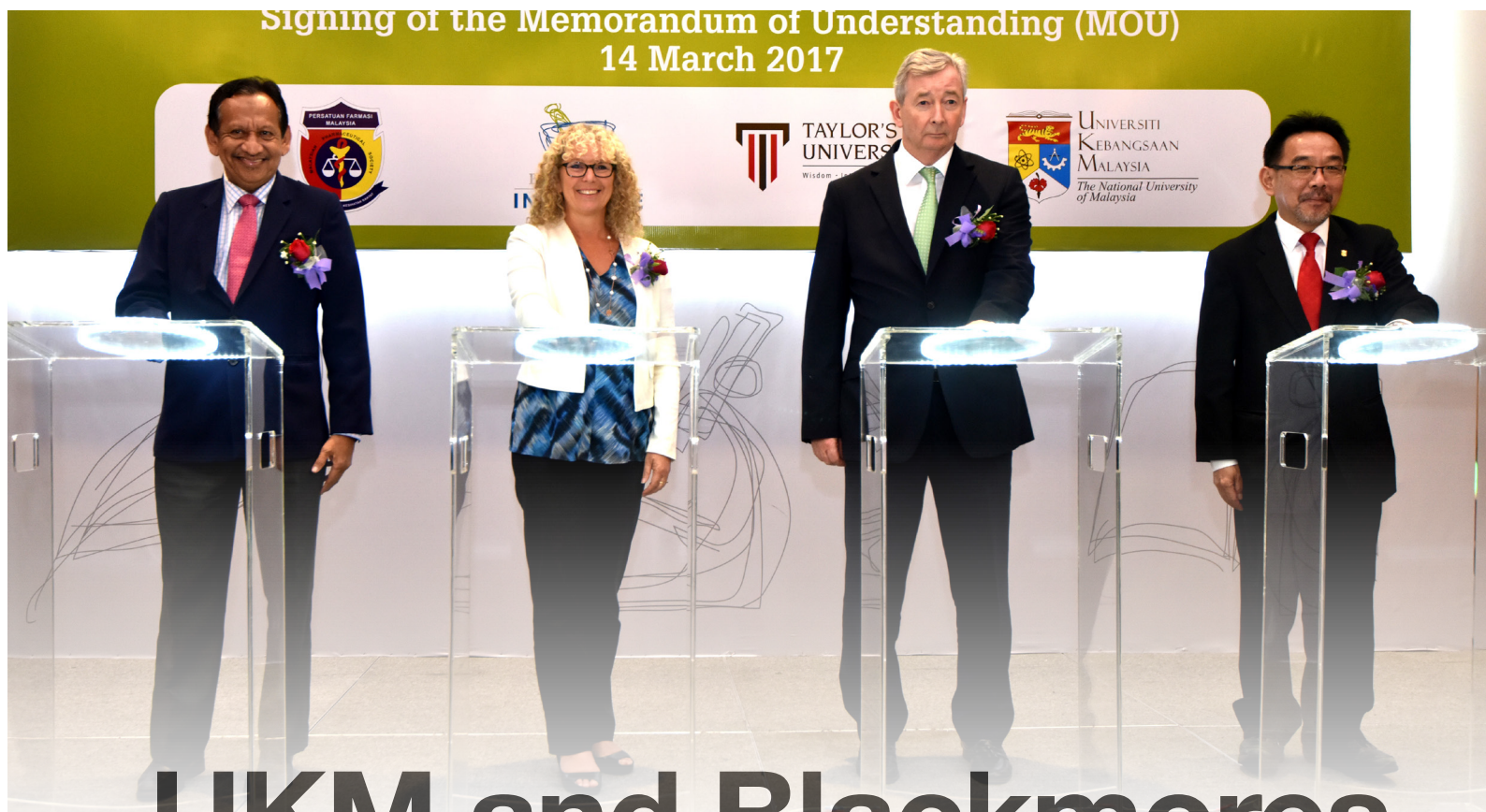
At the Memorandum of Understanding (MoU) Signing Ceremony between UKM and PPK, recently, Prof. Noor Azlan voiced his hope for the MoU to be one of the platforms to commercialize the research results that have been produced by UKM researchers and students.

The Farm University concept is also expected to provide benefits and references to students and also UKM in the advancement of the field of education, research and exploration of a new economic model

Also present at the ceremony was PPK Managing Director, Azman Md Rasip, Deputy Vice-Chancellor of Industry and Community Partnership, Prof. Dato' Dr. Imran Ho Abdullah, FKAB Dean, Prof. Dato' Ir. Dr. Abdul Wahab Mohammad and Chairman of PPK, Salim Sojo.

Strategic Partnership@UKM

Signing of the Memorandum of Understanding (MOU)
14 March 2017



UKM and Blackmores

Sign MoU to Promote Complementary Medicine

Majority of people in Malaysia use complementary medicine as it is said to have the potential to cause significant health benefits. Realising the wealth of knowledge and its potential uses, UKM established a partnership with Blackmores Institute, through the signing of Memorandum of Understanding (MoU), recently.

As the first Malaysian public university to establish collaboration with Blackmores Institute, UKM aims to create public awareness about the benefits of complementary medicine as a low risk therapeutic option, when used with conventional medications.

Blackmores Institute Director, Assoc. Prof. Dr. Lesly Braun said the collaboration also aims to equip Malaysian pharmacist with the knowledge and understanding surrounding complementary medicine and its beneficial uses alongside

conventional medicines. The MoU is also testimony to Blackmores Institute and UKM's strong belief in the important role of pharmacists to deliver high quality healthcare advice and guide people towards better health outcomes.

UKM and Blackmores Institute hope to develop research which will unlock the therapeutic qualities of natural medicine and explore ways to help people improve their health care. This is especially so when complementary medicine has been shown to work alongside conventional treatments to help individual manage complex health conditions and improve their quality of life.

Also present at the ceremony is UKM Deputy Vice-Chancellor of Industry and Community Partnership, Prof. Dato' Dr. Imran Ho Abdullah and Faculty of Pharmacy Dean, Assoc. Prof. Dr. Jamia Azdina Jamal.

UKM - MMEA

MoU Creates Opportunity for Students

UKM's Faculty of Health Science (FSK) students will be given the opportunity to undergo industrial training at Malaysia Maritime Enforcement Agency (MMEA), as part of the agreement in a Memorandum of Understanding (MoU), which was signed at the MoU Signing Ceremony held in conjunction with Langkawi International Maritime and Aerospace Exhibition 2017, recently.

FSK Dean, Prof. Dr. Bariah Mohd Ali said that the collaboration will also see FSK students be given the priority in any job interviews conducted by MMEA. In addition, FSK students are invited to use MMEA's facilities such as its' state-of-the-art laboratories.

The MoU will also see UKM contributing their expertise by becoming consultants in some cases especially those pertaining to forensic science.

Meanwhile, MMEA employees who are interested to pursue higher education are encouraged to study in UKM.

At the signing ceremony, UKM was represented by its Vice-Chancellor, Prof Dato' Seri Dr. Noor Azlan Ghazali, while MMEA was represented by its Director General, Laksamana Maritim Dato' Sri Hj. Ahmad Puzi Ab Kahar. The signing ceremony was witnessed by Minister of Defence, Dato' Seri Hishammuddin Tun Hussein.

LANGKAWI INTERNATIONAL MARITIME AND AEROSPACE EXHIBITION 2017



Malaysia-Window-to-Cambridge

Launched

UKM strengthened its ties with the University of Cambridge, through the Malaysia: Window-to-Cambridge (MW2C@UKM) programme which was launched, recently.

An initiative to intensify both university's relationship, especially on Disaster Risk Reduction efforts, the MW2C@UKM aims to create experts and hone skills related to atmospheric science and climate change. UKM's Southeast Asia Disaster Prevention Research Institute (SEADPRI-UKM) will anchor the cooperation in Malaysia.

The MW2C@UKM will see researchers, practitioners and policy-maker from the natural disaster and climate change communities, reviewing the role of

science and technology for managing the risk of disaster and climate change, especially for vulnerable communities.

UKM Pro-Chancellor Tun Ahmad Sarji, who is an Executive Chairman and Trustee of the Cambridge Malaysia Education and Development Trust (CMEDT), said the CMEDT sees the cooperation between UKM and Cambridge as a stepping stone and opportunity for UKM to create future collaboration in other areas such as English Language.

The collaboration will not only benefit UKM but also other institutions as UKM has brought on-board researchers and practitioners from other institutions in Malaysia and Asia that are working on disaster and climate risk management.

UKM envisions that through this collaboration, SEADPRI-UKM will further carve UKM's name as an institution which is relevant, referred, respected by the society, industry and academia.

SEADPRI-UKM was also advised to expand its collaboration with private sectors, particularly from the insurance, banking and investment sectors, that are very keen to know how they can play a role in disaster and climate risks, and involve them in making the MW2C@UKM a successful and financially sustainable gateway.



UKM- Negeri Sembilan

Entrepreneurship Collaboration

Entrepreneurial skills are vital to prosper personal quality and refine characteristics of an individual. It requires one to be optimistic, visionary, and have the initiative, drive and most importantly resilience.

Realising the importance of inculcating these skills, UKM will be collaborating with the Negeri Sembilan State Government to develop entrepreneurial skills, especially among those living in rural areas. This is in line with the state government's aim to develop an entrepreneurial community in Negeri Sembilan so that the local community would not be too dependent on the state government.

Negeri Sembilan Menteri Besar, Dato' Seri Utama

Mohamad Hasan said that the collaboration will provide good opportunities for both parties. This idea of beneficial reciprocity was supported by UKM Vice-Chancellor, Prof. Dato' Seri Dr. Noor Azlan Ghazali.

UKM also intends to conduct research based on sharing of expertise, human capital development and capacity, increase competitiveness and socioeconomic development and to ensure the sustainability of culture and heritage in Negeri Sembilan.

The ceremony also witnessed Dato' Seri Utama Mohamad approving the allocation of RM60,000 for UKM to publish books titled '*Negeri Sembilan: Kaya Kurnia Kaya Budaya.*'

UKM Royal Concert

KONSERT DIRAJA UKM
2017

UKM Royal Concert 2017

Gathers 60 Musicians



UKM Royal Concert

UKM's Royal Concert 2017 which was held on February 18 successfully assembled 60 musicians from the prestigious Kuala Lumpur City Hall Orchestra (DBKL).

A total of 11 songs including instrumental music were performed by two guest-artists, Dato' Nash and Siti Nordiana. Additionally, UKM students also sang at the concert and HRH Tunku Zain Al-'Abidin Ibni Tuanku Muhriz performed a duet with Prof Snezana Panosvska.

All the songs showcased on that evening were composed by Dato' (Dr.) Mohamad Johari Salleh

and Mohd Fadzil Adzan from DBKL. HRH Yang di-Pertuan Besar of Negeri Sembilan, and HRH Tunku Ampuan Besar of Negeri Sembilan, Tuanku Aishah Rohani Binti Almarhum Tengku Besar Mahmud graced the event.

Also present were Pro-Chancellor and wife, YABhg. Tun Ahmad Sarji Bin Abdul Hamid and YABhg. Toh Puan Sagiyah Salikin; Y.A.M. Tunku Besar Seri Menanti Tunku Ali Redhauddin Ibni Tuanku Muhriz, YBhg. Prof. Dato' Seri Dr. Noor Azlan Ghazali and YBhg. Datin Paduka Ir. Dr. Siti Hamisah Binti Tapsir."

UKM Conducts **Comprehensive Research** on Palm Oil Mill Effluent Treatment

UKM, through its Carbon Capture Laboratory, emerged as the first university to carry out the most comprehensive research on Palm Oil Mill Effluent (POME) Treatment.

The laboratory, a generous endowment from Yayasan Sime Darby (YSD), carries out the treatment of oil palm effluent waste and capture carbon dioxide using natural algae that has been isolated and purified water. In addition, some of the researches carried out in the state-of-the-art laboratory are: 1. capturing carbon dioxide using algae, 2. isolation and purification of natural microalgae aimed at increasing the capture of carbon dioxide and 3. the use of biomass from microalgae to produce high quality products.

According to Yayasan Sime Darby Governing Council Member, Tan Sri Dato' Seri Dr. Wan Mohd Zahid Noordin, these researches is led by UKM-YSD Chair for Sustainable Development: Zero Waste Technology Manager, Prof. Ir. Dr. Mohd Sobri Takriff. He will be assisted by a post-doctoral fellow, two engineers from Sime Darby Plantation Research, six PhD students, two Masters Students and several Undergraduate students.

The current focus of their study is on the use of algae to treat palm oil mill effluent or POME, with carbon dioxide seclusion. If this research is successful, it could change the way the palm oil industry handles effluent and be more efficient. In light of this research, a pilot plant was built at a palm oil mill owned by Sime Darby in Bestari Jaya, to treat palm oil mill effluent.





UKM

First Government Agency to Have Gamma Knife Centre

Hospital Chancellor Tuanku Muhriz (HCTM), UKM is the first Government Agency to house a Gamma Knife Centre. The treatment centre, with a proposed built-up area of 4,000 square feet, is valued at about RM25 million and is scheduled to be opened at the end of the year.

Minister of Health, Datuk S. Subramaniam said, the radiosurgery treatment centre will benefit various types of patients, especially those who have abnormal lesions, cancerous and non-cancerous tumour. He explained that Gamma Knife is a non-invasive neurosurgical procedure which uses powerful doses of radiation to target and treat tumours and abnormalities, shrinking them over time or stopping their growth.

With the centre, patients who have a tumour or brain cancer will no longer have to undergo normal surgery, but may opt to be treated with Gamma Knife radiation. This high-tech treatment focuses on a specific brain tissue involved without affecting other areas. The treatment methods is not only easy, but it can reduce trauma to the brain and in the long run, is also affordable. The Gamma Knife treatment is expected to benefit more than 40,000 patients every year.

Also present at the ceremony were Swedish Ambassador to Malaysia, Dag Juhlin Dannfelt and Deputy Vice-Chancellor of Academic and International Affairs, Prof. Dato' Ir. Dr. Riza Atiq Abdullah OK Rahmat.

UKM Researchers

Received £300,000 Research Grant

UKM researchers did the university proud when they received a research grant worth a total of 300,000 Pound Sterling for the ToyBox Malaysia project. The grant, funded by the Medical Research Council or Academy Science Malaysia (Newton-Ungku Omar), is on 'Improving Health Energy Balance and Obesity Related Behaviors among Preschools in Malaysia: Feasibility of Adapting the ToyBox study'.

The ToyBox, is a project which aims to prevent early childhood obesity using different holistic methods and evidence based on an approach that focuses on behavioral models while promoting fun, healthy food, play and policy.

Project Leader, Prof. Dr. Goh Bee Koon said the grant given to the group will be used as intervention for preschoolers to encourage them to adopt healthy practices and consequently reduce the risk of obesity and illness as a result of obesity.

Thus, the project aims to encourage pre-school students to drink plain water compared to sweet beverages, take healthier snacks like fruits or vegetables and do more physical activities such as sports and recreational outdoor activities.

In order to make this project successful, the research team will meet parents face to face to explain to them about the methods of proper nutrition which they can practice at home for their children. The main key is to encourage kids to drink plain water and do physical activities for a period of four weeks, consistently.

This practice will be repeated for two weeks longer to ensure that children will remember and adopt effortlessly this new healthy lifestyle that the research team will try to inculcate while using toys as the children's motivational drive to stay determined while having fun and being healthy.

The project also involves Dr. Leigh Gibson from the Roephampton University as the Principal Investigator, co-researchers from the United Kingdom, Dr. Cecilia Essau (Roephampton University), Dr. Sue Reeves (Roephampton University), and Dr. Carolyn Summerbell (Durham University). Besides that, four researchers from Malaysia are also involved and they are Dr. Ruzita Abd Talib (UKM), Dr. Denise Koh C L (UKM), Dr. Cheah Whye Lian (Universiti Malaysia Sarawak) and Dr. Julia Lee A C (Universiti Malaysia Sarawak).

Foreign Investment Does Not Threaten Malaysia's Sovereignty

Foreign investment from countries including China, is essential for generating economy, said Deputy Executive Director III, Strategic Planning and Investment Ecosystems, Malaysian Investment Development Authority (MIDA), Datuk Wan Hashim Wan Jusoh.

He emphasized that Malaysia is not looking to trade and attract investments from China only, but also from other countries as a result of no certainty with respect to the appointment of Donald Trump as President of the United States of America.

Datuk Wan Hashim, who is speaking at the 33rd Bicara Persada titled China Investment in Malaysia: Between Improving the Economy, Sovereignty and Integrity, in UKM, said that Malaysians need to look more objectively at the issue of investment and bilateral trade relations with China rather than speculating and sensationalising the issues.

Meanwhile, Iskandar Regional Development Authority (IRDA) Chief Executive, Datuk Ismail Ibrahim said Malaysia has received investments from China worth RM21 billion, followed by

the United States, Singapore, Japan and other European countries.

He said based on the numbers of such investments, it shows a committed investment from year to year with the expectation that the RM100 billion will generate local jobs amounting to 200 thousand local workers.

The 33rd Bicara Persada was also attended by Universiti Utara Malaysia Vice-Chancellor, Prof. Dato' Seri Dr. Mohamed Mustafa Ishak and UKM academician, Prof. Dr. Jamal Othman.



UKM First in Asia to Offer Global Business Course



UKM is the first university in Asia that offers the Global Business course, helmed by Global Business Services (GBS) Malaysia. Initiated in 2015, Global Business is a course that serves as an introduction and exposure to the GBS industry in order to provide graduates the confidence to start their early career in the industry. It also serves as a platform to foster closer working relationships between the industry and academia towards producing industry ready graduates.

UKM Deputy Vice Chancellor of Industry and Community Partnership, Prof. Dato' Dr. Imran Ho Abdullah said the course was created to equip future graduates from various faculties with the knowledge and skills required to increase their employability. He said engaging students with working environment is pivotal in ensuring students' readiness in real work-life.

As a testimony of strong commitment and support to the GBS programme, UKM recently exchanged

MoU/MoA documents with TelentCorp, MDeC, GEMS Malaysia Sdn Bhd, Outsourcing Malaysia, PIKOM, Cheng and Co Chartered Accountant's and Pro B Centre. This is in line with UKM's aim to support the Global Business Services research Network (GBSRN) as a leading GBS research and training centre in Malaysia and Asia.

In addition, few GBS firms have set up the GBS Training Lab in UKM to provide hands-on learning experiences to students. The uniqueness of the GBS Training Lab at UKM provides essential resources for GBS firms, academicians and students to learn and share knowledge on all aspects of GBS activities.

The Global Business course is also open to other universities such as Nottingham University, Multimedia University, Universiti Pendidikan Sultan Idris and a few others.



UKM-OUEL

Promotes Importance of Conserving Environment

In fostering and promoting the love for nature and environment, UKM through collaboration with Osaka University of Economics and Law (OUEL), organised a mobility program, UKM-OUEL: We Love We Care, recently.

UKM-OUEL Mobility Program Project Director, Mohamad Kamarudin Aznor said the mobility program this year was held on 21st March in conjunction with The International Forest Day 2017 and is aimed to promote environment preservation and conservation.

According to Mohamad Kamarudin, in conjunction with The International Forest Day 2017, we decided to organize the tree-planting activities as the main event. A total of 35 sites around

the faculty buildings have been prepared by the Faculty of Engineering and Built Environment (FKAB) to be used for tree planting activities.

He added that the UKM-OUEL mobility program that they organized, is different compared to the normal mobility programs offered in UKM. The students chosen for this programmes did not have to go through interviews but instead were volunteers who were concerned about the environment.

He added that the selection of students coincided with the objectives of the UKM-OUEL mobility program, which focuses on social and environmental aspects.

Learning in a world of borderless knowledge



MOHD
FIRDAUS
RAIH

KNOWLEDGE and science did not originally have boundaries that delineate our understanding into disciplines such as mathematics, physics, biology, chemistry, history, etc. The earliest scientists were polymaths who studied and described the world they lived in without lumping their description into something being a part of any particular discipline.

For example, when we study life, we tend to think of it as the discipline of biology. But, it is not just biology. Life is about how the component molecules that enable life interact with each other and carry out the functions — this is chemistry. These interactions and functions must conform to the laws of physics that can in turn be described or explained using mathematics.

We are now approaching science, and to a greater extent, the experience and process of learning itself, without too much emphasis on compartmentalising them. As we move forward into the 21st century beyond 2020, this integration of knowledge and the implementation of multidisciplinary approaches towards solving the problems that plague humanity will feature even more prominently.

I usually describe myself as a bioinformatician and molecular biologist. Not being a very articulate person, explaining what I do is difficult even to those familiar with academia. I sometimes try to find common ground by explaining what I do differently to different people, depending on what I perceive as the best context for them to understand.

For example, if I were to meet someone from the medical field, I would say something along the lines of "I study bacterial infectious disease", "I work on drug discovery", "I do genetics work" etc. When I meet someone who works in information technology, I might say "I work in information science/data science/big data", while if I were to meet someone with an engineering background, I might offer that "I work in high performance computing". You're probably thinking that I must be very confused with myself or have multiple personality disorder.

Since I don't have multiple personality disorder,

We should not cloister knowledge into boxes with no interactions between them. We should not limit our knowledge and skill sets to what degree we read in university."



We live in an era of rapid knowledge acquisition and technology evolution, thus it becomes necessary for not only scientists but also the general workforce to constantly adapt.

order [at least I hope not], am I perhaps some kind of narcissist who thinks he can do everything? [Narcissist seems to trump other words recently that I cannot resist using it here too.] The answer to that is also "no". I am also not one of those rare gifted individuals who wake up one morning at the age of 10 and solve advanced calculus problems while at the same time find the cure for cancer and build nuclear reactors.

How can I claim to "do" or be involved in all those areas of study? My main research interest is the understanding of molecular level mechanisms that control biological processes and functions. What does that even mean? Take, for example, a disease caused by a bacteria. In such a case, my interest is to find out how an organism, which we cannot even see with the naked eye, can be fatal to a healthy human being. What chemicals or toxins can the bacteria produce that can cause death? What triggers the release of the toxins and what switches it (them) off? Are there weaknesses in the biology of the bacterium that we can exploit to kill it?

Such research will require understanding the genetics of the bacteria and the human host. One way of doing that is by decoding the information contained in the genome or the total genetic content of an organism. The genome is the blueprint that makes a living thing what it is. Decoding the genome uses information science for sifting through a lot of data to hopefully get a biological understanding of the organism. Extracting useful information from large amounts of data (or big data analytics, as it is more sexily called nowadays) involves mathematics and the skills to write computer programs to extract insights from the data. Such data processing also requires substantial computing power — thus the need to use high performance computing such as supercomputers.

I have also used intense X-ray beams to determine the molecular structures of proteins, such as a toxin. This method uses a particle accelerator called a synchrotron and can provide a picture of what the molecule looks like up to the location of each atom. By knowing the toxin in such detail, we can then perhaps find or even design a drug that can stop the toxic action of the molecule.

So, although I do work on infectious diseases, genetics, chemistry, information science etc — I am simply trying to understand and solve a problem. Obviously, I do not have a university degree in all those fields. The additional knowledge and skills were acquired via self-learning necessitated by the need to solve a problem. The diverse knowledge and skill sets are directed towards a particular objective, be it to answer a question or find a solution.

We live in an era of rapid knowledge acquisition and technology evolution, thus it becomes necessary for not only scientists but also the general workforce to constantly adapt and evolve. This can be achieved by ensuring that learning does not stop when one leaves formal education. We should not cloister knowledge into boxes with no interactions between them. We should not limit our knowledge and skill sets to what degree we read in university.

Although my example may be a bit on the extreme side, many occupations now require diverse knowledge base and skill sets. Employees must take the initiative to learn, adapt and deliver. Not having the training or knowledge to do something is no longer an excuse. The aim is not to replace experts in a particular area but merely to facilitate your needs to achieve specific work objectives.

To this end, many universities now offer programmes for continuous education, which include single courses available online via the massive open online courses platform, short courses and postgraduate programmes. There is no stopping an engineering graduate to undertake postgraduate qualification in writing and journalism or psychology. Continuous and self-learning is now a reality accessible at the click of a button. Evolving ourselves to rapidly changing work environments is a necessity, but it is also facilitated by the easy access to educational resources from all over the world.

The writer is a bioinformatician and molecular biologist with the Faculty of Science and Technology and a Senior Research Fellow at the Institute of Systems Biology, Universiti Kebangsaan Malaysia. Email him at firdaus@mrlab.org

The New Straits Times 8 March 2017

UKM@ MEDIA

News Feature

By OOI MAY SIM
sim@thestar.com.my

TWO lucky students at Universiti Kebangsaan Malaysia (UKM) will get the opportunity to rub shoulders with some of the world's agents of change when they intern with World Bank Knowledge Hub of Malaysia.

The UKM-World Bank Research Intern Pilot Programme will offer vocational training in international development and opportunities to contribute to an initiative or research project at the World Bank Group Global Knowledge and Research Hub in Malaysia (WBG).

The programme was launched with the signing of the Letter of Exchange between World Bank Knowledge Hub of Malaysia and UKM at the university in Bangi, Selangor.

Applications for the internship are now open and will close on Feb 20. UKM postgraduate students who are pursuing a Master's degree or PhD and possess an undergraduate degree with a minimum CGPA of 3.6 are eligible to apply.

There is no age restriction, however, the company is looking for candidates who are conducting research in modern and integrated financial services; growth and poverty reduction; public sector performance and economic planning; and productivity, trade, social protection and labour. Both the interns will be paid RM3,440 monthly.

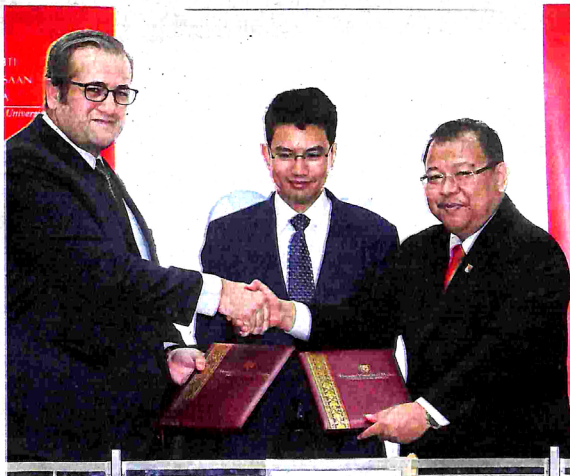
A joint UKM-World Bank panel will select the candidates based on their academic and professional achievements, leadership capability and a commitment to development. They will join the WBG in April for three months, with the possibility of a three-month extension.

WBG country manager Faris Hadad-Zervos said the two companies hope to develop new knowledge together.

The internship will reinforce

UKM, bank sign pact

Candidates will be selected based on their achievements, leadership capability and a commitment to development.



Prof Noor Azlan (right) exchanging documents with Hadad-Zervos (left) at the signing ceremony while Tunku Zain looks on.

in Malaysia, which has been a hub for new regional and international research since last year.

"This collaboration also reflects our new partnership with local institutions (to work towards) global development solutions," Hadad-Zervos said.

UKM vice-chancellor Prof Datuk Seri Dr Noor Azlan Ghazali said the university is the first in Malaysia to partner with WBG and that the programme will be jointly managed by its Institute of Malaysian and International Studies (IKMAS) and WBG.

The idea for the internship was

first mooted by Second Finance Minister Datuk Johari Abdul Ghani. The pilot programme is part of WBG's efforts to partner local institutions to advance its goals of sharing the country's development experience and carrying out innovative development on policy research.

During the signing ceremony, UKM also appointed the Institute of Democracy and Economic Affairs (IDEAS) founding president Tunku Zain Al-'Abidin Tunku Muhriz as its Royal Fellow at IKMAS.

Tunku Zain will, during his

three-year tenure, share his experience in programmes associated with Asean integration, especially in the social cultural dimension. He will also deliver two public seminars, be involved in UKM staff and student engagements, and enhance the university's inter-regional networking capacity.

Tunku Zain is not a stranger to UKM and has been taking part in the university's programmes such as being the keynote speaker at the inaugural Asean Economic Integration Forum held at St Anthony's College, University of

Oxford, United Kingdom in 2015, said Prof Noor Azlan.

Emphasising the importance of research, IDEAS and UKM signed a Memorandum of Understanding to jointly run the Southeast Asia Network (SEANET), a regional research and advocacy centre that promotes policy ideas to make Asean's growth more inclusive and sustainable.

SEANET aims to catalyse the creation of an Asean Economic Community, an important pillar in the growth of the region.

IDEAS chief executive Wan Saiful Wan Jan said SEANET was launched on Nov 23, 2014 to champion inclusive development, property rights and free movement of people and goods in Asean.

"Ultimately, our aim is to catalyse Asean economic integration, which is a crucial part in the building of a sustainable Asean Economic Community. IKMAS and UKM bring a whole network of researchers and a host of other resources to support the future work of SEANET. We hope this partnership will help catalyse and accelerate public dialogue on the importance of open trade for Asean," Wan Saiful added.

Tunku Zain said that these are crucial partnerships in a challenging time for public universities, which are facing cuts in funding.

"If public universities are to be formidable in this climate, they need innovation. This requires autonomy and freedom so that university leadership can make the necessary improvements."

"Perhaps, in the long run, this will help our universities become more independent," he added.

The STAR

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UKM 'lions' come head to head

Pendeta Za'ba residential college triumphs over five other teams in competition

THE lion dance team from Universiti Kebangsaan Malaysia's (UKM) Kolej Pendeta Za'ba emerged champion after a dazzling display of skills in the 4th Lion Dance Competition held in conjunction with the university's 23rd Pesta Ang Pow.

The duo, Bryan Tan and Chai Man Wai beat five other teams from UKM's other residential colleges to clinch the title.

Head judge Lew Sai Tet, from the International Wulong Wushi Sport (Lion and Dragon Dance) Federation, said it was crucial that lion dancers worked well with the drummers.

"The most important thing is whether the 'lion' can follow the drum beats," he explained.

Lew added that Tan and Chai

worked well with each other, and this was also a key factor to their win.

The competition, held at the university's Panggung Seni in Bangi, was launched by Star Media Group Bhd group managing director and chief executive officer Datuk Seri Wong Chun Wai.

Wong said in his speech that such events should be encouraged among the young.

"It helps promote the culture," he said, adding that the event helped the students to bond and gave the organising committee an opportunity to cultivate leadership skills.

"The university holds a special place in my heart as I am a UKM alumnus," Wong said.



The Pendeta Za'ba team flanked by UKM Pesta Ang Pow secretariat president Wong Choon Yee (left) and organising chairman Lim Soon Pin (right) while Lew looks on. — GLENN GUAN/The Star

He pointed out that he was surrounded by UKM alumni. His sister-in-law and brother-in-law were graduates of the university, and so was Star Media Group chief operating officer Calvin Kan, he revealed.

Other UKM alumni at The Star Media Group are Admin and Building Services general manager Iris Tan, Sunday Star editor Esther Ng and StarMetro news editor Sujata V. Poobalasingam.

The students who took part in the lion dance competition trained at the Cui Qing Cultural Centre in Negri Sembilan in January to prepare themselves.



(Above) A team in action during the 4th Lion Dance Competition.



(Left) Students adding some entertainment to the event with their singing.

The lions taking centre stage during the competition.

The STAR

1 March 2017

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Centre for Corporate Communications

Universiti Kebangsaan Malaysia
43600 UKM Bangi, Selangor Darul Ehsan, Malaysia
☎ +603 8921 5540/3370/4142 📠 +603 8921 4097

✉ pkk@ukm.edu.my
 UKMOfficial
 ukm_my
 ukminsta
 ukmtubes

