

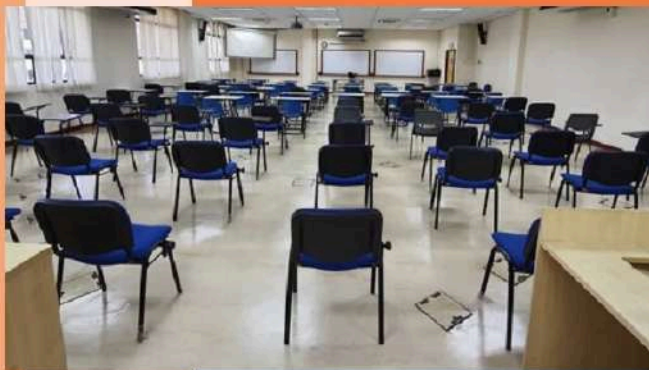
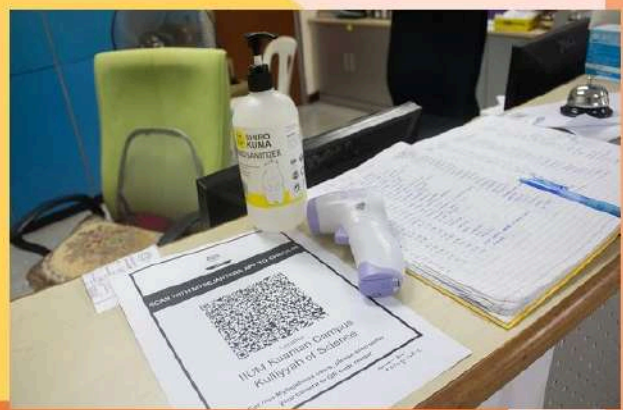
SCIENCE @IUM

ACADEMIC SURVIVAL THROUGH COVID-19 PANDEMIC

LEADING THE WAY

KHALĪFAH • AMĀNAH • IQRA' • RAḤMATAN LIL-ĀLAMĪN

ADAPTING TO THE NEW NORM



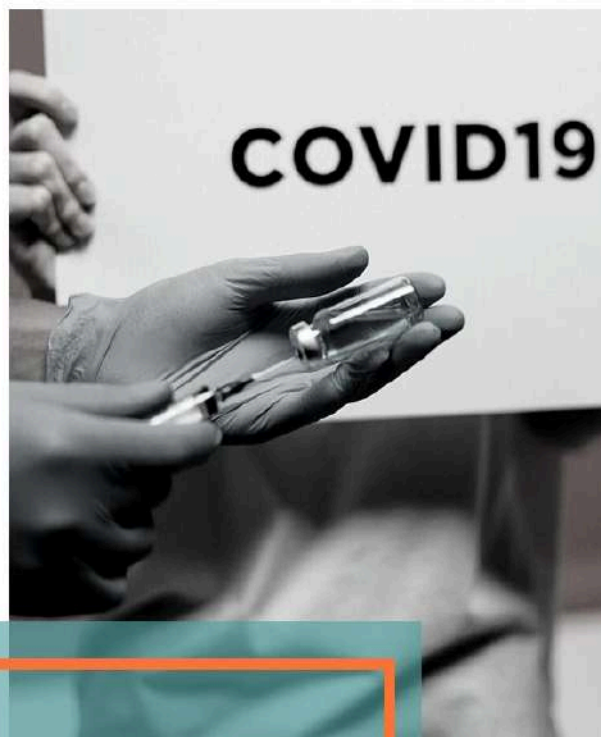
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(Micro-phi) Team

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DEAN'S FOREWORD



PROF. DR SHAHBUDIN SAAD
Dean, Kulliyah of Science
International Islamic University Malaysia

Praise be to Allah S.W.T. for His grace and benevolence that our Kulliyah of Science has succeeded in publishing our annual magazine, *SCIENCE@IIUM* despite a challenging year for all of us. I wish to take this opportunity to thank the editorial team for their undivided commitments and efforts in ensuring this issue to be completed. This is an accomplishment regardless of many restrictions and adjustments to our usual routine due to COVID-19 cases affecting so many around the world and Malaysia is no exception.

Due to the pandemic, educational institutions including our university was forced to closed our doors. The lockdown has brought e-learning practices to be implemented. Both lecturers and students requires to adapt to the new norm. Within Kulliyah of Science, I know that there are a lot of challenges had to be overcome, many issues needed to be solved. *Alhamdulillah*, we managed jump over each hurdle until today. My highest appreciation to all staff and students.

In Kulliyah of Science, we are also trying our best to help the Ummah by encouraging our staff and student to engage with projects related to COVID-19. Hopefully, there will be more contribution from us in the future since "*kita belum menang*". Therefore, "*kita jaga kita*" and *insyaAllah* our efforts will be paid off not only in this world but also in the hereafter.

As our Prophet Muhammad, peace be upon him, told us

"The best among you are those who bring the greatest benefits to many others."

Lastly, I pray that all of us will be safe and healthy during this pandemic and I wish that all readers will benefit from this issue of *SCIENCE@IIUM*. Thank you, *wassalam*.

FROM THE CHIEF EDITOR



Alhamdulillah, thanks to Allah finally we manage to publish our magazine despite all the challenges we faced this year. I like to thank the Dean, too, for appointing me as the Chief Editor for 2020's Kulliyah of Science (KOS) magazine. I feel honoured and am tremendously excited about this appointment.

The year 2020 was surely a year to remember. I would like to say congratulations to all of us, especially all the members of KOS Family, that we made it. The academic sector, and all of us, is being tested during this pandemic COVID-19. *Alhamdulillah*, Allah has helped us a lot. We have adapted and managed the new norms based on our best capacity and capability.

Gadgets and screens are becoming our platforms, and our home has become our classrooms and laboratories. *Alhamdulillah*, we are still able to maintain the "netiquette" while living in these new norms. I pray that all these will come to an end soon, and we will be able to attend classes as usual.

For all the frontliners in IIUM and especially in KOS, my gracious appreciation for the hard work during this COVID-19 pandemic. May the blessing of Allah always be with you.

Last but not least, I would like to thank my editorial team for their hard work and support to produce this 2020 magazine. May Allah reward all of you with His Jannah. Ameen.

To all of you, stay safe. Stay inside the house. Please pray for the best to come, *InshaAllah*. Keep praying as we must always trust that Allah will answer our prayers. Not because of who we are, but because of who HE is.

EDITORIAL BOARD



Not in the picture: AP Dr Normawaty Mohammad Noor (Advisor)

From left: Dr. Hafizah Noor Isa, Dr. Rashidah Abdul Razak, Dr. Mohd Hamzah Mohd Nasir, Dr. Maryam Zahaba, Dr. Khairul Bariyyah Abd Halim, Br. Amar Muhsin Mohd Ikhsan, Dr. Mohamad Wafiuddin Ismail, Dr. Siti Fairuz Che Othman, DR. Nor Azahana Abdullah, and Dr. Norfaieqah Ahmad

KOSmagazine2020 | 5



KOS ADMINISTRATIVE TEAM 2020



From front left: Dr Abdul Latif Noh, Prof. Shahbudin Saad, AP Dr Normawaty Mohammad Noor, AP Dr Noraslinda Muhamad Bunnori. Second row: Dr Rozilawati Shahari, AP Dr Deny Susanti Damis, Dr Nurul Farahain Mohammad. Third row: Prof. Ahmed Jalal Khan Chowdhury, Br. Mohd Roslan Zainol Abidin, Dr Mardiana Mohd Ashaari, Dr Nur Nazifah Mansor. Fourth row: Dr Mohd Adli Md Ali, Dr Mohd Hazimin Mohd Salleh, Dr Mohd Hamzah Mohd Nasir, Dr Mohd Faez Sharif, AP Dr Muhammad Zamzuri Abdul Kadir @ Jaafar, Dr Mohd Fuad Miskon. Not in picture: Dr Tamil Chelvan Meenakshi Sundram, AP Dr Ibrahim Adam Ahmed Shogar, Dr Muhammad Zahir Ramli

Part of the solution

NANOTECH COVID-19 SENSOR

Since COVID-19 first being detected in Wuhan, China in December 2019, the world is facing a threat like never before. In 2020, this outbreak was declared as a pandemic by WHO which sent the whole world into turmoil causing millions of deaths worldwide. Since then, many organizations gathered top scientists all over the world in finding ways to curb this outbreak efficiently. In 2020 Massachusetts Institute of Technology (MIT) organized MIT SOLVE welcoming all scientists and researchers all over the world to offer their ideas in providing effective solutions for many issues from respective fields.

IUM teams consist of members from various departments, Dr Amani Salim (Engineering Biotech) as the project leader, Dr Izzat Suffian (Pharmacy), Dr Mohd Hamzah (Biotechnology), Dr Azzmer Azzar (Biotechnology), Dr Firdaus (Engineering Biotech), Br. Abdelmohsen, Sr. Uswah and Industrial partner Mr. Iqbal and Mr. Piravin Raj (NanoSkunkWorkX Sdn. Bhd.). The team submitted their ideas "Nanotech Covid10 Sensor" under the "Health Security and Pandemic". Both Dr. Hamzah and Dr. Azzmer became the key player offering their expertise in molecular detection and modeling. The solution proposed was short-listed and collected 6508 votes from around the globe making them the winner of the community award and bagged home cash prize worth 2000USD. Their triumph has also garnered the attention of many parties who sees the potential of the ideas to be commercialized offering investments for the project to further take off.

Updated on June 17, 2020

6508

Nanotech Covid19 Sensor

A hybrid electrochemical+colorimetric test kit to replace RT-PCR for SARS-CoV-2 detection and quantification

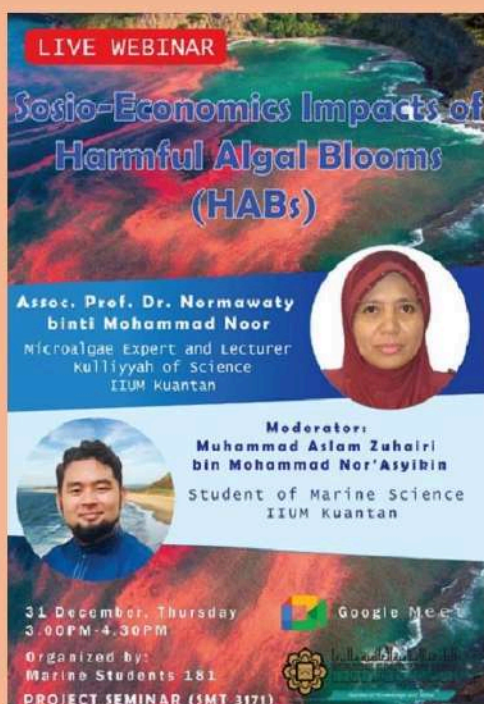
By **DR. AMANI SALIM**



WEBINARS

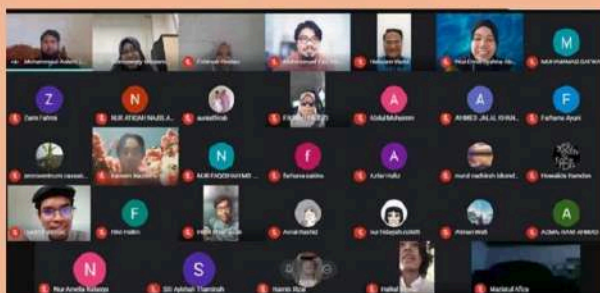
Marine Graduate Inputs on Future Prospect

This webinar was held on 25th December 2020, delivered by Br. Muhammad Addin Mazni. He is an alumnus of marine science student IIUM Kuantan and now working as a marine conservation officer in WWF-Malaysia. This one and half hour session through the Google Meet platform aims to expose the current marine science students on their future career path, job opportunities, and others. The speaker also shared his experience, challenges, reality, the mentality of work culture and workload that need to be faced in the working industry. This webinar session was hoped to give the students insight on potential skills and knowledge that need to be acquired for their future careers.



Socio-Economics Impacts of Harmful Algal Blooms (HABs)

On 31st December 2020, the invited speaker, AP Dr Normawaty Mohammad Noor shared her experience as a microalgae expert that contributes actively to HABs studies around Malaysian waters. In this webinar, the speaker discussed on the characteristics of HABs which further being categorised as toxic and non-toxic. The speaker continues to share her views on the socio-economics impacts of HABs that relate to human health financial losses, fish mortality and reduced tourism activity. Finally, she concluded that long-term consistent monitoring of HABs through collaborations among academia, government institutions and communities are needed to understand the HABs growth factors, predict their bloom and mitigate their effects.

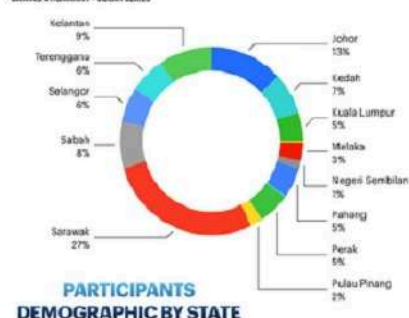




Gaming4Humanity Ocean Series (G4H Ocean)

Gaming4Humanity Ocean Series (G4H Ocean) was the first charity gaming event held for the cause of saving the ocean and its surrounding communities. G4H Ocean was successfully held online on October 10th and 11th where it gathered a total of 455 Player's Unknown Battleground (PUBG) Mobile players all over Malaysia to join in the play-to-donate event for marine awareness movement. With the aim to spread conservation awareness, G4H Ocean thrives to be a successful crowdfunding program for other marine conservation projects organized by IIUM Marine School; especially on edu-tourism programs for Bottom 40 (B40) coastal communities.

GAMING 4 HUMANITY - OCEAN SERIES



ROAD TO THE FUTURE PROJECT
October 2019

three-s DIALOGUE
Social Entrepreneurship Sharing Sessions Co-Hosting Series

THEME
From Waste to Wealth
Role of Social Entrepreneurship & Innovation

This series of webinar will specifically focus on two sub-themes, which are: (1) Empowering Youth Innovators, and (2) Facilitating Individual Behavior Change.

Thursday, July 16 2020
02.30 PM (Malaysia) / 13.30 WIB (Indonesia)
Event will be streamed at Microsoft Teams and Facebook Live. Link will be provided after registration.

REGISTER: bit.ly/webinar3S

MODERATOR:
Dr. Muhammad Majid
Universiti Teknologi MARA, Johor

Speakers for Subtheme 1: Empowering Youth Innovators
Dessy Aliandrina, Ph.D.
Executive Director of SociopreneurID
Dr. Suhaila Mohd Omar
Faculty of Sciences
International Islamic University Malaysia

Speakers for Subtheme 2: Facilitating Individual Behavior Change
Dr. Noor Awanis Muslim
College of Business
Management & Accounting
Universiti Tenaga Nasional
Dr. Suhaidah Hussain
Faculty of Business
Management, Universiti
Malaysia Pahang
Nicholas Jemas
Co-Lead of SCDhub

Contact Person: +60 11-808 9216 (Fathilah Abdul Ghani)
Email: fatimah@uniten.edu.my

From Waste to Wealth: Role of Social Entrepreneurship & Innovation

Upon embarking on a benchmarking visit to Indonesia in June 2019, Yayasan Canselor Universiti Tenaga Nasional (UNITEN) together with SociopreneurID looks into the community behaviour on waste segregation. In light of the visit which was led Dr Dessy Aliandrina, the Executive Director of SociopreneurID, it has opened more doors for the exchange of ideas in empowering the community to engage on sociopreneur project.

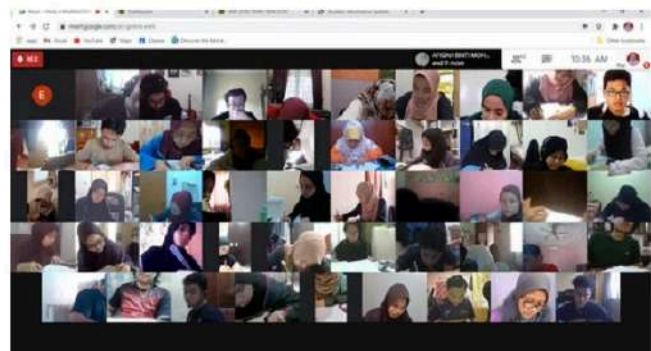
This year, they continue to share ideas and current progress and milestones of the project through this webinar. Dr Dessy was also one of the panelists who contributed to share her knowledge on the waste segregation project which she facilitated in South Tangerang. The webinar was chaired by Dr Muhammad Majid from UiTM who was a former academic in UNITEN and a team member of the said project. This session was held in cooperation between sociopreneur Indonesia and three Malaysian Universities: UNITEN, Universiti Malaysia Pahang (UMP), and IIUM on the 16th July 2020. AP Dr Suhaila Omar from the Department of Biotechnology was invited as a panelist who is also an expert championing research in waste management. The talk was in line with our university key value as this project covers the social well being and values creation, responsible research, and creation with global relevance.

NEW NORM EXERCISES IN KOS



Postgraduate assessments, PTEM for Master and Viva for PhD students were carried out through online platforms. These assessments are usually held in a closed session where it is attended only by the PG coordinators, supervisors, and examiners. One of the advantages that came out from it, is the external examiners who are from other universities, local or international, are able to attend the examination session without having to be physically present, and despite being on a different time zone!

For undergraduate classes, lab sessions and assessments including examinations, KOS has also shifted to using the latest technologies through online platforms such as Google Meet, Zoom meeting and MS Team together with the brand-new university Moodle platform, iTa'leEM. Training and workshops were given to all academic staff to ensure that they can deliver their lessons to the students through these online mediums. Apart from that, the management team had addressed all arising matters prior to the virtual implementation from students to ensure that they are able to have access to these online platforms. To the best of our capacity, we have been trying to facilitate the students so no one is to be left behind or missing out. Now that we are getting used to these new norms, both lecturers and students are doing well and enjoy this moment while still hoping for the traditional face-2-face learning soon.



COVID-19 VOLUNTEERING TEAM EXPERIENCE

By Sr. Nur Nadiyah

Edited by Dr Siti Fairuz Che Othman

Two days prior to the movement control order, I received an email from the Head of Department of SASMEC@IIUM hospital inviting me to be a part of the volunteering team in handling COVID-19 cases. I jumped at the invitation as I believe this will serve as a valuable experience for me. Even before enrolling as a Postgraduate Student in IIUM, I was already a part-timer at the hospital's pathology lab.

Upon embarking on this heavy task, I have made sure to obtain approval from both my parent and my supervisor, Dr Nur Firdaus Isa. The situation throughout my volunteering work was very tensed as the public and hospital workers were still a little paranoid over the possibilities of contracting the disease. There were strict protocols, and volunteers are divided into specific shifts.

"Through my volunteering work, the hospitals became my second home as I must sleep there for a month."

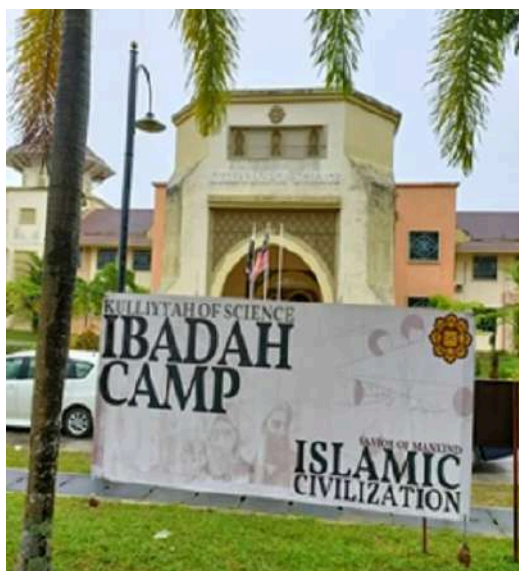
The most frequently asked question while volunteering in the lab, "What was it like to don on the PPE?". Donning on the PPE was also a notable experience, as there are specific steps to follow before putting on. You are first required to change into the hospital uniform, exactly like the one the doctors wore in the operation theatre. All uniforms were autoclaved beforehand. Once you have the complete ensemble on, you enter the lab and the lab will be locked.

"The means of communication was through the glass window on the door. It was tough as even though the space was air conditioned, it was still hot and you have to have the PPE on for 6 hours."

Throughout my volunteering period, to ensure our safety, swab tests needed to be done periodically, and I went through the swab test thrice and *Alhamdulillah*, all tests came out negative.

I feel extremely proud of having to contribute something through this pandemic period. Until then, I would like to remind everyone to regularly wash your hand, stay sanitized, and observe your physical distance. *InshaAllah*, everything will be safe.





IBADAH CAMP

DATE: 26-27 NOV 2020

PLATFORM: ZOOM & FB (KOS) LIVE

Ibadah Camp is an annual program which aims to create awareness on the importance of spiritual and physical enhancements especially in gaining success in this world and hereafter. This year, '**Islamic Civilization – Saviour of Mankind**' was selected as the theme. Adapting to the new norm, KOS Ibadah Camp had also been organized virtually. This 2-day program featured three invited speakers which are Dr Muhammad Imran Mustafa Abdul Khudus from UM, Mr Muhammad Hamka Embong from UMP who is also known as '*Hamka Kereta Mayat*', and Ustaz Mohd Zulkarnain Shamsuddin from Masjid Tepian Putra, Kuantan. Overall, KOS Ibadah Camp 2020 was a successful event despite being the first time that such a program was conducted through an online platform. The organizing committees are especially grateful for the great teamwork exhibited by all committee members and kind cooperation from all participants in realizing, making sure the smoothness and the successfulness of the program.



**"Body is purified by water.
Nafs by tears. Intellect is
purified by knowledge. And
soul is purified with love."
- Ali Ibn Abi Talib, Radiallahu Anhu.**



FORS D NOW ONLINE!

by Forum of Religio-Scientific Discourse (FoRSD), Kulliyah of Science, IUM

All of you are invited to a talk entitled

PERANCANGAN HARTA DALAM ISLAM



meet.google.com/hkh-vxny-qwh

DATE/ DAY/ TIME

**13 NOVEMBER 2020
FRIDAY
11.00 AM**

Come & Join Us

SPEAKER:

- Pendakwah Bebas
- Ketua Imam Masjid Al-Haqiqamah Kayangan Heights U9 Shah Alam
- Perunding Pengurusan Harta Dalam Islam
- Tenaga Pengajar (Al-Quran & Tarannum)

USTAZ NURI ALI BIN ARBAIN



by Forum of Religio-Scientific Discourse (FoRSD), Kulliyah of Science, IUM




Pensyarah Darul Quran JAKIM

USTAZ MOHAMAD NORHAZIMIN

RASULULLAH DEKAT DI HATI DAN JIWA

DATE/ DAY/ TIME

**23 OCTOBER 2020
FRIDAY
11.00 AM**

Salam

MAULIDURRASUL 1442H/TAHUN 2020

Google Meet Platform
<https://bit.ly/3kfr8ZQ>
PIN: 225 588 356#

Come and Join Us!

LEARNING QURANIC ARABIC

THE EXPRESS WAY **#8/2020**

**16 OCTOBER 2020
FRIDAY
11.00 AM**

ONLINE ZOOM PLATFORM:
<https://bit.ly/375rdeH>

SPEAKER:

BY DR. SUPIAN BIN MAT SALLEH
DEPARTMENT OF COMPUTATIONAL AND THEORETICAL SCIENCES,
KULLIYAH OF SCIENCE, IUM

Come and Join Us!

CTD POINT • ONLINE • SOCIAL DISTANCE FORSD
PLEASE LOGIN IUM-ATTEND GIVEN

by Forum of Religio-Scientific Discourse (FoRSD), Kulliyah of Science, IUM





ESA UNGGUL

An understanding was reached between IIUM and Esa Unggul University (EUU), Jakarta on 19th March 2019. Both parties agreed to pursue with students and staff mobility, joint research, visit or study tour, participation in conferences and scientific discussion as well as collaborations in any other areas. Last year, we received one EEU student. Unlike in 2019, students were able to attend the physical classes, however, due to the pandemic, the students participated in all classes through online platforms.

This year, we received seven students from EEU, where all of them are registered as our students and attended all classes and training sessions online. The pandemic has forced most classes to be shifted to various online platforms, however, this has open doors for us to exchange more students as they can have access to all of these educational online platforms. We are looking forward to continuing this exchange programs in the long run by making it a two-way engagement program. With this, soon our IIUM students will be able to experience student life in other universities too.



From top Left: Alfero Iryanto , Bella Octavia, Feby, Kevin, Panji, Muhammad Ichsan, Nahdatul Fajriyati

COLLABORATION VISIT TO LKIM PAHANG



Visit to Lembaga Kemajuan Ikan Malaysia (LKIM) Pahang State Office was carried out on 19 November 2020 (Tuesday) to discuss on the further collaboration. The visit was led by Prof. Shahbudin Saad (Dean, KOS) and joint by other members; Dr Mohd Fuad Miskon (Head, INOCEN), Dr Juliana Mohamed & Dr Aimimuliani Adam. At the same time, they also discussed the billfish conservation project which will be conducted together with MALCONS (Pahang Marine Life Conservation Society).

THE ECONOMISTS: A NOBLE PROFESSION OF MANAGING ECONOMIC AND FINANCIAL AFFAIRS

MOHD AMINUL ISLAM (ASSOC PROF)

Being born and raised in a family of teachers, I always had a dream to pursue my future career as a teacher which to me is the noblest profession. To materialize the dream, I aimed to do Ph. D in my most favourite field, Economics. Economics is the most fascinating discipline of social sciences as it encompasses studying the very fundamental aspect of human life in making decisions particularly with respect to the use of scarce resources in satisfying humans unlimited wants. My interest in studying economics grew out of my curiosity to know how economic knowledge can help better management of our economic and financial affairs.

Alhamdulillah, I was granted the opportunity to do my bachelor, Master and Ph. D degrees in the field of economics from IIUM. During my journey from undergrad to Ph.D I faced many obstacles, but I never give up, I never stopped striving rather I pushed myself hard to reach my goal. Finally, my strong will and firm determination surmounted all the obstacles.

Immediately after my PhD, I started my career as an Assistant Professor with the CTS department in the Kulliyah of Science on December 4, 2007. Since then, I have been teaching economics as part of a minor package in business administration together with financial mathematics courses. Financial mathematics courses essentially fall under the broader scope of economic discipline. I really enjoyed teaching financial mathematics courses.

As an academican my primary focus is on teaching and doing research. As a lecturer, I firmly believe that lecture is not how much I know but how much the students learned. My research interest is basically applied in nature (applied finance/applied economics). I have successfully accomplished few projects (solo & joined). Currently I am involved in a research project related to cost-benefit analysis of patin buah fish farming along Pahang river in Temerloh. It seems hard for me as the scope is slightly different, but I believe hard does not mean impossible.

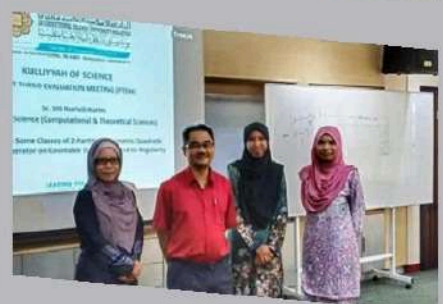
If I was asked, what is the main achievement in my life? I would say it is successfully obtaining the highest degree in education that I was aspiring despite facing many adversities. The other achievements include-1) article published on role of Zakat in Islamic economics in an international journal published in Saudi Arabia in 1997 while I was a Master student, (2) Won a consolation prize on 2nd essay writing competition on Islamic economics organized by the Islamic Foundation, Leicestershire UK in 1997, and (3) Won first prize in the Essay Writing Competition on the role of women in the next millennium organized by Student Affairs & Development Division, IIUM in 1998. I was so excited and motivated as these recognitions were achieved during my study of master's degree. Besides during my career at the CTS, I managed to publish more than 30 articles in different journals.

Finally, what I realized from the experience of my journey is that very seldom great things come from comfort zones. Setting goals, firm determination and working hard are important to achieve success. Verily, true success, wealth, great career all are the results of hard-working and hustle over time. There is a proverb, "Where there's a will there's a way". If you are determined to do something, you will find a way to accomplish it regardless of obstacles.



"As an academican I feel great success when I see few of my students who currently are my colleagues."

SNAPSHOT 2020



THE JAPAN SCIENCE AND TECHNOLOGY AGENCY (JST) "JAPAN-ASIA YOUTH EXCHANGE PROGRAM IN SCIENCE"

JAPAN SAKURA PROGRAM



Ten IIUM students from different kulliyahs were given the opportunity to participate in the Japan Sakura Program. This knowledge transfer program aims to exchange ideas on future developments in science and technology between Malaysia and Japan. This program is also one of IIUM Flagship project – The Muara: A living River Lab in Muar. By focusing mostly on the technologies in managing the rivers in Japan specifically in Fukuoka, sustainable river management can be implemented into the university's project.

The group were accompanied by Akira Morishima, the executive advisor of the Japan-Malaysia Association who is also a Professor in Hiroshima Shudo University. Also with them, Shunsuke Okano, who was the director of the Japan-Malaysia Association along with Yukiko Matsuike, their lovely interpreter.

They were introduced to Professor Shimatani, a researcher of Basin's river management from Fukuoka University who explained about the implementation of Ecological Disaster Risk Reduction (EcoDRR). Since Fukuoka often suffers from rain disasters, it will much likely lead to floods and so, as a preventive measure, EcoDRR was developed to reduce the effects of landslides or flooding towards local communities. They were also taken to see Asakura City, where a large landslide resulted from a typhoon occurred there in 2017.



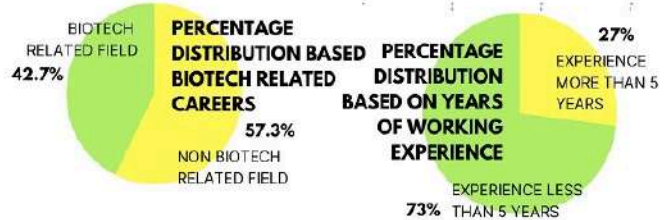
On the next day, they visited the famous Bridgestone Corporation. This company started production in 1930 and currently imports rubber from Malaysia among all other countries. Now, Bridgestone has more than 160 plants worldwide and is the largest tire manufacturers which originated in Kurume Plant, Japan. Bridgestone practices Zero Waste where all of their waste is reproduced into products. The group were also brought to Kurume City Sewage Water Treatment Plant to see the wastewater management prior to disposal to Chikugo River.

Besides, they were also invited to join a series of lectures from Masanori Fujimoto (Head of Fukuoka City Environment Division), Hideka Morimoto (Former Secretary-General of the Ministry of the Environment, Japan) and Siro Hori (Professor of Fukuoka University). By the end of the trip, it could be concluded that Japan has fully understood and utilised the importance of environmental management.

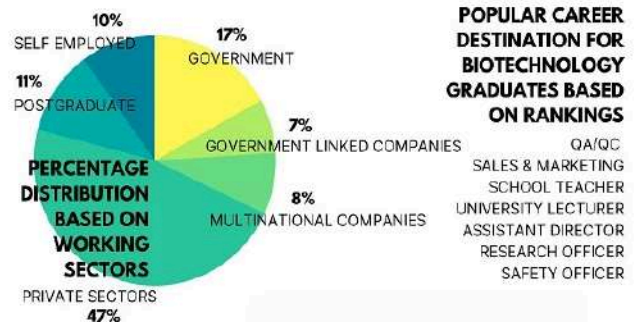
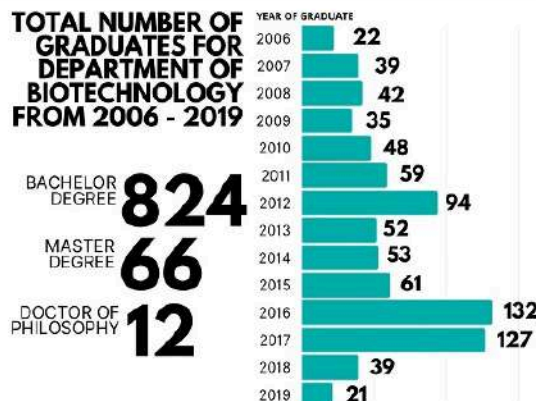
BIOTECH 20TH YEAR OF ESTABLISHMENT

BIOTECHNOLOGY IUM

DEPARTMENT OF BIOTECHNOLOGY WAS ESTABLISHED AS A DEPARTMENT UNDER KULLIYAH OF SCIENCE IN THE YEAR 2000. THEY PRODUCED THEIR FIRST GRADUATES IN 2006. UNTIL TODAY, THIS DEPARTMENT HAS PRODUCED NEARLY 902 GRADUATES FROM BACHELOR DEGREE TO PHD LEVEL.



TOTAL NUMBER OF GRADUATES FOR DEPARTMENT OF BIOTECHNOLOGY FROM 2006 - 2019



SOME OF DEPARTMENT OF BIOTECHNOLOGY'S ALUMNI MEMBERS HOLDING HIGH RANKED POSITIONS IN THEIR CAREERS

MOHD RIDZHAN ROSLAN, 2006,
BUSINESS DEVELOPMENT
MANAGER (UTAS MAJU SDN BHD)

NURHIDAYATI ABD AZIZ, 2008,
MARKETING AND BUSINESS
DEVELOPMENT SPECIALIST
(ROBORIGGER PTY LTD,
AUSTRALIA)

ABDUL LATIF NOH, 2009,
DEPUTY DEAN, ACADEMIC
AFFAIRS (KULLIYAH OF
SCIENCE, IUM)

NURUL FARHANA ILIAS, 2010,
ACTING MANAGER, QA
DEPARTMENT
(MSM PERLIS SDN BHD)

MOHD ZIKRULLAH OSMAN, 2017,
SALES MANAGER (SABELLA
HOLDINGS SDN BHD)

IEZZAT KHALIS BIN MOHD NOR, 2010,
TRAINING CONSULTANT (JABATAN
PERKHIDMATAN AWAM)

MARDIANA MOHD ASHAARI, 2006,
HEAD, DEPARTMENT OF
BIOTECHNOLOGY,
(KULLIYAH OF SCIENCE, IUM)

NAJWA YANYA, 2008,
SCIENTIST (THE HALAL SCIENCE
CENTRE, CHULALONGKORN
UNIVERSITY)

SOFIE SHAARUDDIN, 2008,
MANAGER, HR RECRUITMENT &
TRAINING
(KEXXEL GROUP)

MOHD SYAFIQ SALLEH, 2011,
BUSINESS DEVELOPMENT
MANAGER (ASIA DRONE IOT
TECHNOLOGIES)

NURUL FITRIATUL AKMAL ISMAIL, 2013,
MANAGER
(GRIBBLES PATHOLOGY SDN BHD)

NURHIDAYATI BINTI HASSAN, 2015,
ADVANCE MANAGER (HSBC)



SHAHLIZAH SAHUL HAMID, 2006,
SPECIAL OFFICER TO CEO /
SCIENTIST
(NATIONAL INSTITUTE OF
BIOTECHNOLOGY MALAYSIA)



Plantation



NURLIYANA RUZLAN, 2008,
MANAGER,
INNOVATION AND NEW VENTURES
(SIME DARBY PLANTATION
BERHAD)



DON LUQMANUL HAKIM, 2010,
HALAL PRINCIPLE TRAINER &
MANAGER, PROJECT
DEVELOPMENT
(GLOBAL HALTECH SDN BHD)



*updated data collected on August 2020

CREDIT TO ASST. PROF. TS. DR. ZAKUAN AZIZI SHAMSUL HARUMAIN



PAHANG CHEMISTRY CARNIVAL (PCC) 2020

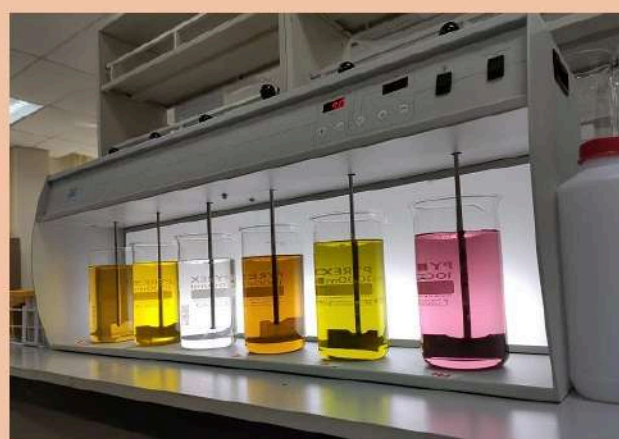
15TH - 16TH JANUARY 2020



Pahang Chemistry Carnival (PCC) 2020 which was organized by the Department of Chemistry, was the first fun educational learning event opened for primary, secondary schools and university students across the Pahang state. The program aims to serve as an educational platform for students and expose them to science, especially chemistry. This event is also in line with IIUM Sustainable Development Goals (SDG4) as it was also opened to the public. Apart from that, this program also supports the Ministry of Education Malaysia's education blueprint which aims to introduce and expose Science Technology Engineering Mathematic (STEM) to students. This is to ensure sufficient numbers of qualified STEM graduates in Malaysia as well as to prepare them with the relevant skills to meet the science and technology challenges.

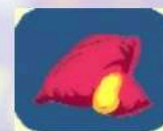
This event has garnered sponsors by numbers of industries namely Petronas (BASF), Acculab, Yakult, Progene Link, Taat Bestari and Lynas Malaysia as Diamond Sponsor. Besides, academicians from universities and professionals from private sectors were invited and shared their experiences to provide a good exposure and knowledge-sharing between schools, universities and industries. This event also provides a good opportunity to engage with the community. This event was officiated by Prof. Dr Ahmad Hafiz Zulkifly, Deputy Rector for Responsible Research & Innovation.

PCC provided various activities such as mini experiments and hands-on lab demonstrations by departments from Kulliyah of Science, Government Organization (Jabatan Kimia Malaysia, Lembaga Atom, Jabatan Alam Sekitar) and industries (Lynas Malaysia, Yakult, Petronas BASF). The hands-on sessions are guided and monitored by experienced scientist. Examples of the exhibition are Citrus Pop!, Fizz inflator, Burning money, Spider race and Giants's vomit which all were based on fundamental of chemistry.



Competitions and quizzes were also held to stimulate and encourage the students to apply chemistry knowledge that they have learned in classrooms in solving real world problems. The activities namely Jabir Hayyan, Cheminnovator and Amazing CSI stimulated critical thinking, creativity and communication skills of the student. The experiences gained throughout this event is hoped to develop their interest toward chemistry.

PHURPLE'EM PH KIT



PHURPLE'EM pH kit is an educational science kit that was designed to nurture children interest towards science. It is a fun kit suitable for children as young as 6 years old that apply simple chemistry concept by utilizing household sources around us. The objective of this kit is to learn about the concept of acids and bases by making their own pH indicator and use it to test the pH of various household solutions. Thus, it is hoped to instil an interest in science among kids and STEM in education among school teachers/parents.

Anthocyanins are water-soluble plant-based natural dyes found in various sources of plants that have sensitive colour reaction to wide pH ranges. In this kit, the used anthocyanins are extracted from sweet purple potato powder which looks purplish in neutral solution. It will change to reddish colour in acidic solution and green to yellow colour in basic solution.

Led by Dr Nurul Iman Aminudin and Dr Azaima Razali with undergraduate students (batch 181 and 171), the Chemistry department has come out with the PHURPLE'EM pH Kit. The kit was based on Dr Iman's previous experience performing the DIY pH detector experiment using raw water vegetable extract containing anthocyanins during her undergraduate study. The preparation of the liquid extract process is quite long and tedious and so there come the innovation idea from Dr Azaima to use dry extract of anthocyanins for easy and safe handling.

IUMK-ACS STUDENT CHAPTER

IUMK-American Chemical Society (ACS) Student Chapter is a student-based society interested in chemistry-related fields, such as pharmacy, engineering, biomedical, medical etc., who are responsible for coordinating events and activities for the benefit of students, communities, ACS Malaysia Chapter and ACS itself. The student chapter operates under the auspices of ACS and receives support from ACS for its activities. This chapter is an organisation for undergraduate and postgraduate students with an interest in chemistry-related fields and participates in a wide range of programmes and activities that can enhance their college experience and prepare them for successful careers. From all over Malaysia, 8 international student chapters are being established and one of them is the IUMK-ACS Student chapter which is officially approved and recognised by laws of ACS on February 28th, 2020. The establishment of IUMK-ACS Student Chapter will enhance student participation in ACS by providing opportunities for professional development, community service, and networking with other students and faculty who are interested in chemistry-related field issues. This chapter also provides a forum for presentation, discussion, and investigation of chemistry-related fields according to ACS policies that will benefit their members. The philosophy of IUMK-ACS Student Chapter emphasizes on the process of equipping the students with the inter-disciplinary knowledge of chemistry-related fields. This student chapter in any circumstances is guided by IUM rules and regulations, high moral values, polite and obliging. Islam is the source of inspiration, motivation, restraining, and guidance for exceptional behaviours for the sake of the betterment of the Earth and the communities. During the MCO, the first tenure of IUMK-ACS student chapter organized webinars to provide information to both members and non-members regarding current research in chemistry. A notable webinar from Dr Samuel Perry from Southampton University explained the carbon dioxide reduction in the triphasic interface and another webinar about developing functional material from Dr Subashani Maniam from RMIT University.

webinar

DEPARTMENT OF CHEMISTRY

CARBON DIOXIDE REDUCTION IN THE TRIPHASIC INTERFACE

THIS WEBINAR WILL LOOK INTO THE LATEST DEVELOPMENTS IN CARBON DIOXIDE REDUCTION CATALYST, MAKING MODIFICATIONS TO THE CATALYST-ELECTROLYTE-GAS TRIPHASIC INTERFACE TO IMPROVE SELECTIVITY AND ACTIVITY FOR CARBON DIOXIDE REDUCTION TO ETHYLENE.

Dr. Samuel Perry
University of Southampton, UK

22nd July 2020 | Thursday
5pm - 6pm (Kuala Lumpur GMT +8:00)
Open to all students and staffs from any institutions.

JOIN US!
click the link below or scan the QRcode
<https://rpgn.page.link/2u/53>

DEPARTMENT OF CHEMISTRY

WEBINAR

DEVELOPING FUNCTIONAL MATERIALS

FOR ORGANIC SOLAR CELL AND TRANSISTOR, SENSORS, BATTERIES, AND BIOPHYSICAL APPLICATION

Topics will be discussed in the session:

- Implementation of organic molecules coupled with practical molecular design in functional materials
- The application of organic molecules in sensors, DNA detection and analysis, self-assembly materials, donor-acceptor systems, etc.
- Organic-based systems, combining the elegance of organic synthesis with state-of-art physical and analytical techniques
- Organic molecule as electroactive material, fluorescence sensor and charge storage

DR. SUBASHANI MANIAM
Lecturer in RMIT University, Australia

Thursday, 25th June 2020
3:00 PM - 4:00 PM (Kuala Lumpur GMT +8:00)
Open to all IUM students and staff

JOIN US!
click the link below or scan the QRcode
<https://rpgn.page.link/2u/53>

PHYSICS

Microcontroller For Physics Innovation (Micro-phi) Team

Workshop 1 - Introduction to the microcontroller and Arduino (3 hours). The objective of this workshop is to introduce the microcontroller and Arduino in general. Arduino is an open-source electronics platform based on easy-to-use hardware and software. The workshop is to introduce the importance of Arduino applications in physics projects. There were around 20 students from batch 181 attended the 1st workshop.

Workshop 2 - Advanced and Hands-on workshop of Arduino microcontroller (5 Hours). The second workshop is to expose the club members to the Arduino project by working with simple mini projects such as laser range finder, temperature system, and many more. The workshop is attended by students from batch 181 and 191.

Club Organisation

Club Leader - Br. Ahmad Zaim

Club Advisors - Dr Mohd Zamani Zulkifli

- Dr Iskandar Bahari

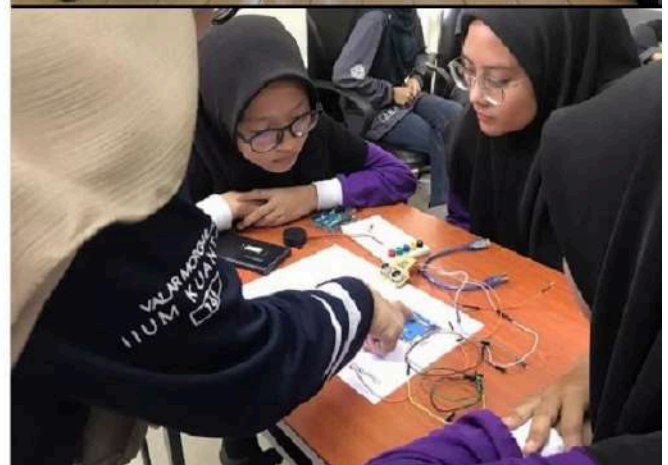
Club Member: Physics students batch 181 & 191

Outreach Physics Program for High School Students (SMK Indera Mahkota)

Outreach Physics Program aims to deliver audience of the insights and awareness in the field of physics. The outreach is generally targeting on developing, providing learning resources, and providing participants with a variety of challenging ideas for the students. In this program, Physics Lecturers and students gave many efforts to create the application of physics/science involving the school students in the process of integrating various phenomena in everyday life. The aim of this program is not only to push physics education out of traditional one but also to inspire students on new perspectives towards physical phenomena.

Date : 13 February 2020

Venue : Physical Science building, KOS



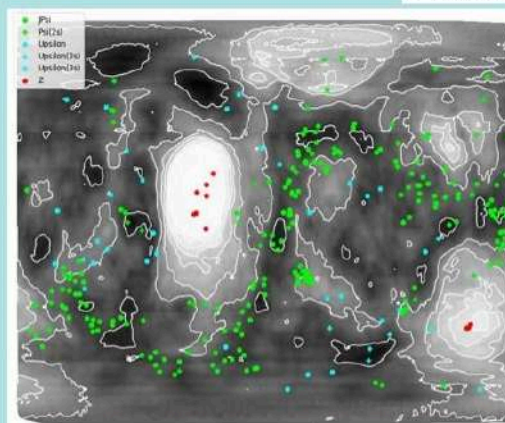
ARTIFICIAL INTELLIGENCE MEETS PARTICLE PHYSICS IN KUANTAN

RESEARCH FROM DR MOHD. ADLI MD. ALI AND TEAM:



A unique artificial intelligence approach is sifting through samples to find undiscovered fundamental particles that might clarify unexplainable physical phenomena. Scientists at the IUM through a collaboration with CERN or the European Council for Nuclear Research (Conseil Européen pour la Recherche Nucléaire) and Malaysia National Center for Particle Physics (NCPP) are using a unique artificial intelligence approach to discover new particles. Discovery of these new particles can clarify physical phenomena that can't be explained by existing theories.

>> scan QR code to read further



FINE-TUNING THE DETECTION OF THE GRAVITATIONAL WAVES

RESEARCH FROM DR HAFIZAH NOOR ISA AND TEAM:

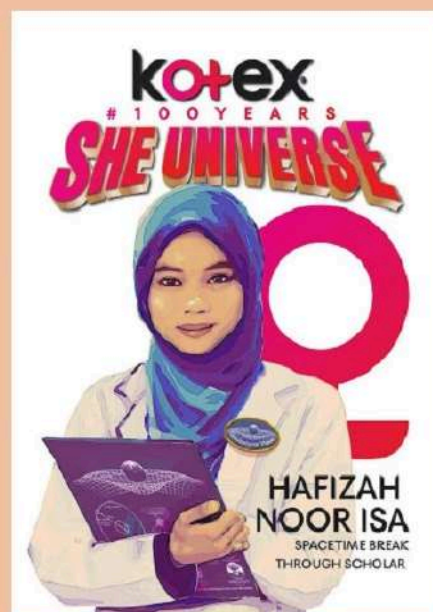


"Think of the universe with nothing in it: no stars, no planets, just a flat, empty rubber sheet. If you put some mass on the sheet, like a star or planet, it will sag under the weight, causing the sheet to curve. When a second planet is added, both will roll together. But if the distribution of the mass suddenly changes—say a star explodes—then the curvature of the sheet will change and a ripple will form, spreading across the sheet. That ripple is a gravitational wave."

>> scan QR code to read further

SHE CAN (KOTEX): 100 BEST!

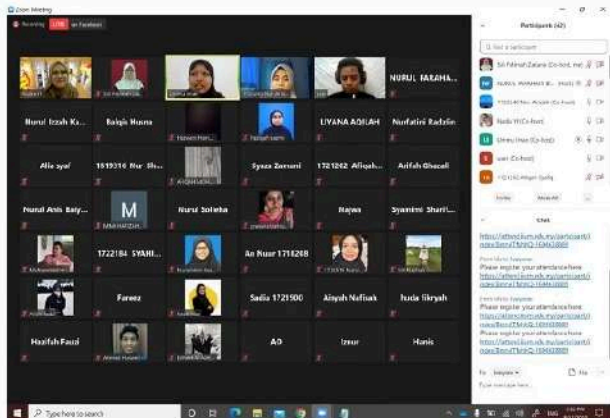
Kotex is introducing its inaugural Kotex She Can Awards! The Kotex She Can Awards aims to celebrate the contributions that women have made towards championing women's progress in Malaysia. In conjunction with the brand's 100th year anniversary, Kotex is commemorating 100 Malaysian women for their achievements and contributions in their respective fields. Kotex have awarded Dr Hafizah Noor as part of the Kotex SheCan Awards, for being the first Malaysian and among the first group of scientists to prove Albert Einstein's Theory of Gravitational Waves. Malaysian Sheroes is a collective series that will showcase achievement and keep the story alive in the form of art and storytelling. The series will feature a collection of 100 women, including Dr Hafizah Noor Isa, illustrated as Malaysian female superheroes accompanied with her success stories. This will be Kotex's first ever collection of Malaysian female superheroes. All the stories are available in Kotex Instagram account : @kotexmy



FRESH GRADUATE EXPERIENCE SECURING JOB DURING MCO

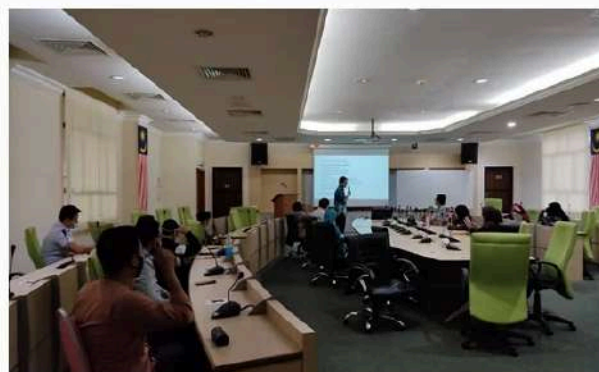
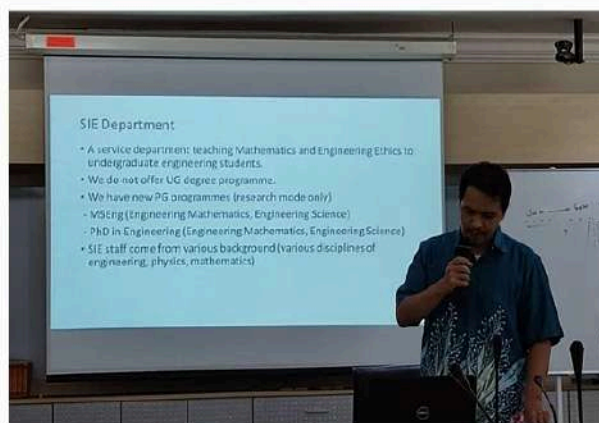


The Movement Control Order (MCO) that has been implemented worldwide has taken its toll on many facets of life. Among them is the loss of jobs and income ranks, which is a concern for a freshly or upcoming graduated student. The CTS department has organized a forum webinar for students highlighting the experience of securing a job during MCO. Three invited speakers are all previously CTS students, namely Br. Muhammad Arif Yusuf, Sr. Ummu Iman Jamaludin and Sr. Nadia Yusof. The moderator is Sr. Nur Akidah Abdullah, 4th year CTS student. This interactive forum session caught its participants' attention and hopefully, the valuable sharing can be beneficial for the audiences.



COLLABORATION DISCUSSION WITH DEPARTMENT OF SCIENCE, KOE

As the current research direction promotes working with a combination of different expert areas, the researchers are encouraged to strengthen their networking and find a research opportunity through different department and faculties. In October 2020, a group of KOE staff from Department of Science came to Kuantan campus to discuss prospective collaboration with KOS. The representatives from KOS entertained the group and had a fruitful discussion of ideas exchange and both parties presented the strength and expertise of their members to get the insight of potential research alliance. With this introductory session, it is hoped that there will be a positive and successful working outcome with them in the future, *Inshaallah*.



CEO@FACULTY

with

DR NURUL FARAHAIN MOHAMMAD

The CEO@Faculty is a fellowship program under the Bahagian Kolaborasi Industri dan Masyarakat (BKIM), Kementerian Pengajian Tinggi. The aim is to groom young talents aged 30 to 40 years old on their leadership skill through fundamental leadership trainings at Akademi Kepimpinan Pengajian Tinggi (AKEPT) and industrial attachment at collaborating industrial partners.

After going through a series of selection stages, I was selected to be attached at QSR Brands (M) Holdings Berhad; a company with KFC, Pizza Hut, Ayamas and Life as among their subsidiaries. This was my third attempt applying for the program.

All the fellows were requested to attend all trainings from both AKEPT and the industries. There are several projects under BKIM that I was involved. Among them was writing of a policy book on academia-industry relation. We also wrote a book chapter on the company and leadership competencies of our mentor at the industry. For the community project, we organized National C3 Challenge and pitched to the industry to secure sponsorship for the project. All of these were done within the 6-month fellowship where at the same time, we also have tasks assigned at our respective companies.

My personal experience, when I was at QSR Brands, I got the opportunity to attend their training programs. Their supply chain from farm to plate was very amusing. I got the opportunity to visit their hatchery and manage to witness the process of animal rearing. I also went to Ayamas Integrated Poultry Sdn. Bhd. (APII) farm to understand how they assure the qualities of the chickens to be part of my initial project under the Digital team.



I was given the golden opportunity by Mr Tony Lika, the Head of KFC Malaysia cum my submentor, to work together in a big team on an exciting big data analytics project for price optimization. As the coordinator of the project, I need to work collaboratively across the team to execute the weekly tasks and at the same time review the insights that we gained weekly. I was also responsible for coordinating workshops every time we reached a milestone. Towards the end of my fellowship, I presented my projects to the top management: the Managing Director of QSR Brands cum mentor, Mr. Nehchal Khanna, and the Chief People Officer cum the PIC for CEO@Faculty fellows at QSR Brands, Madam Sharifah Musainah Syed Alwi.

The journey as a CEO@Faculty fellow has enriched me with knowledge and experience, not limited to management and leadership only. I learned about dashboard reporting, big data, data analytics, data visualization and Internet of Things (IoT). All these new things help me to improve and revise my teaching approach and to prepare our graduates prior to joining the industries. These experiences also inspired me to incorporate best practices in managing the department and flourished a community project in collaboration with the Department of Plant Science in QR coding plants.



IN CONVERSATION WITH



A brief background about you.

I started my career as a Junior Research Associate at the Institute of Mathematics Academy Sciences of Uzbekistan in 1971. Since then, I have served in various institutes, namely, as a PhD student (1972 – 1975), a Senior Research Associate (1976 – 1990), and a Leading Research Associate (1990 – 2002). From 1997 till 2003, I worked at the Tashkent State University (later renamed as National University of Uzbekistan) as Head of Chair of Functional Analysis. From June 2003 until September 2020, I have served at the IIUM as a Professor. My subject of investigation includes Lattice models of statistical mechanics, dynamical systems and quadratic stochastic operators and processes.

Your hobby apart from research?

Reading books and cooking Uzbek Pilav.

Prof. Dr Nasir Ganikhodjaev

Prof Nasir was interviewed by our editor, Asst. Prof.
Dr. Norfaieqah Ahmad

"To have the success we should not limit ourselves."

Ever since joining IIUM in June 2003, Prof. Nasir was with CTS department, KOS until it was time for him to leave after 17 years with us. He is currently working at the Institute of Mathematics Academy Sciences, Uzbekistan.

Your biggest finding/discovery?

Mathematics is a wonderful science. Thanks to maths, I came to know many outstanding people, educate many young talented persons, and visit various countries. Mathematics is like a perfect stimulant which always keeps the person tuned while unsolved problems do not let to become lax.

Which mathematician do you admire the most?

There are a lot of such mathematicians: my supervisor Prof. V.G. Vinokurov, our famous Uzbek mathematicians, Prof. T.A. Sarymsakov, Prof. S.Kh. Sirajdinov, and the well-known mathematician, Prof. J. von Neumann. However, if I have to call only one, it is Prof. Ya.G. Sinai.

What inspired you to pursue a career in mathematics?

It began when I was in grade four, my classmates used to call me 'the mathematician' because school maths was very easy for me. For that reason, I had chosen my speciality before I even graduated.

What do you think of the future of pure mathematics field in Malaysia?

I wish that the interest in pure mathematics will keep growing. Since it is the only area where one can get new results. Using ready-made programs, software and algorithms, one only repeats the known results—applied mathematics assumes the creation of new programs, new algorithms for new problems. I hope the academic staff of CTS will put all their efforts towards the successful development of pure mathematics.

What would you have been if you are not a mathematician?

A surgeon.

What do you love most about IIUM?

A quiet, warm, and friendly atmosphere of KOS. Good conditions for research. Caring and ready to help colleagues.

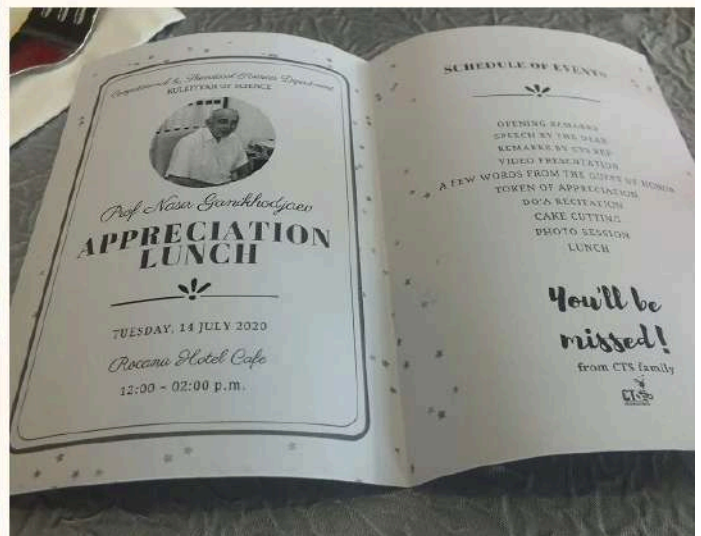
What advice would you give to young mathematicians today?

I like the parable of the blind men and an elephant. It is a story of a group of blind men who have never come across an elephant before and who learn and conceptualize what the elephant is like by touching it. Each blind man feels a different part of the elephant's body, but only one part, such as the side or the tusk. They then describe the elephant based on their limited experience and their descriptions of the elephant are different from each other. In some versions, they come to suspect that the other person is dishonest and they come to blows. The moral of the parable is that humans tend to claim absolute truth based on their limited, subjective experience as they ignore other people's limited, subjective experiences which may be equally true. I prefer another interpretation: One can consider the elephant as mathematics and blind men as students, young mathematicians studying mathematics. To have the success we should not limit ourselves, touching only one part. To feel and understand the "elephant" you have to touch many parts which imply to get exposed to various fields of mathematics.

Your future career plan after leaving IIUM (if any)?

Man assumes, Allah disposes. ♥

Our dearest
PROF. NASIR
 We will remember you
 with warm thoughts and
 memories.





I-GREEN

This year, the Plant Science Department came up with a brilliant and fresher idea as a replacement program for IPOD in previous years. I-Green is a special project hoping to inspire society to embrace a green lifestyle, learn and understand more about the environment, and motivate them to become part of the ecosystem. The idea to use the available facilities and open space not only can generate income for the department but also more practical and fitting to ensure that every expertise and knowledge related to plants can be practiced in more depth. The project known as I-Green covers various branches of projects including Edible Garden project, I-Seedlings (seedling sales) as well as fresh harvests every week at the Glasshouse, Department of Plant Science. Apart from that, Plant Science department have also collaborated with Marine Science Department to help IIUM Kuantan residents to get fresh produce not only limited to seedling and vegetables, but also marine products such as fish and shrimp. Meanwhile, the Edible Garden project utilizes free space or department area for the cultivation of various types of vegetables such as long beans, spinach, mustard, and even okra. Besides, the edible plants such as ginger, turmeric and lemongrass are also grown in polybags, for sale to IIUM Kuantan residents who want to have their own edible garden at home. Throughout this I-Green project, the department is looking forward to have their own funding for future department development. More programs will be organized under this I-Green project in the near future such as consultant services on agriculture and agricultural technology with government agencies as well as local communities.



PATIN FISH SPAWNING



Knowledge Transfer Program (KTP) is a grant scheme designated by the Ministry of Education under the 10th Malaysia Plan to support the implementation of the National New Economic Model (NEM) in creating the knowledgeable and high-income nation. The objective of KTP is to recognise and promote the transfer of knowledge via the exchange of creative and innovative ideas, research findings, experiences and skills between IPTA, research organisations, industries, government agencies and communities. KTP is regarded as a Lifelong Learning agent aims at improving the quality of human capital in public universities and communities. Under this program, Dr Muhammad Fitri Yusof from the Department of Marine Science has shared his knowledge with the fish farmers at Chenor, Temerloh, Pahang. In this session, Dr Fitri has shown the techniques for hormone-induced spawning of *patin* (*Pangasianodon Hypophthalmus*). The spawning process begin with the selection of matured male and female brood fish, with the explanation on the suitable features for brood fish and their management. This is followed by the hormone injection activity for female egg stimulation and male sperm stimulation. Hand stripping method is used for taking out the eggs and sperms of fish. Then, the eggs and sperms were gently mix together and be placed into hatching trays. Successful induced breeding resulted in the spawn of fertilized eggs after 24-36 hours. It is hoped that this sharing session will help the fish farmers to increase their seed production.





REMOVING GHOST NETS FROM BALOK COASTAL WATERS

BY DR MUHAMMAD FAIZ
MOHD HANAPIAH

On the Malaysia day (16 September 2020), Dr Muhammad Faiz from the Department of Marine Science and Br. Muhammad Khairul Anwar from INOCEN were invited to join the ghost net removal activity which was held at selected locations near the artificial reefs in Balok coastal waters. This event was jointly organized by DivingBalok.com and Lembaga Kemajuan Ikan Malaysia (LKIM) Negeri Pahang. DivingBalok.com is a non-governmental organization which actively involved in scuba diving activities and marine conservation awareness especially among the Balok fishermen.

The so-called ghost nets are fishing nets that have been left or lost in the ocean. These nets, often nearly invisible in a dim light, are found to be left tangled on a rocky reef or drifting away in the open sea. They can get entangled with fishes, dolphins, sea turtles, crabs, and other creatures. Acting as its design, the nets restrict movement, lead to starvation, laceration and infection, and also suffocation for certain ocean creatures that need to breathe on the water surface. During the event, a total of seven divers dived about the depth of 20 meters to reach the selected artificial reefs area. To our disbelief, we found a lot of new ghost nets entangled with the artificial reef. These nets trap fish, crabs, and some of them are already dead by the time we reach there. It took us nearly 30 minutes to clear up the ghost nets and bring them to the surface. On behalf of the Department of Marine Science and INOCEN, we would like to thank the organizers for conducting such a beneficial event, especially for the marine ecosystem. We hope to organize such events in the future especially in the inshore reefs area near the southern region of Kuantan coastal waters.



"The nets restrict movement, lead to starvation, laceration and infection, and also suffocation for certain ocean creatures that need to breathe on the water surface."

MARICULTURE TRAINING

FRI, TANJUNG DEMONG

INOCEM's staff and internship students have participated in a 3-days Mariculture Training at Fisheries Research Institute Tanjong Demong in September 2020. The objectives that have been successfully achieved at the end of this training program.



SEABASS BREEDING TECHNIQUES

- Participants are well-trained to differentiate the sexes of sea bass brood stock, method of tagging and recording data by weight and size.

Rotifer sp. CULTURE

- how to culture *Rotifer* sp. in small and big scale based on the techniques learnt. Participants were successfully created a tool to ease the feeding process of *Rotifer* sp.

Nanochloropsis sp. CULTURE

- how to culture and maintain *Nanochloropsis* sp. through batch culturing method. *Nanochloropsis* sp. is important as natural food for *Rotifer* sp.

INOCEM is very appreciative of all the knowledge and assistance provided by the FRITD and hopes that such cooperation and knowledge exchange can be done again in the future.



CREAM ACTIVITIES 2020

- **CREAM Seminar Series**
1/2020: IIUM Workshop
on Research Animal Care
& Use (IWRACU)

2-3/3/2020



- **CREAM Seminar Series**
2/2020: Gene
Amplification & Cell
Detection Made Simple

17/8/2020

- **CREAM Seminar Series**
3/2020: Pipetting Techniques,
Calibration & Adjustment

17/8/2020

- **BrainBee IIUM 2020 visit**

2/6/2020

An educational visit by the participants of BrainBee@IIUM (Zoning for Malaysian Brain Bee Challenge hosted by Kuliyah of Medicine) to CREAM. 25 participants with 5 accompanying teachers were given an opportunity to observe the development of Zebrafish embryo as part of the systemic model used in biomedical research.



- **Facility Visit by Prof Dr Jinap**
Selamat, Head Laboratory of Food
Safety and Food Integrity, UPM

9/10/2020

A site visit by potential collaborator from UPM on the toxicity analysis of food additives using Zebrafish model, in compliance to OECD 236 protocol.



- **Technical support to COVID-19**
lab, SASMEC@IIUM (RT-qPCR)

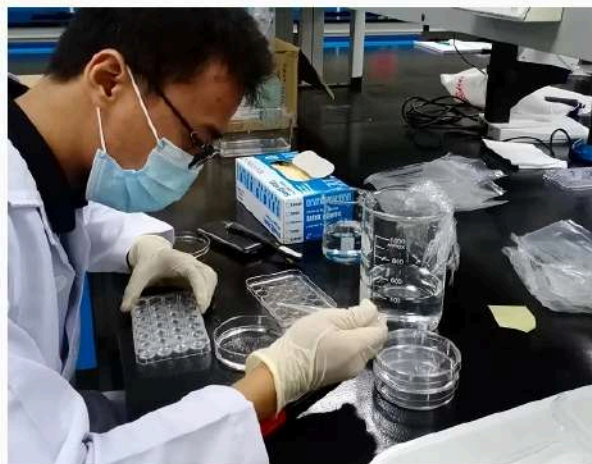
Part of CSR by CREAM to support the effort of SASMEC@IIUM in the molecular diagnostic for COVID-19 cases in Pahang state. CREAM has loaned its precious RT-qPCR: Bio-Rad CFX96 to the microbiology laboratory of SASMEC@IIUM without any charge. Additionally, CREAM supported few chemicals and buffers for the preparation of Virus Transport Medium (VTM), an essential media for virus transportation.

- **Internship placement:**
Biomedical Science, UPM (4
students)

1-30/9/2020

- **Internship placement:**
KOE, Biotechnology
Engineering (1 student)

17/8 - 11/10/2020



ENVIRONMENTAL BIOLOGY & BIOTECHNOLOGY RESEARCH UNIT (EBBRU)

by Dr Nur Hafizah Azizan. Edited by Dr Siti Fairuz Che Othman

Team members of the project:

Asst. Prof. Dr Nur Hafizah Azizan (Project Leader)
 Prof. Dr Kamaruzzaman Hj Yunus
 Assoc. Prof. Ts. Dr Mohd. Shukri Mohd. Aris
 Assoc. Prof. Dr Zaima Azira Zainal Abidin
 Assoc. Prof. Dr Noor Faizul Hadry Nordin
 Asst. Prof. Ts. Dr Mohd Faez Sharif
 Asst. Prof. Ts. Dr Zakuan Azizi Shamsul Harumain
 Asst. Prof. Dr Mohd. Azrul Naim Mohamad



The industrial activities in Gebeng have threatened the water sustainability of the Balok River in the long run due to the persistency and recalcitrant of the waste disposal in the river. There is a high possibility that the Balok River is polluted with the contaminants from the industrial discharge. Besides, their negligence act of releasing waste without proper treatment can lead to adverse effects on the surrounding. Therefore, this research is critical to ensure the contaminants in the Balok River are not exceeding the threshold level. The application of indigenous microorganisms-based technology is believed would help the environmental restoration in a native manner, which essentially applicable to the real world.

It took years to realize the project, that is by officially engaging with the industries. The first engagement with MTBE Petronas has started ever since a visit from MTBE team led by the CEO, Tn. Hj. Mohd Azlimi Mat Lazim to KOS, IIUM for a research facilities visit in February 2017. The IIUM team was led by Dr Mohd Shukri Md. Aris. After that, subsequent engagements for MOU/MOA discussion and signing, meetings and proposal presentations. These meetings lasted until October 2019 which led to the final proposal screening. After proposal approval, fieldwork began by dumping mudballs into Balok river to improve its Water Quality Index (WQI).

Ultimately, this project aims to study the efficiency of EM™ (Effective Microorganisms) mudball in river bioremediation while improving Balok river water quality. The project is divided into 2 phases: first, the work will focus on testing the effectiveness of the EM™ mudball. This involves water quality analysis, continuous WQI monitoring, mudball bioremediation lab-scale study and bacterial community study. Second, it will concentrate on bioremediation optimization that involves the mudballs improvement using new consortia (EM™) as well as its on-site application.



Congratulations

TO ALL RESEARCH GRANT RECIPIENTS

INTERNATIONAL GRANTS

SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION
ENGINEERS (SPIE), USA

RM 19,863.50

Asst. Prof Dr Mohd Zamani Zulkifli

"Awareness Program on Optics and Photonics for School Students Through
Side Emitting Optical Fiber Lighting".

SPONSORED RESEARCH GRANTS

PARAS BAIDURI SDN BHD

RM 7,817.30

Assoc. Prof Dr Suhaila Mohd Omar (PI)

Assoc. Prof. Dr Deny Susanti Darnis

Asst. Prof. Dr Wan Khartini Wan Abdul Khodir

"The Formulation for Wound Healing Polymer Based
Hydrogel".

NATIONAL HYDRAULIC RESEARCH INSTITUTE OF
MALAYSIA (NAHRIM)

RM 20,000.00

Asst. Prof. Dr Mohd Zahir Ramli

"Impact of Sea Level Rise Due to Storm Surge Influence
Through Coastal Morphodynamics".

KAME GREENTECH SDN BHD

RM 30,000.00

Assoc. Prof Dr. Mohd Armi Abu Samah (PI)

Prof. Dr. Kamaruzzaman Yunus

Asst. Prof. Dr. Mohammad Norazmi Ahmad

Asst. Prof. Dr. Erna Normaya Abdullah

"Development of Bio Compost Char".

NATIONAL GRANTS

PROTOTYPE RESEARCH GRANT 2020/21

RM 510,260

Asst. Prof. Dr Maizatul Akma Ibrahim (KOS)

in collaborations with research teams from KOM,
KOD and KOE.

IIUM ENDOWMENT FUND

RM 88,500.00

Asst. Prof Dr. Tamil Cheivam A/L Meenakshi Sundram

"In Vitro (Tissue Culture) Propagation of Bentong Ginger".

LONG TERM RESEARCH GRANT 2020/21

RM 531,000

Asst. Prof. Dr Muhammad Zahir Ramli

"Impact of future sea level rise on coastal sensitive
areas and the interconnection of global
contributing factors in peninsula Malaysia coastal
waters".

BEST RESEARCH CLUSTER - RESEARCH INITIATIVE GRANT (RC-RIGS) 2020

Research Cluster Name: Functional Food and Nutraceuticals Research Unit (FFNRU) - RU06

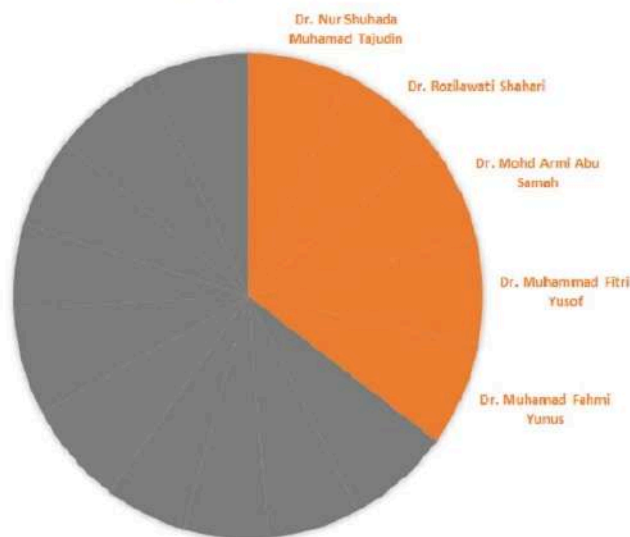
Assoc. Prof. Dr Zaima Azira Zainal Abidin

Profiling Fatty Acids and Mineral Composition of Antarctic Microalgae and their Potential Application in Fish
Nutrition.

Congratulations

TO ALL RESEARCH GRANT RECIPIENTS

IIUM KTP-RIGS SDG 2020



IIUM KNOWLEDGE TRANSFER PROGRAMME – RESEARCH INITIATIVE GRANT SCHEME SUSTAINABLE DEVELOPMENT GOALS (KTP- RIGS SDG 2020)

RM 10,000.00

Asst. Prof. Dr Nur Shuhada Muhamad Tajudin
Improvement of Bentong Ginger Cultivation Method
through Fertigation and Sustainable Farming Approach for
B40 Farmers

RM 10,000.00

Asst. Prof. Dr Rozilawati Shahari
Improving Community Quality of Life through Edible
Gardening

RM 10,000.00

Asst. Prof. Dr Mohd Armi Abu Samah
Smart Organic Bio Compost (SOB) for Sustainable Waste
Management Practice of Perbadanan Kemajuan Pertanian
Negeri Pahang (PKPP).

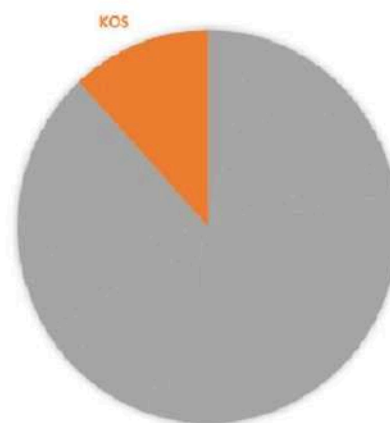
RM 10,000.00

Asst. Prof. Dr Muhammad Fitri Yusof
Transfer of Breeding, Cultural Techniques and Disease
Management for Patin Hitiang (Pangasianodon
Hypselepterus) among Fish Farmers in Pahang.

RM 9864.08

Asst. Prof. Dr Muhamad Fahmi Yunus
Empowering Disabled Community through Modern
Agriculture.

RMC GRANTS 2020



RMC RESEARCH GRANTS 2020

Kulliyah of Science (KOS) recipients:

Asst. Prof. Dr. Fikriah Faudzi
Asst. Prof. Dr. Azzmer Azzar Abdul Hamid
Asst. Prof. Dr. Muhammad Faiz Mohd Hanapiah
Asst. Prof. Dr. Siti Fatimah Zakaria
Asst. Prof. Dr. Maryam Zahaba
Asst. Prof. Dr. Mohd Syahmi Salleh
Asst. Prof. Dr. Hafizah Noor Isa
Asst. Prof. Dr. Azaima Razali
Asst. Prof. Dr. Saiful 'Arifin Shafiee

**"If we make the
intention to do
something for the
sake of Allah, the
Almighty. Everything
that we do will be
always be blessed by
Him and made easy."**

Congratulations!

IIUM TAKRIM 2020 WINNERS

BEST KULLIYAH AWARD (RESEARCH AND INNOVATION)

Kulliyah of Science

HIGHEST CITATION IN INDEXED JOURNAL

Asst. Prof. Dr. Mohd. Adli Md Ali

TOP 30 CONTRIBUTORS TO IIUM'S RESEARCH PERFORMANCE

Prof. Dr. Kamaruzzaman Yunus

Asst. Prof. Dr. Mohd. Adli Md Ali

Asst. Prof. Dr. Nurul Farahain Mohammad

PATIN AS SUSTAINABLE FOOD SOURCE

Asst. Prof. Dr. Nur Nazifah Mansor



ADMIN AND LAB STAFF ACTIVITIES



KOS ALUMNI



Sr. Nabilah Zul Khairi Amin

Study background: Applied Chemistry
(Medicinal Chemistry)

Job: Nutritional Analyst, MARDI LAB

"You will never reach PERFECTION as there is always room for IMPROVEMENT."



Br. Amirul Ashraf Hosni

Study background: Applied Chemistry (Halal & Haram Chemistry).

Job: Assistant Chemist, Tropical Bioessence Sdn. Bhd.

"If you never try, you'll never know."



Dr Ahmad Fadhillah Embong

Study background: BSc. Mathematical Sciences, PhD (Computational and Theoretical Sciences)

Job : Senior Lecturer, UTM

"Never give up, keep on learning."



Br. Abdul Rahman Fadzil

Study background: Physics (Computational)

Job: IP Validation Engineer

Jobscope: Quality testing

"Try, try and try again."



Br. Nabilakmal Nazreen Elangko

Study background: Applied Chemistry
(Medicinal Chemistry)

Job: Chemist, SGS Malaysia

"If you fail once, the next time you fail, you will fail better."



Sr. Aiman Nabihah Abdul Aziz

Study background: Physics (Computational)

Job: Aerospace Malaysia Innovation Centre

Jobscope: Researcher.

"Be adaptable and don't be afraid to try new things."



LEADING THE WAY
KHALIFAH • AMĀNAH • IQRA' • RAHMATAN LIL-ĀLAMĪN

Decline of Germs
Transferred from
124,000,000 to 0

1



124 MILLION**
Bacterial Colony (CFU)*

2

High Five!



55 MILLION**
Bacterial Colony (CFU)*

3

Fist
Bump

7 MILLION**
Bacterial Colony (CFU)*

4

Hand
Over
Heart

**MALAYSIAN WAY
OVER
HAND SHAKE**

Do not transfer germs while
greeting your friends!

0 BACTERIAL TRANSFER



Art by: Sahari
Colours by: Fauze Syazleah

*CFU - Colony Forming Unit

**Mela, S. and Whitworth, D. (2014). The fist bump: A more hygienic alternative to the handshake. American Journal of Infection Control, 42(8), pp.916-917.

THANK YOU OUR HEROES, IIUM FRONTLINERS!

May Allah bless each & every frontliner fighting **COVID-19**



LEADING THE WAY
IIUM Frontliners - 2020 - December 20, 2020



OFFICIAL IIUM

