INAUGURAL LECTURE

“Rejuvenation of An Old Crop: Roles of Sago in the Food & Energy Industries”
Message from the Dean

We have now come to the end of the year 2015. Throughout the year, the Faculty of Resource Science and Technology (FRST) has attained a remarkable achievement especially in the area of research. Our researchers have won numerous awards in the national competitions and exhibitions including UNIMAS R&D Expo Competition. They have also obtained various additional research grants and published in high impact journals.

The faculty has organised several national and international conferences, receiving overwhelming participations from abroad. As part of our corporate social responsibility, a few social programs were organised. “Program Kembbara Zoologi” for environmental and conservation awareness was one of those which was well received and had positive impacts on the local community.

September 2015 had marked an enrolment of about 1900 students of which 563 are new intake. This new batch of undergraduates were registered into our five academic programmes. In my welcoming remarks, I urged them to explore and utilise the various available learning opportunities.

On 15th November we proudly celebrated the convocation of a total 593 graduates, receiving their scrolls during the auspicious 19th Convocation of Universiti Malaysia Sarawak (UNIMAS), held at the DeTAR Putra. One of our graduates, receiving their scrolls during the auspicious 19th Convocation of UNIMAS, was well received and had positive impacts on the local community.

A total of 62 talks and 28 posters were presented in the conference. Various topics on bat research were covered during this 4 days of the conference. These include sessions on 1) Community ecology and land use change 2) Bat-plant interaction and flying fox conservation 3) Taxonomy, phylodendrography, speciation and evolution 4) Cave-bat ecology and conservation, 5) Integrated framework–disease, diet and ecology, 6) Acoustic techniques, and finally 7) Bat conservation on the ground and on the map. The diverse topic surrounding bats, suggest how important this fauna is to the society and to the ecosystem. Many bat species around Southeast Asia are vulnerable or endangered due to factors ranging from loss and fragmentation of habitat, diminished food supply, destruction of roosts, disease and hunting or killing of bats.

During the four days conference, lack of knowledge was recognised as one of the major threats to the conservation of bats. This conference also promoted collaboration among in country and foreign researchers. Three of our FRST students won the best poster and oral award during the conference that were judged by researchers from various countries and field of studies. Those students are Qhairil Shyamri Rosli, Mohd Isham Mohd Azhar, and Nur Mukminah Nuaruddin. Congratulations to all the award winners and thank you to all the SEABCO2015 secretariat for their great support in making the conference a great success.

Best regards
Assoc. Prof. Dr. Othman Bojo

Congratulations to all FRST Graduates!!

Azaha Omar

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nstitut Kimia Malaysia (IKM) Sarawak in collaboration with Universiti Malaysia Sarawak (UNIMAS) and Pejabat Pendidikan Daerah Padawan (PPD) had organized the 2015 Karnival Kimia Malaysia (K2M), Zon Sarawak at DeTAR, UNIMAS on 30 September 2015. The theme for K2M this year was “Chemistry for a Sustainable World”.

The 2015 K2M was organized for secondary schools under Pejabat Pendidikan Daerah Padawan and Sarawak and UNIMAS chemistry students were invited to attend. A total of 350 students had turned up to the event. The event was officiated by Datuk Patinggi Tan Sri (Dr) Alfred Jabu Ak. Numpang, Deputy Chief Minister, Minister of Modernization and Agriculture and Minister of Rural Development.

Karnival Kimia Malaysia (K2M) is a national event launched in 2011 by the Minister of Science, Technology and Innovation Malaysia in conjunction with the celebration of the International Year of Chemistry 2011. It is an annual event organized by Institut Kimia Malaysia (IKM). In Sarawak, it was organized in UNIMAS in 2011 and Kolej Abdullah in 2013. For 2013, it was organized for secondary schools in Kuching District.

The objectives of the carnival are to illustrate the innovative and inventive nature of chemistry, to promote public awareness and appreciation of chemistry, to promote chemistry education in schools, to encourage the younger generation to take up chemistry as a profession.

Among the programme on that day were video show, talk, exhibition and science competition. Experts in Chemistry from Jabatan Kimia Malaysia, Kuching, Linton Chemical Consultant Sdn. Bhd, Chemsain Konsultant Sdn Bhd and Universiti Malaysia Sarawak were invited to speak during the events. The speakers were Dr. Seah Lay Hong who spoke on Chemistry of DNA and the CSI effect, Dr. Dias Linton on Chemistry Innovations in Sustainable Development, Nuraminisa Bt Mohd Yusof on Chemistry in Industry, Assoc. Prof. Dr. Zainab Bt Ngaini on Innovation in Green Chemistry, Prof. Dr. Lau Seng on Water and Quality of Life. A video show on Life as a chemist was also played.

A science projects competition entitled renewable energy from biomass was held in the afternoon. The projects were judged on their originality, creativity, chemistry approach, experimental set-up and presentation, cost & benefits and potential end use application. Cash Prizes were given to the Best 3 entries and a consolation prize as follows 1st Prize – RM1,000.00, 2nd Prize – RM500.00, 3rd Prize – RM300.00 and Consolation prize – RM300.00. The first prize was awarded to students from SMK Sg. Maong. The prize giving and closing ceremony was graced by Assoc. Prof. Dr. Othman Bojo, the Dean of Faculty of Science and Resource Technology UNIMAS.

Figure 1: Recycling numbers

Yes, have you ever realized how our life depends much on plastics? For instance, food containers, toys, kitchen utensils and stationeries, most of them are made from plastics. Though some plastics are claimed as environmental friendly and safe for kids, others still contain harmful chemical and might cause bad effects to our health and environment. Inevitably, it is hard to avoid the use of plastics in our life. However, by knowing the plastic codes imprinted on the underside of the plastics products might help to save us and our environment.

By looking at the recycling numbers, we managed to identify the type of material used to make the item in order to group the items for recycling and reprocessing purposes.

The numbers, ranging from 1-7 also gives the information on how biodegradable the material is and the safety of the plastic. The following gives you the information on what each number represents.

- 1 PETE or PET means Polyethylene Terephthalate. Usually plastic materials with this number are clear and used to make mineral and carbonated drinks bottles. Although number 1 is considered safe, it is best to avoid the usage of this plastic more than once and when exposed to heat as the chemical may leached out.

- 2 HDPE means High Density Polyethylene. Typically plastic materials with this number are opaque and considered as one of safe plastic materials. It is found as shampoo bottles and household cleaners.

- 3 V or PVC means Vinyl. This plastic material used usually to make plumbing pipes.

- 4 LDPE means Low Density Polyethylene. These plastic materials mostly found as shopping bags, clothing, and squeezeable bottles and considered among the safe material.

- 5 PP means Polypropylene. This material is mainly used to make baby milk bottles, containers and medicine bottles. This type of plastic material is considered as the safest plastics which are reusable and can withstand high temperature.

- 6 PS means Polystyrene. Polystyrene is Styrofoam which is commonly used to make Styrofoam cups and food take away packaging are difficult to recycle and bad for the environment. This kind of plastic poses health risks, leaching potentially toxic chemicals especially when heated.

- 7 other or miscellaneous are the plastic resins that do not fit in other categories and normally mixture of plastics such as polycarbonate, containing the toxic bisphenol-A (BPA) which is used as computer cases and bullet proof materials. This plastic material should be avoided especially when used directly as food storage because the BPA (hormone disruptors) has been identified as causes to health problems such as infertility, hyperactivity and reproductive.

- Safer choices are coded 1, 2, 4 and 5.

- Avoid 3, 6 and most plastics labeled 7.

- Amira Satirawaty & Dyg Norafizan

So, think for seconds before you buy any plastic products, you might save your life and others!
The Faculty of Resource Science & Technology has successfully organized the Inaugural Lecture “Rejuvenation of An Old Crop: Roles of Sago in the Food & Energy Industries” by Professor Dr Kopli Bujang on the 19th August 2015 at Dewan Seminar, Pusat Islam Tun Ahmad Salahuddin (PITAS). The inaugural lecture focused on an overview about the importance of sago palm as the future cash crop for food sustainability and energy source in the tropics. The lecture also highlights the history and current developments in modification of sago starch into reducing sugars, use as the raw material for lactate and ethanol fermentation, purification of the sago sugars and discovery of flavonoids and other active ingredients in the brown sago sugar. Related works also focused on the use of sago effluent as the base for the culture of single cell protein and petro-algae for production of biodiesel.

The inaugural lecture in UNIMAS is a platform to promote and celebrate the professional academic reputation. It is a significant contribution to the University’s role within the wider community by providing a public forum to present current research and intellectual discoveries.

The faculty greening programme was initially planned and organised by Faculty of Resource Science and Technology (FRST) and officially launched by the Dean of FRST, Associate Prof. Dr. Othman Bojo together with the staffs from faculty on 10th June 2015.

This greening programme was held periodically in order to create a better and greener environment for the FRST’s students by promoting tree growth that were planted around the faculty’s premises. This programme involved the postgraduate students from the Department of Molecular Biology and Department of Plant Science and Environment Ecology which indirectly imparts the environmental concern among the students.

The fertiliser was supplied by our programme partners, namely I-CHEM TEST Laboratory Sdn Bhd to FRST over a period of three months. The fertilizer was applied regularly with an interval of every two weeks to increase the nutrient levels in soil. The number of fertilization treatments were equally adopted by the representatives from the Department of Molecular Biology and Department of Plant Science and Environment Ecology.

The faculty’s greening programme is highly relevant in order to keep trees growing healthily around FRST, UNIMAS and thus creating a conducive, inspiring and motivating environment for teaching and learning activities.
Despite the great fish diversity documented for freshwater habitat in Malaysia, the information on cave fish species has received less attention. Recently, Dr Khairul Adha from the Department of Aquatic Science has an opportunity exploring cave fish fauna in the Merapoh Limestone area, Pahang during the AWAN’s Speleo Workshop 2015 from 29-31 August. The workshop was organised by a professional cave explorer from AWAN Adventure & SGI Merapoh Outdoor Travel. About 15 participants attended the workshop and Dr Khairul was invited to present a paper entitled “The Current Status of Flora and Fauna in Malaysian Karst”.

The nature of karst landscapes with their multitude of ecological niches created by different terrain such as fissured cliffs, cave chambers, streams and forests, often difficult for the assessment of flora and fauna. Specific gear and equipment must be used during fish sampling in the cave. In Gua Padang Kawad, waterfall and 900 m river can be found where participants not only had to crawl but also swam and climbed the waterfall. Some of the Cyprinid fish such as Rasbora sp. and Cylocheilichthys sp., catfish from family Claridae and Bagridae were identified. However, these fishes are not true cave fish dweller. Freshwater turtle, snails and frogs were also found during the cave exploration. However, due to the limited time, it is difficult to identify all the available cave fish species. Hence, more surveys are necessary to enhance the knowledge about the diversity of cave fish. Indeed, the lesser attention focused to freshwater fish fauna and ecosystems have also been attributed to the fact that freshwater conservation requires greater attention to complex processes, complex interactions between habitats and fish species, which are still poorly understood.

- Khairul Adha A. Rahim

SARAWAK EXCLUSIVE ECONOMIC ZONE (EEZ) SURVEY JULY-OCTOBER 2015.

The Department of Aquatic Sciences, Faculty of Resource Science and Technology has taken part in a collaboration study with Institut Penyelidikan Perikanan Bintawa, Sarawak (FRI Bintawa) to conduct a 3 months survey on Sarawak Exclusive Economic Zone (EEZ) starting from 21st July – 15th October 2015. This fisheries resource survey use a research vessel, MV SEAFDEC 2 that travelled from Kota Kinabalu, Sabah and ended in Kuching, Sarawak.

Almost all Aquatic Science academic staffs were involved in this study and was lead by Dr Samsur bin Mohamad. There were 8 legs of surveys where all the staffs took turn boarding the vessel and performed the sample collections. Our Aquatic Science academic staffs only took part in the research study from Leg 3 till Leg 8 that cover Sarawak waters where Leg 1 and Leg 2 which started in July in Kota Kinabalu cover Sabah waters. Sample and data collections were for various studies such as the genetic study of prawns and shrimps, plankton abundance and community structure, ichthyoplankton diversity and abundance, study of fatty acids and lipids in marine fish and prawns, heavy metal study and genetic study of benthic macro-invertebrate.

Finally, the Department of Aquatic Science is planning to present the baseline data from this survey in Aquatic Science Colloquium 2016, and subsequently will published them in AQUAColl 2016 monograph.
“Kembara Zoologi”, an educational programme first launched on the 2nd October, 2013, is a yearly event organized by Department of Zoology, Faculty of Resource Science and Technology, Universiti Malaysia Sarawak. In 2015, this meaningful programme was successfully held twice; on 8th April 2015 at Sekolah Kebangsaan Dato’Mohd Musa, Kota Samarahan, and 29th July 2015 at Sekolah Menengah Kebangsaan Kota Samarahan involving 105 students and 85 students, respectively.

This half-day programme was designed to approach local communities within Sarawak through knowledge transfer and sharing. This long-term programme, with the theme “Natural Resources and Environment”, is targeted on primary and secondary school students, parents and teachers.

Natural resources, both renewable and non-renewable, and ecosystem services are part of the real wealth of nations. Besides, this programme is aimed to raise awareness on local flora and fauna diversity and other science-related matters, such as 3R (Reduce-Reuse-Recycle) concept as well as the knowledge on sustainable use of natural resources. This event serves as a cornerstone to increase the awareness of young generation of the need to be aware on the importance of conservation of biodiversity; We are smack right in the middle of biodiversity hotspot, thus in order to appreciate this richness we need to understand and embrace the concept of sustainability. We fail to appraise the value of ecosystem services, but certainly feel the economic impacts of degraded ecosystems when fisheries decline, soil loses its fertility, and wildlife lose their habitats. Ecosystem services also provide recreation and opportunities for culturally valued activities, such as aesthetic enjoyment, education, and scientific research.

- Wan Nuranie, Ratnawati & Chong Yee Ling

On 28th February 2015, it was our official arrival date to Chonnam National University. There were four of us representing UNIMAS for an outbound exchange programme to South Korea. It was a dream come true for us. Three of us are from Faculty of Resource Science and Technology namely Nurul Afrina Binti Rahmat, Dayang Nurulqurain, and Ong Lian Ween and the other one from Faculty of Social Sciences, Farahiah Binti Aminuddin.

Together with friends from other countries, we were welcomed by a team of friendly and kind staffs from Chonnam where my wonderful and memorable days in Gwangju, city of light began. To my astonishment, the dormitory in Chonnam was so well-equipped. Several days after the official arrival, we visited Gwangju Institute of Health and Environment Research Center and had the opportunity to tour around the institute facilities. Hence, we have the chance to see our future career and gain some encouragement from the institute.

I had participated in numerous activities organised by the host university and government agencies. Chonnam National University, particularly Office of International Affairs (OIA), organised a tour to their Asian Culture Complex where we are able to learn about their culture. Besides, they also organised a trip to Gyeongju where we wore hanbok, the traditional Korean dress and tasted some local delicious cuisine. Moreover, OIA also sent representative to participate in Jeju International Marathon. I cherished memory of the day in Chonnam National University when all of us from UNIMAS were interviewed and aired by local radio station, Gwangju Fm.

Through this programme, four of us worked as a team, and our friendship grew stronger and we had become very good friends. We shared our thoughts, our university, and our country to the audience present during that interview. Our stay in South Korea ended with happy endings on 19th June 2015. I can say it’s really a dream come true and participating in the exchange programme worth all the effort. If you are lucky, you may have the chance to meet your K-pop idols face-to-face and record your first fan-cam. I was so lucky to meet one of my idols which is Dal-shabet.

To those out there, you have all it takes. Let’s apply for the outbound exchange programme to overseas and grab the chance to experience the weather, cultures, educations, entertainments and the list never ends. Through the exchange programme, I am sure you will built a concrete and vivid memories in your life. Haeng-bok-ja-jal!!! Let’s be happy together!!!

- Ong Lian Ween
Netherlands is a small country in Western Europe. For football fans, Netherlands is the orange giant who thumped the defending champion (Spain) at FIFA World Cup 2014. To others, Netherlands is a beautiful country, famous for its tulip, cheese, clog and of course, windmill. Netherlands is more than just all that.

The Konininnedag or Queen’s Day should be one of the symbolic representations of the Netherlands just like Carnaval do Brasil (Brazilian Carnival) for Brazil. Queen’s Day celebrates the birthday of the Orange Queen and is a national holiday in the Netherlands. The celebration was on the 30th April (1980-2013). In 2014, Konininnedag is now called Koningsdag or King’s Day because the throne is now passed down to Queen Beatrix eldest son, King Willem-Alexander. The King’s Day is celebrated on the 27th April, the birthday of the King.

What happens during King’s Day? Similar to Queen’s Day, it’s a day where everyone, almost everyone, goes wild with orange color. The Dutch (also tourists) wear everything orange on that day. Some even had their hair dyed orange. The tourists and Dutch are gathered in a city such as Amsterdam, to enjoy good music (concerts), drinks, food and of course the bright sun. The city center is closed to cars and no trams ride in the city center. You can walk, sit, sing and dance wherever you want. In Amsterdam, there is also orange parade along the main city canals. On the King’s Day, you also can open up a booth in the vrijmarkt (flea market) to sell your homemade products, and even your used stuffs. This is good news for international students like me (did my MSc and PhD in the Netherlands). With a little creativity, students can earn some extra Euros, or simply scavenge around the market to buy cheap and useful stuffs.

A visit to Keukenhof is to enjoy the beauty of tulips. Visit to Alkmaar is to experience the Dutch cheese markets operated as in the post-medieval period. Kinderdijk gives you breathtaking views of windmills. Attending King’s Day is to experience the modern Dutch culture.

- Freddy Yeo Kuok San

On 28 February – 9 March 2015, 10 students (consist of 8 Final Year Students and 2 postgraduates) from the Department of Plant Science & Environmental Ecology were invited to participate in “Japan-Asia Youth Exchange Program in Science” (SAKURA Exchange Program in Science) to Japan. With the theme “Sustainable social and economic thinking from Science and Technology in Japan”, this program was organised by Japan-Malaysia Association (JMA) in conjunction with the joint research project between JMA and researchers in the department on “Education for Sustainable Development in Reforestation areas in Sarawak”. As part of the training activities of this study programme, participants had the opportunity to visit several universities among them; Tokyo University of Agriculture, Kitakyushu University and Tama University, for youth exchange programme. Participants were also given the opportunity to visit several organization and place of interest such as The Japan Space Agency (JAXA), National Museum of Science & Technology and Kitakyushu Innovation Gallery. At the end of the study programme, all participants were invited to give a brief presentation to the organizing committee as well as invited guests from the Malaysian Embassy and other related organization on their reflection while experiencing the study programme in Japan.

- Mohd Effendi Waslii

On 29 August 2015, eight (8) students from JSTEP were involved in Education for Sustainable Development (ESD) program at reforestation sites of Gunung Apeng Forest Reserve. Organised and officiated by Forest Department of Sarawak, the activity involved the participation of students from Japanese University (Nihon University, University of Kita Kyushu and Tokyo University of Foreign Studies) and also participation by school students from SMK Balai Ringin. Among the activities held in this programme were tree planting activities at degraded sites within the reforestation area, briefing on the importance of forest conservation by experts from UNIMAS, jungle trekking as well as other edu-cultural exchange activities among participants.

- Mohd Effendi Waslii
On 14th and 15th March 2015, the committee of Persatuan Sains dan Teknologi (PERSAINTEK) had organised a social work event to a school in Sebuyau. The theme of the event was called “Sedetik Bersama Sebad Kurasa” and the chosen secondary school was SMK Sebuyau. A total of 76 students took part in this event, where 29 students were committee members and the rest were students from various courses of the Faculty of Resource Science and Technology (FRST).

The aim of the programme is to create a bond between the students and the committee members, as well as to instil appreciation towards the facilities we have here in UNIMAS. The students of SMK Sebuyau were not only very energetic, but they were excited with our arrival.

FRST students were the facilitator for this programme. Among the activities that were carried out were motivational talk to encourage the students to study hard and smart for their upcoming SPM exams, mural painting and flower planting around the school compound, cultural night performances and Explorace. It was a real honour when the closing ceremony was inaugurated by the Ministry of Rural Development, YB Datuk Haji Julaihi Narawi.

As good as the experience was, the two days one night programmed reached its conclusion with the closing ceremony. We have to say that all parties have benefited from this programmed, where our FRST students gained experience and students of SMK Sebuyau gained not only experience but donation from YB Datuk Haji Julaihi Narawi to upgrade the existing infrastructures in their school.

"Appreciation ceremony for Associate Professor Dr. Cirilo Nolasco Hipolito"

An appreciation ceremony was held for Associate Prof. Dr. Cirilo on 30th September 2015 at the Meeting Room 1, FRST, UNIMAS. AP Dr. Cirilo was officially transferred and continue to serve in the Faculty of Engineering, UNIMAS after his almost 5 years of serving in Department of Molecular Biology, FRST. Therefore, in collaboration with the lecturer and his colleague, this event was held for the symbolic appreciation of his services over the years.

Congratulations and all the best at your new working environment

Amigo ... !!