



BULETIN KEJURUTERAAN

EDISI 4/ 2012 / JULAI/ OGOS

KATA PENGANTAR

Assalamualaikum dan Salamsejahtera

Terlebih dahulu pihak Fakulti ingin mengucapkan selamat menjalankan ibadah puasa kepada mereka yang beragama Islam disamping menjalankan tugas harian seperti biasa.

Lanjutan lawatan pihak Pengurusan Fakulti ke makmal-makmal pada bulan Mei yang lepas, Fakulti telah berjaya membuat pelupusan secara menyeluruh pada awal bulan Julai yang melibatkan barangan bernilai jutaan ringgit.

Dalam usaha mencantikkan lagi kawasan sekeliling fakulti, kerja-kerja menanam rumput dan pokok-pokok baru sedang giat dijalankan untuk satu landskap yang lebih menarik.

Untuk Eksesais Penilaian Prestasi bagi tahun 2012 telah pun selesai dijalankan. Kepada staf yang berjaya mendapat Anugerah Perkhidmatan Cemerlang (APC), Sijil Khidmat Cemerlang (SPC) dan Anjakan Gaji diucapkan setinggi-tinggi tahniah dan dapat mengekalkan prestasi cemerlang masing-masing. Disamping itu juga penjawat awam telah mendapat bonus untuk setengah bulan gaji.

Fakulti juga telah menerima pelawat dari negara Korea dan Filipina. Pada 28 Ogos 2012 baru-baru ini satu Perjanjian Persefahaman (MOU) telah diadakan antara Fakulti Kejuruteraan Universiti Malaya (FKUM) dan Universiti Atılım, Turki.

Akhir kata Buletin Kejuruteraan ingin mengucapkan Selamat Hari Raya Idilfitri, Maaf Zahir Batin dan selamat menyambut Hari Kemerdekaan ke 55.

Sekian.

STAF BARU

Pihak Fakulti mengalu-alukan kedatangan staf baru ke Fakulti Kejuruteraan



Nama: Roslaili Rusli
Jawatan: Pembantu Setiausaha Pejabat
Tarikh Mula Bertugas: 2 Julai 2012
Jabatan: Pejabat Tim.Dekan Penyelidikan



Nama : Mohd Faiz Ibrahim
Jawatan : Pen.Pegawai Sains
Tarikh Mula Bertugas : 5 Julai 2012
Jabatan : Pejabat Tim.Dekan Penyelidikan

ALFATIHAH



Pada 20 Julai 2012 bersamaan 30 Syaaban 1433 H, Fakulti telah kehilangan seorang staf dengan kembalinya En. Shahrudin Omar, Pen Pegawai Sains dari Jabatan Kejuruteraan Mekanik kerahmatullah sehari sebelum umat Islam menjalankan ibadah puasa Ramadan. Semoga roh beliau ditempatkan bersama orang-orang yang beriman.

**PERJANJIAN PERSEFAHAMAN (MOU) ANTARA FAKULTI
KEJURUTERAAN UNIVERSITI MALAYA DAN UNIVERSITI
ATILIM ,TURKI,
PADA 28 OGOS 2012**



Aktiviti-aktiviti bulan Julai dan Ogos



Lawatan dari Technological Institute of The Philipihines, tarikh : 4 Julai 2012, masa : 9.00 pagi , tempat : Bilik Persidangan



Lawatan dari Top Glove Corporation Berhad , tarikh : 10 Julai 2012, masa: 11.00 pagi, tempat: Bilik Persidangan



Lawatan dari Universiti Hanyang, Korea, tarikh : 26 Julai 2012, masa : 9.00 pagi, tempat : Bilik Persidangan



Taklimat Pelajar Baru Ijazah Tinggi Fakulti Kejuruteraan, tarikh : 28 Ogos 2012, masa : 2.30 petang, tempat : Pejabat Tim.Dekan (Ijazah Tinggi)/DK 5

THE CUBE

@faculty of Engineering 2012



Bilik teknologi tinggi, **THE CUBE** telah dibuka kepada warga fakulti. **THE CUBE** merupakan sebuah bilik serbaguna yang dilengkapi dengan kemudahan sistem audio dan multimedia yang canggih. Bilik berteknologi tinggi seumpama ini boleh digunakan untuk tujuan persidangan, mesyuarat dan kelas pembelajaran dan pengguna boleh memilih mood aktiviti sama ada secara formal, kerana terdapat meja yang boleh diubah kedudukannya atau secara santai kerana terdapat 'beanbag' yang menggantikan peranan kerusi. Untuk tempahan menggunakan **THE CUBE** sila berhubung terus dengan Pejabat Timbalan Dekan (Pembangunan) sambungan - 5202.

Kafe.tera

@fakulti kejuruteraan 2012



kafe.tera, merupakan nama baru kantin tingkat 4, Menara Kejuruteraan telah mula beroperasi pada 3 September 2012. Kafeteria yang berwajah baru dengan konsep agak santai untuk dikunjungi menyediakan pelbagai menu makanan dan minuman yang menyelerakan dengan harga yang berpatutan.

'BIOPRO DIESEL' - A NEW AND INNOVATIVE WAY TO PRODUCE BIODIESEL FROM PALM OIL WASTE



KUALA LUMPUR, 22nd JUNE 2012 – Led by researcher, Dr. Ishenny Mohd Noor and his team from the Department of Chemical Engineering, this group of award winning scientists from University of Malaya have big plans for their new invention, Biopro Diesel™ which has the potential to generate a total revenue of RM40 billion from the palm oil industry. Dr. Ishenny revealed that he and his team are currently in the midst of discussions with investors to commercialize the product, based on the premise of converting palm oil waste into sustainable fuel, for mass production by the middle of next year.

“We are in the midst of discussions to market our product, hopefully by the middle of next year. With this in mind, we are currently in negotiations with a few palm oil mills in Klang, Sabah and Johor Bahru but we can only reveal the identity of the companies after everything has been finalized,” said Dr. Ishenny during the media briefing for the purpose of introducing his new discovery, ‘Biopro Diesel™’ at University of Malaya’s Research Management and Innovation Complex today.

“There is a huge potential for the production of Biopro Diesel™ which is RM1.50 per litre, definitely cheaper than the standard diesel currently in the market. Malaysia has about 420 palm oil mills hence the expected total revenue would be RM39,648 billion per year,” he added.

From a simple idea of converting palm oil waste into an environmentally safe and sustainable fuel for the future, Dr. Ishenny with the help of his colleagues, Dr. Badrul M. Jan, Dr. Brahim Si Ali, Ir. Dr. Masitah Hasan, Prof. K.B. Ramachandran, Prof. Dr. Nik Meriam Nik Sulaiman and Prof Ir. Dr. Mohd Azlan Hussain, has perfected the process of producing biodiesel from palm oil mill effluents, thus earning themselves a gold medal at the 23rd International Invention, Innovation & Technology Exhibition (ITEX) 2012 in Kuala Lumpur recently.

Dr. Ishenny has been keen on this field of research since his postgraduate studies in University of Malaya and Biopro Diesel™ is the culmination of his efforts in his 12 year research in bio-process technology which has been touted as an alternative fuel for diesel engines.

“Generally speaking, Biopro Diesel™ is an alternative to standard diesel fuel that is made from biological ingredients instead of petroleum (or crude oil).

“However our very own green Biopro Diesel™ invented by UM scientists is made from the waste of palm oil mill effluent (POME) is of a higher grade of diesel and soon it will be able to replace the existing diesel fuels in the market.

“It is both non-toxic and renewable. Because Biopro Diesel™ essentially comes from plants or the waste of palm oil mill, the sources can be replenished through recycling of waste from palm oil mill.”

For Dr. Ishenny, as an environmentalist, the most satisfying thing for him is the ability of his product in providing a long term solution towards the issues faced by the palm oil industry in the problem of managing waste disposal.

“It is very costly to dig a new ponds for the sole purpose of palm oil waste disposal. Hence this invention offers good solution for the palm oil industry to convert their waste into zero waste and in return giving the palm oil industry additional return on their investments. It is workable, marketable and profitable.

“To date, many international traders have expressed their interests to purchase Biopro Diesel™ (BPD 100) fuel namely Japan, Korea, China, Australia, United Kingdom, Italy, Germany, Papua New Guinea, Nigeria and Indonesia.”, revealed Dr. Ishenny.

“Biopro Diesel™ is a reliable fuel produced by fermentation technology. It is safe, super clean without carbon dioxide, copper and sulphur dioxide tailpipe emissions. As it is smokeless therefore it reduces pollution and encourage the use of environmentally friendly vehicles, combat higher fuel prices with efficient heating system, optimising engine for optimal fuel efficiency, will not clog fuel filters and can be used in any diesel engines with no modification needed.

“The first of its kind in Malaysia, Biopro Diesel™ can be used in its purest form, without any additives. It is a comparable substitute for diesel and its benefits have been acknowledged by local and international peers in the same field,” added Dr. Ishenny.

Dr. Ishenny is in the midst of promoting Biopro Diesel™ or also known as BPD100 Fuel for Malaysia’s transportation, aiming at replacing 100% of all current transport diesel fuels with his Biopro Diesel™ fuels or BPD100 in the very near future. He is also currently working on the filing in an international patent application or better known as PCT application to protect his inventions.

ACHIEVEMENT OF UM STUDENTS PARTICIPATION IN THE SHELL ECO-MARATHON ASIA 2012 COMPETITION



From 4th to 7th July 2012, 2 UM teams from the Faculty of Engineering competed with other universities from 18 countries across Asia at the F1 Sepang International Circuit in Kuala Lumpur. The aim of the competition is for students to come up with innovative design for fuel-efficient vehicles

For the past 2 years, the engineering faculty led by academics from the Department of Mechanical Engineering has been participating in the competition but with limited success. This was due to lack of experience, awareness, willingness of students to participate, and limited funding.

This year we saw unprecedented support from students especially those from Mechanical, Materials, Electrical and Telecommunication programs. The undergraduates were from the 1st to 4th year while postgraduates were from MEng and PHD levels. They worked well together and showed a strong commitment to see these projects completed successfully. Additionally, a group of supporting staffs from Mechanical Engineering, Engineering Design and Manufacture, and Chemical Engineering departments had assisted the students to overcome many technical issues.

The 2 UM teams managed to achieve outstanding results in this year competition despite very limited financial resources and supports from the Faculty. In the Prototype (Hydrogen) category, we secured 2nd place behind Ngee Ann University, Singapore. We are the best Malaysian team in this category. The 2nd vehicle competed in the Urban Concept (Gasoline) with 16 other teams across Asia. We came 5th and again we are the best Malaysian team in this category (see attached results).

This year we received RM30,000.00 from the faculty to design and develop 2 fuel efficient vehicles. In the last few weeks before the competition, we have completely used all the allocated funds. The academics, technicians as well as students have to use their own financial resources just to ensure the projects can be completed.

The Instrumentation and Project lab (formerly known as UM-Proton lab) has been the centerpoint of all the activities involving vehicle dynamics, structural dynamics, control and electronic systems that propelled these projects closer to success this year. Equipped with necessary equipments, it has been the lynchpin for the students and staffs from multi-disciplinary background to work together and innovate.

PROJECT STEP BY BIOMEDICAL ENGINEERING (PROSTHETICS & ORTHOTICS) UNIVERSITY OF MALAYA

A GROUP of students have not only raised the funds to fit a patient with a pair of prosthetic legs, they were also involved in making them.

The pioneer batch of biomedical engineering students from Universiti Malaya who are training to be certified prosthetists and orthotists (CPOs), had presented the prosthetic legs to Namasivayam Rengasamy.

They had heard the plight of the 46-year-old unemployed man whose legs were amputated above the knees from his doctor Dr Chung Tze Yang, who also happened to be their lecturer.

Project director Wan Nor Hapsah Wan Zakaria said Namasivayam, had suffered from Buerger's Disease (a condition where blood vessels are blocked in the hands and feet) and had his legs removed in 2003.



A leg up : Dr.Nahrizul (right) presenting Namasivayam a prosthetic leg during the ceremony.

She said that many amputees preferred using wheelchairs as compared to rehabilitation methods.

Wan Nor Hapsah together with those in her batch who are all in their third year, said that they hoped to create awareness about rehabilitation in Malaysia.

"Namasivayam is a bilateral transfemoral amputee who was using a wheelchair, but he had expressed that 'it would be even better if I can walk'. We then started a project to help fund the costs to make the prosthetics for him," she added.

Wan Nor Hapsah hoped that the charity project called Striving Towards Enabling Possibilities (S.T.E.P.) with the theme "The Days Towards Tomorrow - Create Chances, Embrace The Future" would see the varsity's future undergrads in the field fitting other patients with prosthetic legs.

Besides the new prosthetic legs, Namasivayam was also given RM300 and a pair of sports shoes at a ceremony witnessed by the department's head Dr Nahrizul Adib Kadri.

Namasivayam, received his first pair of prosthetic legs three years ago but after just a few weeks, the sockets of the prosthetics became loose due to shrinking of his leg stumps and he was unable to use them.

The terrain on which his house was situated in Ringlet, Cameron Highlands, also made it hard for him to carry out his daily activities without a properly fitted prosthetic leg.

"I was disappointed as I had new legs but could not use them. My wife is now the sole breadwinner and we have to cut down on expenses as my children are still studying," said Namasivayam who has six children, their ages ranging from seven to 19.

His wife works as a cleaner in a school while he does the cooking and other chores at home. With the new prosthetic legs, he plans to walk and ride his motorcycle again. He also has plans to start a business selling fruits.

"I'm very happy with my new legs as it makes me more confident. The students and everyone here have also been very supportive," said Namasivayam who is glad that he will be able to walk independently again.

Dr Nahrizul was proud of his students saying that they had undertaken the initiative on their own. "In a way, this is volunteerism. They have been making prosthetics under the supervision of CPOs as part of their programme and decided to help others with the project," said Dr Nahrizul.

He said this was in line with the university's mission to produce graduates who were aware of society and its needs. While the students helped raise funds for the prosthetic legs which cost about RM7,000, the department had also contributed to the fund.

Namasivayam who is back home, had to undergo physiotherapy sessions at the Universiti Malaya Medical Centre (UMMC) in Kuala Lumpur to strengthen his leg muscles. Wan Nor Hapsah said that the project members were planning to visit Namasivayam next year to see if his "new legs" had made a difference to his life.