

Buletin FKA

A Yearly Insight into the Excellence of Academia

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Bengkel Penulisan Akademik

“Academic Writing for Career Enhancement”

Oleh: Dr. Ng Kok Shien

Seramai 73 orang peserta telah menghadiri Bengkel Penulisan Akademik yang tertajuk “Academic Writing for Career Enhancement” yang diadakan pada 24-25 Julai 2019. Pada hari pertama, Prof Sr. Ir. Dr. Suhaimi Abdul Talib memberikan taklimat tajuk “Academic Writing: Fulfilling the Academic Role”. Beliau telah memberi penjelasan terperinci tentang cara-cara untuk seorang pensyarah mencapai kecemerlangan akademik dan juga kepentingan penulisan kepada seseorang ahli akademik. Beliau juga menekankan kepentingan karektor dan integriti selain kerajinan dan intelektual seorang individu. Sebelum menggulung ucapan, beliau menasihati para peserta supaya mengikuti perkembangan semasa di mana pembelajaran sepanjang hayat harus diketengahkan dan dipromosikan. Pada hari kedua, Prof. Madya Ir. Dr. Che Maznah Mat Isa berkongsi pengalaman dalam penulisan artikel yang berbentuk Pengajaran dan Pembelajaran (P&P) dalam tajuk ucapannya iaitu “Teach, Write and Flourish”. Beliau menunjukkan cara bagaimana aktiviti P&P dalam kelas dapat diterjemahkan kepada jurnal atau prosiding. Beliau juga memberi tips bagaimana penulis dapat meningkatkan penerimaan artikel dalam jurnal. Selepas pengkongsian Dr. Che Maznah, sesi bengkel bermula dengan aktiviti menulis artikel berbentuk P&P. Langkah pertama, peserta harus mengenal-

pasti bidang atau tajuk yang boleh ditulis daripada aktiviti P&P. Seterusnya, mereka perlu menentukan jurnal dan konferensi untuk menerbitkan artikel mereka. Selepas itu, peserta harus menukar aktiviti P&P kepada bentuk artikel. Kedua-dua penceramah telah memberikan bimbingan dan cadangan yang sesuai kepada para peserta. Sebanyak 33 tajuk artikel telah dicadangkan. Bengkel ini merupakan satu titik permulaan yang sangat baik kepada para peserta dalam aktiviti penulisan artikel berbentuk P&P yang sebelum ini tidak menjadi kebiasaan bagi pensyarah dalam bidang kejuruteraan. Diharapkan agar para pensyarah terus giat menulis artikel berbentuk P&P dan bengkel seperti ini menjadi pemangkin kepada kecemerlangan pembangunan akademik di UiTM Cawangan Pulau Pinang khususnya.

“Being an academia is not a dream, it is a calling”



DARI MEJA KETUA PUSAT PENGAJIAN >>>

Oleh: Dr. Hj. Anas bin Ibrahim

Alhamdulillah, segala pujian hanya milik Allah SWT dan selawat ke atas junjungan besar Nabi Muhammad SAW atas terbitan Buletin Fakulti Kejuruteraan Awam Universiti Teknologi MARA Cawangan Pulau Pinang (Edisi 2019). Saya dengan rendah diri mengucapkan tahniah dan syabas kepada warga sidang Buletin FKA yang telah mengorbankan tenaga dan pemikiran dalam usaha merealisasikan buletin ini. Setinggi penghargaan kepada Tuan Rektor selaku penaung, penyumbang artikel dan juga seluruh warga FKA yang terlibat secara langsung dan tidak langsung dalam usaha murni ini.

Pembudayaan penulisan berkualiti dalam kalangan warga akademik FKA merupakan salah satu teras utama dalam mencapai kecemerlangan global seiring dengan Pelan Strategik UiTM 2025. Sebagai warga akademik di universiti, penyampaian ilmu hasil daripada penyelidikan dan penulisan merupakan darah daging seseorang yang bergelar pensyarah universiti. Bak kata peribahasa, ‘kemenyan sebesar lutut, jika tidak dibakar takkan berbau’. Begitulah ilmu hasil penyelidikan yang digali dan diteroka tiada gunanya jika hanya disimpan sahaja tanpa disebar luaskan melalui medium penulisan. Buletin FKA ini diharap akan menjadi satu wadah lestari bagi pembudayaan dan penghasilan penulisan warga akademik. Di akhir kata, saya menyeru semua warga FKA yang dikasihi agar dapat menyatukan suara dan gerak dalam mencapai misi dan visi universiti seiring dengan Pelan Strategik UiTM 2025. Kecemerlangan UiTM bermula dengan warga kerja yang cemerlang dan berintegriti.



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MOTIVASI >>>



Mengekalkan suasana kerja harmoni

Oleh: Dr. Kay Dora binti Abd Ghani

Setiap individu mempunyai peranan dan tanggungjawab di dalam sebuah organisasi, justeru bagaimanakah kita dapat memberikan sumbangan bagi mengekalkan keharmonian di tempat kerja? Kekuatan terbesar dalam diri manusia terletak pada fikirannya. Bak kata Datuk Dr. Muhyah Mohamad, “minda positif, hasilnya juga akan positif”. Pemikiran negatif akan melemahkan seterusnya membinaaskan diri. Berfikiran positif akan memberikan inspirasi dan membuatkan seseorang bersifat optimistik. Sentiasa mulakan sesuatu usaha dengan anggapan yang positif supaya ianya dapat merangsang fikiran agar dapat membawaikan idea yang kreatif dan inovatif seterusnya melakukan pekerjaan dengan lebih

yakin. Berfikiran positif berupaya menepis rasa lemah sewaktu menemui kegagalan dan membuatkan diri sentiasa bermotivasi melihat setiap peluang untuk terus sukses. Kita juga perlu sentiasa positif dengan arahan ketua atau pihak atasan demi kebaikan organisasi. Persekitaran kerja yang harmoni pasti dapat dikekalkan apabila kesemua ahli organisasi berfikir dengan positif. Di samping itu, setiap ahli organisasi perlu mempunyai sikap proaktif bagi menguruskan pekerjaan dengan cemerlang. Menurut Stephen Richards Covey dalam bukunya yang bertajuk *The 7 Habits of Highly Effective People*, proaktif merupakan tabiat pertama untuk menjadi individu yang efisyen. Proaktif boleh didefinisikan sebagai inisiatif merangka dan mengawal tindakan yang dilakukan lebih awal daripada jangkaan akan berlakunya sesuatu perkara atau kejadian. Ianya merupakan satu sifat tanggungjawab dan membantu dalam mengurangkan tekanan kerja serta konflik sekiranya sesuatu tugasannya dirancang dan diuruskan lebih awal berbanding dengan sikap *last minute*. Tidaklah menjadi kesalahan apabila menawarkan diri untuk berkongsi idea dan membantu rakan sekerja mahupun ketua dalam apa juar perkara yang melibatkan hal ehwal di organisasi sebagai

tanda sokongan padu dan tanggungjawab yang dipikul bersama. Alangkah indahnya sikap *win-win situation* diamalkan dengan baik supaya keharmonian suasana kerja dapat dikekalkan. Kesimpulannya, pekerjaan merupakan satu platform yang mencabar keupayaan diri. Bekerja bukan semata-mata untuk mengumpul duit dan harta benda bagi memenuhi keperluan dan kehendak diri dan keluarga, malah amanah dan tanggungjawab di sebalik pekerjaan adalah yang paling utama. Lantas, iklaskan hati dan betulkan niat bekerja. Usah menganggap pekerjaan sebagai satu bebanan kerana setiap individu diberikan jawatan sebagai tanda kepercayaan untuk menjalankan amanah mengikut skop dan kelayakan masing-masing. Sehubungan itu, kita mesti percaya kepada diri sendiri untuk menjalankan tugas dan tanggungjawab dengan baik. Justeru, setiap individu dalam sebuah organisasi mempunyai tanggungjawab yang sama rata dalam memastikan keharmonian suasana di tempat kerja berada pada tahap yang paling baik. Usah lupa konsisten berdoa agar segala urusan dan pekerjaan yang merupakan lubuk rezeki dan kebun pahala ini dipermudahkan mendapat keberkatanNya.

FOCUS >>>

Revolution on Assessment for Student Monitoring System (i-RAS)

By: Mohd Samsudin Abdul Hamid & Md Rasul Mohamad Noor



This particular project was developed by FKAPP OBE team leads by En Md Rasul Mohamad Noor together with En Abdul Manaff Mohd Ismail and Pn Shafienaz Ismail. This project was brought forward by Team Craggy to higher level platform at KIK and IID to get recognitions.

Furthermore, it was introduced because of problems occur when the number of courses and lecturer are high in order to collect and analysed Course Outcome and Program Outcome data manually. Manual application of data collection has implemented since 2010, and it was found that there is a need for a system to interpret and analyse the assessment of all courses systematically. Therefore, a comprehensive and synchronise system called Revolution on Assessment for Student Monitoring System (i-RAS) was developed to collect and analysed COPO data accurately and automatically. As a result, this system was produced as a paperless system which all the data can be uploaded in the faculty website and automatically analysed. The storage system is proven to be safer than before. Furthermore, this system has been implemented at diploma level by the Faculty of Civil Engineering of all UiTM campuses and at degree level in UiTM Pulau Pinang. i-RAS has won many awards at various invention and innovation competitions, namely PIID 2019

(Gold Award), I-INTELEC 2019 (Gold Award), IIDEX 2019 UiTM (Silver Award) and INDES 2019 (Bronze Award).



Inovasi Memudahkan Sistem Pendaftaran

Oleh: Nor Hafizah Hanis Abdullah & Nurulzatushima Abdul Karim

Diinspirasikan oleh kesulitan yang sering dihadapi oleh para peserta dan juga pengajur semasa proses pendaftaran untuk sesuatu program yang dilaksanakan diperingkat jabatan, maka KIK FKA yang diwakili oleh kumpulan Craggy telah mengambil inisiatif tersendiri dengan menghasilkan satu sistem pendaftaran peserta secara automatik berdasarkan teknik *RFID (Radio Frequency Identification)*. Sistem ini dijalankan secara atas talian dan memanfaatkan penggunaan kad staf secara lebih menyeluruh. Semasa proses ‘clock in’ dan ‘clock out’, para peserta hanya memerlukan masa kurang daripada 3 saat untuk mengimbas kad staf atau kad *RFID* bagi menyempurnakan log kehadiran peserta. Hasilnya, Craggy telah berjaya meraih Naib Johan di Mini Konvensyen KIK peringkat UITM Cawangan Pulau Pinang pada 8 Ogos 2019 dan merangkul Anugerah Dokumentasi Terbaik, Anugerah Kumpulan Istiqomah KIK dan Anugerah Pembentang Wanita Terbaik (Puan Nurulzatushima Abdul Karim). Seterusnya, Craggy juga berjaya merebut Anugerah KIK Primer Terbaik Bidang Inovasi Pengurusan, Anugerah KIK Primer Terbaik Bidang Inovasi Pengurusan (Kategori Penambahan) dan Anugerah Fasilitator Terbaik (En Mohd Azuan Tukiar) di Pertandingan KIK Peringkat Zon Utara yang diadakan pada 4 September 2019. Kumpulan ini diketuai oleh En Md Rasul Mohd Nor dan dianggotai oleh En Mohamad Samsudin Abdul Hamid, En Ahmad Syauqi Md Hassan, En Fairus Azwan Azizan, Dr Siti Hafizan Hassan, Pn Nurulzatushima Abdul Karim dan Pn Nor Hafizah Hanis Abdullah.



Kaedah perlaksanaan dan keberkesanan melalui platform i-learn

Oleh: Ahmad Syauqi bin Md Hasan & Nur Masyitah binti Osman

Dengan ledakan revolusi industri 4.0, penggunaan teknologi di dalam proses pengajaran dan pembelajaran semakin diperlukan dan tidak boleh lagi diketepikan. Universiti Teknologi MARA telah mengambil inisiatif terkehadapan dengan memperkenal Minggu Tanpa Dinding atau pun “Week Without Wall” dalam memperkasakan pembelajaran yang fleksibel dan aktif berasesuaian dengan “Education 5.0@UiTM” yang telah diperkenalkan bermula tahun 2018.



Kaedah pengajaran di alam maya sememangnya amat menarik tetapi menuntut kaedah perlaksanaan yang efektif agar penyampaian ilmu dapat diberikan dengan sepenuhnya dan difahami oleh pelajar. Terdapat pelbagai kaedah digunakan oleh pensyarah-pensyarah Universiti Teknologi MARA seperti platform i-learn (yang dibangunkan oleh UiTM), youtube, facebook, whatsapp, Instagram, google classroom dan pelbagai lagi media yang membenarkan interaksi dua hala dijalankan. Interaksi yang berlaku samada dalam bentuk tulisan, video, gambar, animasi dan sebagainya. Selain daripada itu pelajar juga boleh diuji dengan ujian, kuiz atau tutorial berbentuk soalan dan ianya perlu diselesaikan dalam tempoh masa yang ditetapkan. Dengan kaedah ini pelajar akan perlu mencari maklumat secara pantas samada melalui cetakan keras seperti buku atau menggunakan carian di internet yang lebih pantas. Mereka akan lebih cakna akan kepentingan mencari maklumat

dengan pantas dan membuat saringan ke atas setiap maklumat yang didapati sebelum memuatnaik semula ke platform yang digunakan pensyarah. I-learn yang telah dibangunkan oleh UiTM merupakan satu platform menyeluruh yang memusatkan segala aktiviti e-learning UiTM. Melalui platform ini pensyarah boleh memuatnaik segala nota dan dokumen berkaitan kursus dan juga berinteraksi bersama pelajar yang mendaftar kursus tersebut. Senarai nama pelajar adalah dimuatnaik secara automatik daripada sistem icress UiTM dan ini menjadikan platform i-learn sangat efektif untuk digunakan di dalam perlaksanaan week without wall. Pensyarah juga boleh menjalankan proses penilaian termasuk kuiz dan ujian menggunakan platform ini selain memuatnaik kerja kursus yang diperlukan untuk memenuhi kurikulum sesuatu kursus. Menggunakan pautan i-discuss memudahkan pensyarah untuk berinteraksi bersama pelajar di samping memantau keterlibatan setiap pelajar di dalam sesi diskusi yang dianjurkan dengan menggunakan pautan i-discuss monitoring. Platform ini juga membenarkan para pelajar untuk memuatnaik file dalam bentuk video, dokumen samada dalam format ‘microsoft word’ ataupun ‘pdf’. Ini sangat memberi kemudahan kepada pensyarah dan pelajar sekiranya diskusi itu memerlukan pelajar untuk menghantar laporan ataupun informasi dalam bentuk digital kepada pensyarah. Segalanya boleh dilakukan di platform e-learning ini. Bak kata pepatah ‘segalanya kini hanya di hujung jari’, semoga UiTM dapat menerajui inisiatif ‘Education 5.0’ dan mencapai kegemilangan di peringkat antarabangsa dalam aspek pembelajaran dan pengajaran.



Research Collaboration with Halfen Moment Sdn. Bhd.

By:
Ir. Mohd Asha'ari Masrom

This collaboration initiated from a research project funded by the Ministry of Higher Education under the Fundamental Research Grant Scheme for three years duration. The research is about the innovative connection between precast rocking wall and precast floor in the load bearing structure. The precast connections are tested in the heavy structural laboratory to evaluate the performance of connection under seismic loading. In this respect, Mr Gary Connah (Technical and Development Manager) and Mr KC Loh (Technical Manager) from Halfen Moment Sdn. Bhd. were interested in collaborating in the research project by supplying their precast products and contribute their expertise for the project successfulness. This collaboration has exhibited a good practice of industrial linkage, which in line against the government's call for greater cooperation between universities and industry.



Technical Talk by visitor from King Mongkut's Institute Technology Ladkrabang, Bangkok, Thailand

By: Dr. Kuan Woei Keong

In conjunction with the MOU signing with King Mongkut's Institute Technology Ladkrabang (KMITL), Bangkok, Thailand in 2017, the head of Department of Civil Engineering, Dr. Ararith



Petchsasithon was invited to deliver a technical talk to the faculty members on the 24th April 2019. The talk covered the practice and implementation of Earthquake Design of Buildings in Thailand. In his presentation, details of the development of seismic design requirements for buildings in Bangkok,

earthquake risk of buildings and failure mode of concrete structures caused by earthquake were shared with the participants. The technical talk has ended with fruitful Q & A session. The

talk has also attracted participants from the Institute of Engineers Malaysia (IEM) Penang Branch. During his visit, a discussion on future collaboration in research and staff exchange program was held with the faculty members. It is hoped that this collaboration will continue and benefit both sides.

Do you know where do earthquake happen?

Earthquakes usually occur on the edges of large sections of the Earth's crust called tectonic plates. These plates slowly move over a long period. The edges of the plates or known as the fault lines can get stuck, but the plates keep moving. Pressure slowly starts to build up where the edges are stuck and, once the pressure gets strong enough, the plates will suddenly move to cause an earthquake.

Pertandingan 3MT (3-Minute Thesis)

Ts. Mohd Ikmal Fazlan bin Rosli@Rozli telah terpilih mewakili kampus UiTM Pulau Pinang ke pertandingan 3 Minute Thesis (3MT) bagi calon pengajian peringkat pasca siswazah anjuran Institute of Graduate Studies (IPSI) pada 4 April 2019 bertempat di UiTM Shah Alam. Beliau merupakan Pensyarah Kanan di Fakulti Kejuruteraan Awam UiTM Cawangan Pulau Pinang, dan dalam masa yang sama merupakan calon Ijazah Doktor Falsafah di UiTM. Beliau mempertaruhkan tajuk *Finding the Rhythm of The Trains* di dalam pertandingan tersebut.

STADIUM GENERAL : Construction Industry in IR 4.0 - Challenges and Opportunities

Associate Professor Ts. Dr. Mohd Hisbany Mohd Hashim, Rector of UiTM Penang, has delivered a lecture to staff and students of the Faculty of Civil Engineering Studies Program, University of Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia on 14th November 2019. The

speech entitled Construction Industry in Industrial Revolution 4.0 - Challenges and Opportunities, discussed the roles and responsibilities of civil engineer that are to be fitted in such digital and millennials generation world. The use of advanced and digital technology has been helping us to divert the conventional system to the new approach of learning and teaching. It is a loss if we do not take advantage of this digital age to make the most of it.





CORETAN PERJALANAN MERENTASI SEMPADAN ILMU >>>

Jalinan Kerjasama di antara UiTM, UKM, UPNM dan Universitas Syiah Kuala (Unsyiah), Banda Aceh, Indonesia

Pada 28 Julai hingga 31 Julai 2019, satu lawatan muhibah dari tiga buah universiti tempatan ke Universitas Syiah Kuala(Unsyiah), Banda Aceh, Indonesia telah dijalankan. Lawatan ini bertujuan untuk membina satu jalinan kerjasama penyelidikan merentas luar sempadan negara. Tiga buah universiti awam tempatan yang terlibat adalah Universiti Kebangsaan Malaysia (UKM), Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang dan Universiti Pertahanan Nasional Malaysia (UPNM).

Kerjasama ini adalah kesinambungan program dan seminar Precision Component Product Innovation in the field of Mechanical, Industrial Engineering and Civil Engineering in anticipation of Development 4.0 yang dianjurkan oleh Unsyiah. Pensyarah-pensyarah yang terlibat adalah Prof. Ir. Dr. Shahrum Abdullah (UKM), Prof. Madya Dr. Noorsuhada Md Nor (UiTM Cawangan Pulau Pinang), Dr. Salvinder Singh Karam Singh (UKM), Dr. Mohd Faizal Abdullah (UPNM) dan Ir Nur Azwa Muhamad Bashar (UiTM Cawangan Pulau Pinang) (Gambar 1). Rentetan itu, satu diskusi teknikal telah dijalankan bersama pensyarah Unsyiah berkenaan kejuruteraan forensik untuk kolaborasi penyelidikan bersama dengan UiTM Cawangan Pulau Pinang pada masa hadapan. Antara cadangan kolaborasi adalah tentang hasil peninggalan dan kesan Tsunami Aceh yang lebih menjurus kepada pemantauan bangunan dan sebagainya. Beberapa perbincangan untuk mewujudkan jalinan kerjasama berkaitan penyelidikan, penerbitan, perundingan dan lain-lain kolaborasi yang dilihat sejajar dengan keperluan universiti untuk meningkatkan ketampakan UiTM Cawangan Pulau Pinang khususnya diperingkat antarabangsa. Untuk melengkapkan lawatan di Unsyiah, beberapa lawatan teknikal telah dijalankan antaranya ke Aceh Tsunami Museum Blang Padang (Gambar 2), Apung 1, dan rumah Cut Nyak Dhien dan Teuku Umar, bangunan yang dibangunkan semula pada 1981 – 1982 selepas dibakar oleh Belanda pada tahun 1896 (Gambar 3).



Gambar 3

Berkongsi Ilmu di "The 7th International Conference of Euro Asia Civil Engineering Forum" Stuttgart, Germany

Berkongsi ilmu di luar dari kepompong kebiasaan adalah satu pengalaman yang mengujakan. Pengalaman membentang kertas kerja di 'The 7th International Conference of Euro Asia Civil Engineering Forum', Stuttgart, Germany pada 30 September hingga 2 Oktober 2019 menjadi satu pengalaman yang tidak dilupakan.

Pancaran akustik, baik pulih struktur menggunakan gentian seperti *carbon fibre reinforced polymer* dan suntikan epoksi adalah bidang kepakaran penulis. Penulis telah membentang kertas kerja bertajuk '*Crack Intensity of the Damaged Reinforced Concrete Beam Repaired with Epoxy Injection using Acoustic Emission Technique*' di persidangan ini. Selain penulis, terdapat tiga orang pensyarah dari UiTM Cawangan Pulau Pinang, Prof. Madya Ts. Dr. Hisbany Hashim, Dr. Fariz Aswan Ahmad Zakwan dan Ts. Mohd Ikmal Fazlan Rozli@Rosli yang membentangkan kertas kerja masing-masing dipersidangan ini. Hasil daripada persidangan ini, penulis telah mewujudkan hubungan peluang kolaborasi dengan pihak dalam dan luar negara. Diantaranya adalah dengan Dr. Abdullahi Nafiu Zadawa dari Abubakar Tafawa Balewa University (Nigeria), Dr. Josipa Bosnjak dari University of Stuttgart (Germany), Khongkham Chanthamanivong (Jepun), Dr. Noor Sheena Herayani Harith dari Universiti Malaysia Sabah (Malaysia) dan ramai lagi. Antara jalinan kerjasama yang diperolehi adalah mendapatkan keahlian jawatankuasa saintifik persidangan, penilai kertas kerja dan beberapa lagi selain daripada perkongsian ilmu akademik dari pelbagai cabang. Antara pencapaian yang diperolehi ialah ketampakan UiTM Cawangan Pulau Pinang di peringkat antarabangsa.



Penulis bersama-sama rakan pembentang kertas kerja di 7th International Conference of Euro Asia Civil Engineering Forum, Stuttgart, Germany.

Kempen Kesedaran Risiko Empangan Bukit Merah

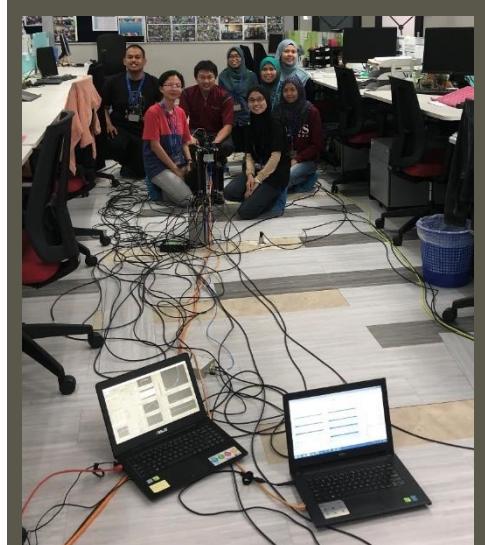
Oleh: Nurhidayati binti Mat Daud

Pada 31 Oktober 2019, seramai 38 orang staf FKA yang diketuai oleh Ketua Pusat Pengajian iaitu Dr Haji Anas bin Ibrahim telah disambut oleh pasukan JPS Daerah Kerian di bawah pengurusan Jurutera Daerah, Ir. Safuandzi Bin Abdullah untuk menjayakan program khidmat masyarakat bertajuk Kempen Kesedaran Risiko Empangan Bukit Merah di Pejabat JPS Empangan Bukit Merah.

Empangan Bukit Merah merupakan empangan tertua di Malaysia yang mula dibina pada tahun 1902 dan siap pada tahun 1906. Empangan ini pernah dinaiktaraf pada tahun 1967 dan 1984 untuk meningkatkan kapasiti takungan. Objektif kempen ini adalah untuk memberi kesedaran kepada penduduk yang tinggal di hilir empangan tentang risiko dan tindakan kecemasan yang perlu diambil oleh mereka jika berlaku bencana. Kempen ini termasuk di dalam Pelan Tindakan Kecemasan Empangan Bukit Merah. Kempen ini telah dijalankan secara berkumpulan dengan setiap kumpulan bergerak dari rumah ke rumah. Lapan buah kampung yang terlibat terletak di hilir empangan iaitu Kg Parit Air Hitam, Tali Air Kanan, Parit Mat Keling, Kg Tanjung Bugis, Abu Hassan Ban, Kg Padang Lalang, Kg Batu 38 dan Ban Pisang. Penduduk telah diberi penerangan berkaitan empangan, fungsi empangan, risiko tinggal di hilir empangan, kesan bencana dan langkah-langkah menghadapi bencana. Terdapat siren kecemasan yang dipasang di kawasan berhampiran dan mereka diminta peka terhadap jenis bunyi siren supaya tindakan yang diambil



adalah cepat dan tepat bagi menyelamatkan nyawa mereka. Kempen tamat pada jam 3 petang dan telah mendapat kerjasama yang amat baik daripada penduduk. Pihak FKA UiTMCPP amat menghargai peluang kerjasama ini dan berharap kerjasama seperti ini akan dapat diteruskan di masa akan datang.



Consultancy Work for Vibration Testing and Human Comfort Criteria Assessment

By:
Dr. Goh Lyn Dee

This project was headed by Dr. Goh Lyn Dee from the Faculty of Civil Engineering UiTM Cawangan Pulau Pinang with a collaboration with Smart Sensing Technology Sdn. Bhd. and a team from Faculty of Civil Engineering, Universiti Tun Hussein Onn, to investigate the vibration issue at a four storey office building. The users in the building were complaining that they felt uneasy/dizziness when there were human activities on the affected areas as the floor vibrated even an average weight man was walking on the floor. Thus, the vibration testing was proposed to determine the vibration behaviour of the floor slabs and the human comfort criteria was assessed. There were three types of tests conducted at the site; i.e. the ambient tests, the shaker tests and the walking tests. To capture the responses of the floor in all directions during the tests, the accelerometers were installed in all directions. The project was divided into two phases. The vibration tests were conducted before a strengthening work was carried out in the building, and after the strengthening works were completed. The natural frequencies of the affected floors in the building were increased by a range of 25% - 28% after a strengthening work was carried out. This project was a success as the client was satisfied with the outcomes of the project.

Bengkel “Train to Success”

Oleh : Dr Masyitah Md Nujid

Pada 6 Mac 2019 Unit Sahsiah Motivasi Pembangunan Pelajar (SMPP) dengan kerjasama Unit Kerjaya Kaunseling (UKK) UiTMCPP telah mengadakan siri aktiviti (Train To Success) yang dimulai dengan sesi pengenalan bersama hampir 90 orang pelajar dari FKA (EC110 & EC221). Maklumat pelajar seperti alamat email diambil bagi memudahkan komunikasi di antara pelajar bersama pelatih UKK.

Ini kerana para pelajar dikehendaki mengikuti siri berikutnya seperti klinik kaunseling, klinik bersama Mentor dan akhir sekali ialah aktiviti pemantauan akademik pelajar. Beberapa siri aktiviti riadah juga diterapkan dalam pertemuan yang diatur sepanjang 14 minggu pengkuliahan bagi semester Mac-Julai 2019. Istimewa aktiviti Train To Success bagi semester ini adalah penyertaan Penasihat Akademik (PA) pada sesi taklimat yang disampaikan oleh wakil UKK. Manakala pada 8 Mei 2019 seramai 34 pelajar EC221 dari bahagian 8-9 dipilih untuk menyertai aktiviti PO Intervention berbentuk pertandingan rekacipta video bertemakan “Empowering Civil Engineering Application Towards IR 4.0”.



Tujuan program ini diadakan untuk memenuhi keperluan keberhasilan pengajian program EC221 melalui penilaian ke atas ciri-ciri hardskills and softskills memenuhi kehendak 21st century skill (critical thinking, creative, communication and collaboration). Disamping juga memberi pendedahan kepada pelajar dalam menyertai pertandingan berinovatif di luar ruang lingkup pembelajaran. Kedua-dua aktiviti unit SMPP yang telah dirancang berjalan dengan jayanya.

Bengkel Computational Geotechnics

Oleh : Dr Ng Kok Shien

Bengkel 'Computational Geotechnics' telah berjaya dianjurkan oleh Unit Latihan Akademik, FKA pada 16 Disember 2019 di UiTM Cawangan Pulau Pinang. Dr. Ng Kok Shien merupakan penceramah utama untuk bengkel ini dan dibantu oleh dua fasilitator iaitu Pn. Faizah Kamarudin dan En. Juhaizad Ahmad. Seramai 25 peserta dari industri dan academia, termasuk 2 peserta yang merupakan pelajar antarabangsa telah menghadiri bengkel ini. Melalui bengkel ini, peserta dapat belajar mengenai teknik numerikal dalam penyelesaian masalah geoteknik. Bengkel ini menumpukan cara pembelajaran praktik iaitu dengan penggunaan perisian finite element method.



Mengintai Peluang Kolaborasi bersama Industri

Oleh: Ts. Mohd Ikmal Fazlan bin Rosli@Rozli



Satu lawatan ke Kilang Eastern Pretech (M) Sdn. Bhd. yang terletak di Sungai Petani, Kedah telah diadakan pada 13 Mac 2019 bagi meninjau kaedah pembuatan *precast concrete sleepers* serta membincangkan mengenai peluang penyelidikan yang dapat dilakukan oleh UiTM bagi kebaikan bersama antara universiti dan industri. Lawatan ini merupakan inisiatif dari Entiti Kecemerlangan Tier 5 iaitu Permanent Way Infrastructure (PWI) dengan kerjasama Keretapi Tanah Melayu Berhad. Seramai 7 orang peserta terlibat terdiri daripada 2 orang pensyarah Fakulti Kejuruteraan Awam UiTM Cawangan Pulau Pinang, 2 orang pelajar pasca siswazah dan 3 orang pelajar siswazah.

PENCAPAIAN ISTIMEWA >>>

JUTAAN TAHNIAH diucapkan kepada YBhg. Prof. Ts. Dr. Shanker Kumar A/L Sinnakaudan atas kenaikan pangkat ke gred VK7 (Professor) pada 14 Mac 2019, sekaligus mencipta sejarah sebagai Professor pertama di UiTM Pulau Pinang. Beliau juga telah menerima Anugerah Penyelidik Terbaik (Kelompok Sains dan Teknologi) dalam Majlis Anugerah Akademik Universiti (AAU) pada 30 April 2019 bertempat di Dewan Agung Tunku Canselor UiTM Shah Alam. YBhg. Prof. Ts. Dr. Shanker juga tersenarai di tempat ke-6 dalam TOP 10 *Portal of Research, Innovation, Commercialization and Expertise, The Institute of Research Management and Innovation (IRMI)* UiTM Shah Alam.



TAHNIAH kepada Prof. Madya Ir. Dr. Yee Hooi Min telah dianugerahkan sebagai *Honorary Member* oleh ASEAN Federation of Engineering Organisations (AFEO) membawa gelaran M.AFEO di hujung nama beliau. Penganugerahan telah disampaikan dalam sebuah majlis sewaktu persidangan *The 36th Conference of the ASEAN Federation of Engineering Organisations* bertarikh 14 November 2018 bertempat di Resorts World Sentosa, Singapura.



TAHNIAH atas kenaikan pangkat ke gred DM54 (Profesor Madya) kepada Prof. Madya Dr. Noorsuhada Md Nor pada tarikh 21 September 2019.

TAHNIAH! PhD Viva Voce



Dr. Hj. Anas Ibrahim, 25 Mei 2019, UiTM



Dr. Fariz Aswan Ahmad Zakwan, 30 Mei 2019, UiTM



Dr. Ruqayyah Ismail, 14 Okt. 2019, UPM



TAHNIAH di atas penganugerahan Ijazah Doktor Falsafah kepada Dr. Nor Azliza Akbar di Konvokesyen ke-57 USM pada 24 September 2019. Tajuk tesis beliau ialah *Potential Use of Ozonation With Limestone Adsorption Process in Groundwater Treatment*.



INNOVATION >>>

Correlation Between California Bearing Ratio (CBR) With Plasticity

By: Dr. Masyitah Md Nujid

A research team led by Dr. Masyitah Md Nujid has invented a product intended to replace cement as soil stabilizer in road construction by using cockle shell powder (CSP). This innovation project was won Silver Medal at the International Bujang Valley Innovation, Invention and Design Competition 2019 (BVIIEC) on 13th June 2019 at Dewan Perdana UiTM Kedah under Science and Technology category. The purpose of innovation is to use geo-environmentally friendly material in soil stabilisation techniques by using natural waste materials. The quality of the subgrade depends on the strength and the stabilisation technique adopted for problematic soil to increase the bearing value. For estimating the bearing value or evaluate the strength of highway sub-bases and subgrades for design of pavement thickness by conducting California Bearing Ratio (CBR). The CBR and PI show a good correlation and thus inclusion of CSP in marine soil could be used as an alternative material for subgrade layer in increasing soil strength. The innovation in designing a mixture of soil stabilisation techniques using CSP in a correlation between CBR and plasticity index is found very useful

in pavement construction. This innovative product is economical (reduce cost construction, repair, maintenance), Eco-environmental additives use (natural waste) and it is will beneficial to environment, contractor, government & road users. In terms of novelty and uniqueness, the product is economical, potential to replace cement additive and promote geo-environmental friendly material in soil stabilisation technique. Hence, this product has the potential to be commercialised because it reduces the cost of material and overall construction cost, recyclable and sustainable geo-material stabiliser also an alternative material use for road stabilisation.



BananaSWaT

By: Dr. Nor Azliza Akbar

Dye industry is one of the industries that produce high income to economic growth in several countries around the world. However, the wastewater generated contains high organic and inorganic contaminants which exceed the standard effluent of industrial wastewater by Department of Environment. Banana stem is an agricultural plant waste which is among the popular fruit grown in Asia. A few tons per hectare of the banana stem has been estimated annually and lead to disposal issues. Hence, the researchers have invented new adsorbent media

known as 'BananaSWaT' function as an adsorbent to overcome the problem. This project has won a gold medal in the INDES 2019, silver medal in the PIID 2019 and published in the ICoNSET 2019. This project is lead by Dr Nor Azliza Akbar, and the experimental work has been conducted by a group of students which carried out the Final Year Project to investigate the potential use of BananaSWaT in removing colour from the synthetic dye. BananaSWaT has been introduced as a unique and agro-waste adsorbent in treating dye wastewater and able to provide excellent resources in producing low-

DensiProbe : A Hybrid Laboratory In-Situ Testing for Determining Field Density

By: Badrul Nizam Ismail & Nor Hafizah Hanis Abdullah

DensiProbe is equipment that had been invented, as a mean to estimate the in-situ density of a fill, based on some blows from light dynamic penetration test (Mackintosh or JKR Probe). DensiProbe is a combination of light dynamic penetrometer and custom-made mould. The soil samples were compacted in the custom-made mould, and penetration test was conducted for that soil. The compaction and penetration test was repeated for different compaction effort, thus producing different density. From these results, the number of blows versus density curve is developed. Using this curve, penetration test was conducted at the site, and in-situ density can be estimated. This product had won Silver Medal in the International Penang Invention, Innovation and Design (PIID) 2019 and had been published in the 5th GEGEU International Research Seminar 2018. The members involved in this project are Badrul Nizam Ismail, Anas Ibrahim (Dr.), Muhammad Hafeez Osman, Rozaini Ramli and Nor Hafizah Hanis Abdullah.



INNOVATION >>>

MOCOSHECA

By: Amalina Amirah Abu Bakar

Recently, the use of agricultural waste materials has gained attention among researchers in the study of the effectiveness of adsorbent media in the treatment. Authors and her team members had invented an adsorbent known as MOCOSHECA or Modified Coconut Shell Carbon to remove copper (Cu) from the industrial wastewater. Batch adsorption study was conducted to determine the effect of different contact time and pH. The result showed that 98% of Cu was removed at 90 minutes of contact hour with 250 rpm agitation speed and an optimum pH of 5. This indicates that MOCOSHECA has potential in reducing Cu concentration in industrial wastewater and could lead to the reduction of the concentration below drinking water standard provided by the Department of Environment (DOE). MOCOSHECA also provided cost-effective, green and eco-friendly adsorbent in treating industrial wastewater. Thus, it is recommended as an alternative adsorbent to be commercialised. This study has won a silver medal in the 8th International Innovation, Invention & Design Competition (INDES 2019) located at Casuarina Hotel, Ipoh Perak.



PROPATCH: Patching Material for Pavement

By: Siti Rahimah Rosseli



Palm Oil Fuel Ash (POFA) is a waste product from oil palm industry. POFA is detected with high silica and alumina, which makes it an excellent binding material similar to cement. This research project aims to produce an alternative patching material known as PROPATCH, which promotes innovative and straightforward technique in patching pavement using green and sustainable material. PROPATCH offers dual reaction that comes from POFA as binder and PET treated by Sulphuric Acid, which acts like fibre. The product is another innovation that resulted from industrial collaboration with United Oil Palm Industries Sdn. Bhd. and it also capable of being a multi-purpose patching material for a solid structure, which benefits industrial construction players and give an excellent impact to socio-economic. The waste utilisation in PROPATCH creates a greener environment for the country. As for product recognition,

PROPATCH won Gold Medal in PIID2019 and it was listed as one of the contingent finalists representing UiTM Cawangan Pulau Pinang in IDEX2019 which held at UiTM Shah Alam on 10-15 September 2019. PROPATCH proudly won another Gold Medal at this prestigious annual event organised by RIBU, UiTM Shah. Alam.



Carbon Fibre Reinforced Polymer As Material for Structural Strengthening

By: Dr Ruqayyah Ismail & Hazrina Ahmad

Carbon fibre reinforced polymer (CFRP) is a lightweight and durable material that is commonly used as strengthening material. It is one of the preferable material for structural strengthening confinement. However, current practice with CFRP full confinement has several drawbacks such as costly, fragile and hard to repair. Besides that, air entrapment during the installation process and sudden failure due to unseen cracks underneath the full confinement could occur as well. Therefore, this issue can be overcome by partial CFRP confinement. Furthermore, being a non-biodegradable

in applying it in the structural strengthening works. Dr Ruqayyah Ismail and her team led this project. Related work to this research had been published in the Construction and Building Materials (Q1) journal in 2019, won a Silver Medal in INDES 2019 and currently has an ongoing FRGS research grant. This research work improves the current design practice in CFRP structural strengthening. The mechanism of the partial CFRP confinement with the stress-strain in the model proposed is in the progress of obtaining a patent for further commercial application.



Carbon fibre reinforced polymer (CFRP) is a lightweight and durable material that is commonly used as strengthening material. It is one of the preferable material for structural strengthening confinement. However, current practice with CFRP full confinement has several drawbacks such as costly, fragile and hard to repair. Besides that, air entrapment during the installation process and sudden failure due to unseen cracks underneath the full confinement could occur as well. Therefore, this issue can be overcome by partial CFRP confinement. Furthermore, being a non-biodegradable



PENCAPAIAN SEPANJANG 2018 & 2019 >>>

Pemenang Geran Penyelidikan Tahun 2018

| Bil | Tajuk Penyelidikan | Nama Ketua | Jenis Geran | Jumlah (RM) |
|-----|---|---|--------------------------|-------------|
| 1 | Technical Research Collaborator In Performing Environmental Flow Study, Tekai Hydroelectric Project, District Of Jerantut, Pahang Darul Makmur For Tenaga Nasional Berhad | Prof. Ts. Dr. Shanker Kumar A/L Sinnakaudan | Geran Luar (TNB) | 628,840.00 |
| 2 | Formulation of Compatibility Principle for Precast Hybrid Wall-Floor Connection in Tunnel-Form Building Under Seismic Load | Dr Kay Dora Abd Ghani | FRGS | 112,800.00 |
| 3 | The Effect of Train Timetabling on Passenger Flows at Underground Train Station | Zanariah Abd Rahman | FRGS | 88,000.00 |
| 4 | Analysis Of Shear Strength Test On Saturated And Unsaturated At Low Shear Strength With Respect To Critical Suction Zone Behaviour Of Granitic Residual Soil Grade VI | Ts. Dr. Basharudin Abdul Hadi | FRGS | 78,500.00 |
| 5 | Constitutive modeling of reinforced concrete circular columns strengthened with shape memory alloy strips | Dr. Ruqayyah Ismal | FRGS | 63,500.00 |
| 6 | Strength characterization of the CFRP confined circular reinforced concrete column under high temperature | Dr. Hazrina Ahmad | FRGS | 61,400.00 |
| 7 | Modified Bituminous Mixture for Road Pavement using Polyethylene | Shahreena Melati Rhasbudin Shah | Geran Luar (Biaya Terus) | 2,800.00 |

Pemenang Geran Penyelidikan Tahun 2019

| Bil | Tajuk Penyelidikan | Nama Ketua | Jenis Geran | Jumlah (RM) |
|-----|---|--|--------------------------|-------------|
| 1 | Temporal Sediment Yield Model of an Interconnected Cascading Reservoir System (ICRS) With Poorly Gauged Catchments | Prof. Ts. Dr. Shanker Kumar A/L Sinnakaudan | FRGS | 88,670.00 |
| 2 | Formulation Of Moment-Rotation Principle Precast Rocking Wall-Hollow Core Slab Connection In Cellular Structures Subjected To Seismic Loading. | Ir. Mohd Asha'ari Bin Masrom | FRGS | 86,000.00 |
| 3 | Burst Pressure Strength Characterization of Composite Fiber Reinforced Polymer (CFRP) on Circular API Pipes under Multiple Degree of Corrosion Through Artificial Neural Networks | Prof. Madya Ts. Dr. Mohd Hisbany Bin Mohd Hashim | FRGS | 65,720.00 |
| 4 | Mud pumping mechanism and deterioration of mechanical properties of saturated clayey railway subgrade under cyclic loading. | Azura Ahmad | FRGS | 61,200.00 |
| 5 | Investigation on the potential application of recycled concrete aggregate as new material in construction industry | Ir. Ts. Mohd Azrizal Bin Fauzi | Geran Luar (Biaya Terus) | 5,000.00 |

Anugerah Hari Inovasi 2019

| Nama Anugerah | Pengiktirafan | Nama Penerima (FKA) |
|--------------------------------------|---------------|---|
| Anugerah Geran Penyelidikan | Emas | Prof. Ts. Dr. Shanker Kumar A/L Sinnakaudan |
| Anugerah Geran Penyelidikan | Gangsa | Dr. Kay Dora Abd Ghani |
| Anugerah Perundingan Paling Aktif | Paling Aktif | Encik Syahrul Fithry Senin Encik Fairus Azwan Azizan |
| Anugerah SIG (PJI) | Tempat Kedua | SIGFE (Ketua : Ir. Nur Azwa Muhamad Bashar) |
| Anugerah Pengantarabangsaan | Tempat Ketiga | Prof. Madya Dr. Noorsuhada Md Nor |
| Anugerah Penyeliaan Pasca Siswazah | Tempat Ketiga | Dr. Ng Kok Shien |
| Anugerah KIK | Tempat Kedua | CRAGGY (Ketua : Encik Mohd Rasul Mohamad Noor) |
| Anugerah Fakulti /Jabatan Terbaik | Tempat Kedua | Fakulti Kejuruteraan Awam |
| Anugerah Penerbitan Platinum | | Prof. Madya Ir. Dr. Yee Hooi Min Encik Mohd Ikmal Fazlan bin Rosli@Rozli Puan Zanariah Abd Rahman |
| Anugerah Staf Berdedikasi (FKA) | | Tc. Roseffendy Ramli |
| Anugerah Staf Berketrampilan (FKA) | | Encik Md Faizal Zakaria |
| | | Tc. Norzurina Osman |
| Anugerah Staf Paling Kreatif (FKA) | | Puan Suzana Ahmad |
| Anugerah Staf Paling Produktif (FKA) | | Tc. Mohamad Azrul Aswad Mohd Nor |
| Anugerah Khas Rektor | | Dr. Kay Dora Abd Ghani (Mantan KPP) |
| Anugerah Jasamu Dikenang – Bersara | | Encik Abdul Manaff Mohd Ismail |

RINGKASAN PENCAPAIAN INOVASI SEPANJANG TAHUN 2019 >>>

International Penang Invention Innovation and Design (PIID) 2019

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|---|---|--|--|
| 1 | Nur Hazwani Abd Aziz | Dr. Salina Alias Ir. Nur Azwa Muhamad Bashar Dr. Tay Chia Chay Prof. Sr. Ir. Dr. Suhaimi Abdul Talib | Geotechnical Behavior of Various Non-biodegradable Plastic Wastes as Liner Material in Engineering Application | Diamond & Emas |
| 2 | Dr. Anas Ibrahim | Nor Aizam Muhamed Yusof Muhammad Khusairi Osman Azura Ahmad Nooritawati Md Tahir | AI-RoMS: A Hierarchical Deep Convolution Neural Network Model for Crack Analysis in Asphalt Pavement | Emas & Genius Intelek Enterprise Award |
| 3 | Zuraisah Dollah | Aniza Albar Sabariah Badrealam Dr. Muhamad Faizal Pakir Mohamed Latiff Faten Nursyafiqah Anuar | Optimizing Coagulation-Flocculation Process for Low Turbidity Water using Fruit Waste Natural Coagulant | Emas |
| 4 | Siti Rahimah Rosseli | Dr. Muhd Norhasri Muhd Sidek Nor Hafida Hashim Nor Aida Fatin Mohd Mustafa | PROPATCH: Patching Material for Pavement | Emas |
| 5 | Md Rasul Bin Mohamad Nor | Dr. Siti Hafizan Hassan Ir. Ts. Mohd Azrizal Fauzi Nor Hafizah Hanis Abdullah Shafienaz Ismail Fairus Azwan Azizan Nurulzatushima Abdul Karim Dr. Suhalilah Mohamed Noor Mohd Samsudin Abdul Hamid Mohd Azuan Tukiar Ahmad Syauqi Md Hasan | i-RAS: Revolution on Assessment for Student Monitoring Systems | Emas |
| 6 | Ir. Nur Azwa Muhamad Bashar | Dr. Salina Alias Tay Chia Chay Raihan Sofiyah Rahman Prof. Sr. Ir. Dr. Suhaimi Abdul Talib | Hybrid Alum Sludge and Fabricated Bubble Wrapped Plastic (BWP) Liner as Alternative Materials in Sustainable Landfill Infrastructure Model | Emas |
| 7 | Mulikhatus Sa'adah Daim | Adhilla Ainun Musir Siti Nurleena Abu Mansor Nurulzatushima Abdul Karim Nur Farhani Rosli | Development of SoQMeT to monitor noise level in building and infrastructure | Emas |
| 8 | Rozaini Ramli | Daliah Hasan Azura Ahmad Nor Janna Tammy | ESPaCOSH Subgrade Stabilizer | Emas |
| 9 | Sabariah Badrealam | Dr. Nor Azliza Akbar Zuraisah Dollah Amalina Amirah Abu Bakar Nurhidayati Mat Daud | Potential of Eggshell from Household Waste as New Low-Cost Adsorbent in Industrial Waste Water Treatment | Perak |
| 10 | Suhada Sabri | Dr. Nor Azliza Akbar Amalina Amirah Abu Bakar Md Faizal Zakaria Wan Nur Rashidah Wan Mazlan | BananaSWAT | Perak |
| 11 | Badrul Nizam Ismail | Dr. Anas Ibrahim Nur Hafizah Hanis Abdullah Rozaini Ramli Muhammad Hafeez Osman | Densi-Probe: A Hybrid Laboratory in Situ Test to Determine Field Density | Perak |
| 12 | Nuraini Tutur | Noor Syafeekha Mohamad Sakdun Nik Farhanim Imran Nurol Huda Dahalan Hafizah Muhamad Azlan | Performance of Concrete Containing Rice Husk Ash and Wastewater Sludge | Perak |
| 14 | Prof. Ts. Dr. Shanker Kumar A/L Sinnakaudan | Mohd Rizal Shukor Siti Isma Hani Ismail Munyati Mohammed Maisarah Abd Ghani | Smart Fish Feeder | Perak |
| 15 | Mohd Zaini Endut | Daliah Hasan Rozaini Ramli | Cuttlefish Bone & Coconut Fiber | Gangsa |
| 16 | Roziah Keria | Shahreena Melati Rhasbudin Shah Dr Suhalilah Mohamed Noor Prof. Madya Ir. Dr. Damanhuri Jamalludin Chan Hun Beng | The Evaluation of Modified Rubber Powder and Bitumen Mixture | Gangsa |

| | | | | |
|----|---------------------------|---|--|--------|
| 17 | Dr. Suhailah Mohamed Noor | Mohd Zaidi Mohamad Saad Roziah Keria Shahreena Melati Rhasbudin Shah Dr. Siti Hafizan Hassan | Leakage Detection Control in Reducing Nonrevenue Water | Gangsa |
|----|---------------------------|---|--|--------|

International Student Affairs Invention, Innovation & Design Competition (i-SAIID2019)

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|----------------------|---|---|----------|
| 1 | Syahrul Fithry Senin | Juhaiad Ahmad Ts. Mohd Ikmal Fazlan Rozli@Rosli Amer Yusuff Rohamezan Rohim Dr. Kay Dora Abd Ghani Dr. Suhailah Mohamed Noor | Automated & Innovative Surface Crack Detection & Length Estimation Technique for Infrastructure Inspection Work | Emas |

International Innovation in Teaching and Learning & Language Education Conference (i-InTeLEC) 2019

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|----------------------|---|--|----------|
| 1 | Md Rasul Mohamad Nor | Dr. Siti Hafizan Hassan Ahmad Syauqi Md Hasan Ir. Ts. Mohd Azrizal Fauzi Nor Hafizah Hanis Abdullah Shafienaz Ismail Fairus Azwan Azizan Nurulzatushima Abdul Karim Dr. Suhailah Mohamed Noor Mohd Samsudin Abdul Hamid Mohd AzuanTukiar | i-RAS: Revolution on Assessment for Student Monitoring Systems | Emas |

2nd Digitalised International Invention Innovation and Design Johor 2019 (DIIID JOHOR 2019)

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|-------------------------|--|---|----------|
| 1 | Alif Akhmizan Mohd Jaya | Faizah Kamarudin Muhammad Haziq Md Roslee | Soil Stabilization Treatment of Subgrade Materials Using Crushed Coconut Shells (CCS) | Emas |

International Bujang Valley Innovation, Invention and Design Competition (BVIIEC) 2019

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|---|--|---|----------|
| 1 | Ts. Mohd Ikmal Fazlan Rozli@Rosli | Dr. Kay Dora Abd Ghani Dr. Norliyati Md Amin Juhaiad Ahmad Syahrul Fithry Senin Che Muhammad Hilmi Safiuddin Che Mahmud | Finding the Rhythm of The Trains:2nd Sonata | Emas |
| 2 | Nur Shafieza Azizan | Juliana Idrus Dr. Masyitah Md Nujid Khairul Afinawati Hashim Nurjuhanah Juhari Md. Faizal Zakaria | EnV-Fire Starter | Emas |
| 3 | Dr. Muhamad Faizal bin Pakir Mohamed Latiff | Ir. Ts. Mohd Azrizal Fauzi Ir. Ts. Sulaiman Hasim Ir. Zulfairul Zakariah Zuraishah Dollah | Ceiba Pentandra Seed for Water treatment | Emas |
| 4 | Ir. Ts. Mohd Azrizal bin Fauzi | Dr. Muhamad Faizal Pakir Mohamed Latif Prof. Madya Dr. Mohd Fadzil bin Arshad Prof. Madya Dr. Noorsuhada binti Md Nor Ts. Ir. Sulaiman Hasim Ir. Zulfairul Zakariah Ir. Mohamad Zain Hashim | Sustainable Green Construction Materials | Emas |
| 5 | Dr. Masyitah Md Nujid | Juliana Idrus Khairul Afinawati Hashim Nur Shafieza Azizan Duratul Ain Tholibon Nurin Atiqah Azam | Correlation Between California Bearing Ratio (CBR) with Plasticity Index of Marine Stabilized Soil with Cockle Shell Powder | Perak |
| 6 | Shaiful Izzam Safrul Nizam | Muhamad Izhar Mustafa Erra Fazzierah Ahmad Shamizan Wan Safizah Wan Salim Siti Fatimah Sadikon | Unfired Marine Soil Brick with Sugarcane Bagasse | Perak |
| 7 | Juliana Idrus | Nur Shafieza Azizan, Dr. Masyitah Md Nujid Khairul Afinawati Hashim Nurjuhanah Juhari | SheRAP | Gangsa |

| | | | | |
|---|---------------------------|---|--|--------|
| 8 | Dr. Anas Ibrahim | Nor Aizam Muhammed Yusof Muhammad Khusairi Osman Satira Hambali Juzailah Nur Yunus Nooritawati Md Tahir | Hi-DCNN: A Hierarchical Deep Convolution Neural Network Model for Crack Analysis in Asphalt Pavement | Gangsa |
| 9 | Azizah Binti Abdul Nassir | Michelle Rina Anak Apang Evlynn Suezellynn Dolian Wan Safizah Binti Wan Salim Siti Fatimah Binti Sadikon | Prestressed Elevated Shell Platform Model | Gangsa |

Invention, Innovation & Design Exposition (IIDEX) 2019

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|--------------------------------|--|---|----------|
| 1 | Siti Rahimah Rosseli | Dr. Muhd Norhasri Muhd Sidek Nor Hafida Hashim Nor Aida Fatin Mohd Mustafa Hafizah Muhamad Azlan | PROPATCH: Patching Material for Pavement | Emas |
| 2 | Ts. Ir. Mohd Azrizal bin Fauzi | Prof. Madya Dr. Mohd Fadzil bin Arshad Prof. Madya Dr. Noorsuhada binti Md Nor Ts. Ir. Sulaiman bin Hasim | SUSCONMAT | Emas |
| 3 | Zuraisah Dollah | Sabariah Badrealam Dr. Muhamad Faizal Pakir Mohamed Latiff Aniza Albar | Lemon as a natural coagulant for future alternative water treatment | Perak |
| 4 | Ir. Mohd Asha'ari Masrom | Prof. Dr. Nor Hayati Abd Hamid Dr. Kay Dora Abd Ghani | Self-Centring Joint of Precast Hybrid Wall-Slab Connection for Tunnel-Form Structures | Perak |
| 5 | Mohamad Sufian So'aib | Syahrul Fithry Senin Mohamed Syazwan Osman Nor Afiqah Latip | Artificial Neural Network Modelling on Spontaneous Fermentation Process for Enhancement of Therapeutic Herb's Functionality | Perak |
| 6 | Md Rasul Bin Mohamad Nor | Dr. Siti Hafizan Hassan Ts. Ir. Mohd Azrizal Fauzi Nor Hafizah Hanis Abdullah Shafienaz Ismail Fairus Azwan Azizan Nurulzatushima Abdul Karim Dr. Suhaileh Mohamed Noor Mohd Samsudin Abdul Hamid Mohd Azuan Tukiar Ahmad Syauqi Md Hasan | i-RAS: Revolution on Assessment for Student Monitoring Systems | Perak |

The 8th International Innovation, Invention & Design Competition (INDES) 2019

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|--------------------------|--|---|----------|
| 1 | Dr. Nor Azliza Akbar | Amalina Amirah Abu Bakar Nur Hidayati Md Daud Sabariah Badrealam Suhada Sabri | BananaSWAt - Application In Batik Industries | Emas |
| 2 | Dr. Ruqayyah Ismail | Dr. Fariz Aswan Ahmad Zakwan Hazrina Ahmad Dr. Goh Lyn Dee Prof. Dr. Raizal Saifulnaz Muhammad Rashid | Carbon Fibre Reinforced Polymer (CFRP) Partial Confinement Design for RC Column Strengthening Mechanism | Perak |
| 3 | Mohd Izzat Joohari | Noraziani Abd Aziz Mohd Khairul Azhar Ismail Nurhidayati Mat Daud Fairus Azwan Azizan | Soil Stabilization Using Tile Waste and Cement as Additive | Gangsa |
| 4 | Adhilla Ainun Musir | Siti Nurleena Abu Mansor Nurulzatushima Abdul Karim Juzailah Nur Yunus Raja Nor Husna Raja Mohd Noor | Light Quality Measurement Tool (LIQMeT) | Gangsa |
| 5 | Md Rasul Bin Mohamad Nor | Dr. Siti Hafizan Hassan Ts. Ir. Mohd Azrizal Fauzi Nor Hafizah Hanis Abdullah Shafienaz Ismail Fairus Azwan Azizan Nurulzatushima Abdul Karim Dr. Suhaileh Mohamed Noor Mohd Samsudin Abdul Hamid Mohd Azuan Tukiar Ahmad Syauqi Md Hasan | i-RAS: Revolution on Assessment for Student Monitoring Systems | Gangsa |

The 2019 Inventors' Hall of Fame, International Competition of Ideas, Inventions & Innovations (i-fame 2019)

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|------------------------------------|--|---|----------|
| 1 | Muhamad Hasbullah bin Hassan Basri | Nurakmal binti Hamzah Amir Khomeiny bin Ruslan Dr. Salina binti Alias Md Faizal bin Zakaria | Alumitive- Recovery Alum from The Waste | Gangsa |

International Science and Social Science Innovation Competition (i-SIC 2019)

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|-----------------------------------|---|--|----------|
| 1 | Ts. Dr. Basharudin bin Abdul Hadi | Prof Madya Dr. Mohd Jamaludin bin Mat Nor Ts. Dr. Adnan bin Derahan Dr. Nor Aminin binti Khalid Mohamad Majidee bin Rajhan | The Innovative and Intergrated Method to Analyse Shallow Failure of Slope Failure in Tropical Region | Emas |

Sarawak Invention, Innovation & Design Expo 2019 (SIIDEx 2019)

| Bil. | Ketua | Ahli | Tajuk Projek | Anugerah |
|------|---------------------|---|--|----------|
| 1 | Dr. Clotilda Petrus | Dr. Goh Lyn Dee Huurun Ain Azhar Dr. Caroline Marajan Joe Davlyn Nyuin | Hybrid Fibre Reinforced Concrete under Elevated Temperature Exposure | Perak |

PENANG CIVIL ENGINEERING SOCIETY & AKTIVITI PELAJAR >>>



Program New Leaf anjuran PCES
(23 Oktober 2019)



Splash Run anjuran PCES
(13 April 2019)



Annual General Meeting PCES
(24 September 2019)



Dessert Fest anjuran PCES
(14-15 Oktober 2019)



Malam Pra-Graduan EC110 (15 Jun 2019)



Program Jalan Budi anjuran PCES
(8 November 2019)



Civil Outdoor Mission anjuran PCES
(17 November 2019)



Acara penutupan rasmi Sukan Akademik Fakulti UITM Pulau Pinang pada
19 November 2019. FKA mendapat Tempat ke-3 Persembahan Terbaik dan
Tempat ke-2 keseluruhan acara.

CORAT-CORET 2019 >>>



CORAT-CORET 2019 >>>



Misi Jelajah Akademik
SMT Alor Setar (3 Julai 2019)
MRSM Transkerian (12 Julai 2019)
MRSM Beseri (19 Julai 2019)



Sambutan Hari Kemerdekaan UiTM Pulau Pinang
(12 September 2019)



Program 10,000 Langkah dan Membersihkan Kawasan Kampus
(9 Ogos 2019)



Bengkel Route to Professional Engineer
(30 Oktober 2019)



Misi Akademik Program Pasca
Siswazah di PDC Pulau Pinang
(15 November 2019)



Taklimat Pelajar Baru FKAPP (23 Julai 2019)



Hari Akademia (5 Oktober 2019)
Training of Trainers dan Audit Akses dalam
Persekutuan Alam Bina Pulau Pinang
(11 & 12 Disember 2019)



Bengkel 'Well-defined Engineering Problems &
Activities' (21 & 22 November 2019)



Johan keseluruhan Kejohanan Boling Piala
Rektor UiTM Cawangan Pulau Pinang 2019
(19 Disember 2019)

#majorthrowback2018



FKA sebagai penganjur Majlis Kemuncak Sambutan Bulan Inovasi UiTM 2018 Cawangan Pulau Pinang (14 Disember 2018)



upcoming events...

SDMMS 2020

The 5th Symposium on Damage Mechanism in Materials and Structures

AC Hotel Penang, Malaysia
21 – 22 December 2020

This symposium covers in the field of research and industrial applications, i.e. **MECHANICAL ENGINEERING** and **CIVIL ENGINEERING**.

Topics of interest for submission include:

- Fatigue Damage
- Fatigue Crack Initiation & Propagation
- Life Prediction Techniques
- Computational Fracture Mechanics
- Dynamic Fracture
- Damage Mechanics & Assessment
- Non Destructive Test (NDT)
- Concrete Failure Assessment
- Failure on soil structures
- Structural Durability & Reliability
- Structural Health Monitoring
- Construction Damage Recovery
- Any Relevant Topics Related to Failure Analysis



**FINAL Call
for
Papers!!!**

BEM CPD Hour: To be Confirmed

REGISTRATION FEE

| Category | Local | International |
|----------------------------|--------------------------|---------------------------|
| Presenters & Publication* | RM500 + Publication Fee* | USD170 + Publication Fee* |
| Non-presenting participant | RM400 | USD120 |

Note: Invoice for presenting at the symposium will be given upon the acceptance of extended abstract.

*Invoice for the Publication Fee in the respective journals will be given upon the acceptance from the publisher.

All authors are invited to submit their TWO PAGES EXTENDED ABSTRACT through EasyChair by downloading the template from <https://www.sdmms2020.com/>. All accepted extended abstracts will be publishing in the sdmms2020 proceeding with an ISBN number. High quality papers to be considered in respective indexed journals (SCOPUS/ESCI) and Springer Book Series (SCOPUS), subjected to thorough reviewing and acceptance by the publisher.

Organised by:



Cawangan Pulau Pinang
Kampus Permatang Pauh



Contact us:

Assoc. Prof. Dr. Noorsuhada Md Nor
Symposium Chair,
Faculty of Civil Engineering, Universiti Teknologi MARA
Cawangan Pulau Pinang, Permatang Pauh, Pulau Pinang, MALAYSIA.
✉ : sdmms2020@gmail.com ⌂ : <https://www.sdmms2020.com>
☎ : +(604) 382 2888 ☎ : +(604) 382 2742

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May the Almighty God richly bless all of you!

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**CIVIL ENGINEERING STUDIES CENTRE
UiTMCPP**

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