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UNIVERSITI MALAYSIA KELANTAN

Pena Fsb
FAKULTI SAINS BUMI 2021



Hakcipta terpelihara Fakulti Sains Bumi 2021

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17600 Jeli,
Kelantan Darul Naim,
Malaysia.

SIDANG EDITORIAL

PENASIHAT

Prof. Madya Ts. Dr. Mohamad Faiz Mohd Amin

Prof. Madya Dr. Norrimi Rosaida Awang

Gs. Ts. Dr. Noor Janatun Naim Jemali

KETUA PENYUNTING

Dr. Wong Hie Ling

PENYUNTING

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KATA ALU-ALUAN

DEKAN FSB

Profesor Madya Ts. Dr. Mohamad Faiz Mohd Amin

“Seuntai Bahasa, Sekilas Rasa”



Saya mengucapkan setinggi-tinggi kesyukuran ke hadrat Ilahi dan syabas kepada seluruh warga Fakulti Sains Bumi (FSB) atas dedikasi dan kesungguhan melaksanakan perancangan fakulti sepanjang tahun 2021 sebagaimana dimanifestasikan dalam Laporan Tahunan Fakulti Sains Bumi 2021.

Tahun 2021 menyaksikan kita semua mengharungi tahun ke dua fasa pandemik Covid-19 dan seterusnya memasuki fasa endemik pada suku terakhir tahun. Namun begitu, kekangan ini diatasi dengan jayanya dan FSB berjaya melaksanakan program yang dirancang sepanjang tahun 2021.

FSB terus mengorak langkah menuju kecemerlangan dengan pengiktirafan yang memberangsangkan. Seiring dengan matlamat mencapai tahap penyelidikan yang setara dengan universiti penyelidikan lain di negara ini, sejumlah dua belas (12) geran penyelidikan telah diperolehi oleh FSB dan sebanyak lapan (8) pingat emas, sebelas (11) perak dan lima (5) gangsa telah dimenangi bagi pencapaian penyelidikan dan inovasi.

Bagi memaksimumkan kepakaran penyelidikan dan penjana pendapatan fakulti, FSB telah berjaya bekerjasama dengan sembilan (9) organisasi tempatan bagi perkhidmatan perundingan dengan jumlah perundingan terkumpul bernilai lebih RM200,000. Matlamat untuk memperkasakan dan menyampaikan maklumat penyelidikan kepada orang awam dan penyelidik berkaitan, pelbagai bentuk penerbitan seperti buku, jurnal serta artikel popular telah dihasilkan. Komuniti tempatan turut diambilkira dengan sumbangan penyelidikan FSB kepada komuniti di mana webinar “Fun Learning with Biology” dan Program induksi Pelajar Baharu Jabatan Persediaan Sains UMK (JPSU) telah dijalankan.



Dari segi hubungan kerjasama penyelidikan pula, FSB berjaya menandatangani MOU antarabangsa bersama-sama dengan tiga universiti dari Indonesia iaitu Universitas Gadjah Mada, Universitas Hassanuddin (UNHAS) dan juga Universitas Padjadjaran (UNPAD). FSB turut menandatangani MOU nasional bersama-sama dengan lima organisasi tempatan iaitu Pulau Banding Foundation (PBF) Malaysia, Jabatan Perlindungan Hidupan Liar dan Taman Negara (Perhilitan) Malaysia, Persatuan Geologi Malaysia dan Jabatan Mineral dan Geosains Malaysia. Kerjasama yang terjalin pasti akan membentuk sinergi yang bakal meningkatkan kuantiti penyelidikan dan seterusnya menyumbang kepada hasil penyelidikan yang inovatif dan berkualiti tinggi. Pencapaian sebegini menunjukkan semangat kerjasama penyelidikan dan pendidikan yang erat dan tinggi di kalangan warga FSB.

Sebagai penutup bicara, saya sekali lagi mengucapkan tahniah dan syabas kepada semua staf fakulti yang telah bekerja keras sepanjang tahun 2021 demi memberikan yang terbaik bukan sahaja kepada bidang penyelidikan fakulti dan pencapaian fakulti secara keseluruhannya. Malah, turut memastikan keterlibatan organisasi luar universiti serta komuniti tempatan selaras dengan misi FSB iaitu untuk menyediakan platform pendidikan yang berkualiti bagi melahirkan sumber manusia tekno-usahawan yang cakna kepada alam, menjalankan penyelidikan yang berinovasi dan lestari ke arah penjana kekayaan dan menyediakan perkhidmatan kepada masyarakat melalui pengembangan dan penyebaran pengetahuan dan kemahiran.

Sekian, terima kasih.

Profesor Madya Ts. Dr. Mohamad Faiz Mohd Amin
Dekan
Fakulti Sains Bumi

MAKLUMAT KORPORAT

Visi, Misi & Objektif

Piagam Pelanggan

Carta Organisasi

Jawatankuasa Pengurusan FSB

Sumber Manusia

Rukun Kepakaran

VISI

Pelopop dalam memajukan ilmu dan teknologi sumber asli secara lestari melalui keusahawanan.

MISI

- Menyediakan pendidikan dan latihan yang berkualiti bagi melahirkan sumber manusia dalam bidang keusahawanan sumber asli dan alam sekitar. Menjalankan penyelidikan yang berinovasi dan lestari ke arah penjanaaan kekayaan.
- Menjalankan penyelidikan yang berinovasi dan lestari ke arah penjanaaan kekayaan.
- Menyediakan perkhidmatan kepada masyarakat melalui pengembangan penyebaran pengetahuan serta kemahiran.

OBJEKTIF

- Mengembangkan pengetahuan dan kefahaman mengenai sumber asli bumi, perubahan alam sekitar dan sains kelestarian melalui penyelidikan yang berintegrasi dan bersaintifik.
- Menyediakan persekitaran kerja yang kondusif, sekata dan produktif bagi menyokong penyelidikan asas dan menggalakkan kerja berpasukan.
- Mengintegrasikan bidang sains bumi dan disiplin bagi menangani masalah yang timbul demi kepentingan akademik, intelektual dan masyarakat.
- Mengukuhkan hubungan antara fakulti dan jangkauan universiti melalui alumni dan jaringan kerjasama.

PIAGAM PELANGAN

STAF

Menyediakan suasana kerja yang dinamik dan kondusif untuk menyokong budaya pengurusan berkualiti bagi melahirkan staf yang serba boleh untuk menjamin masa depan kerjaya yang cemerlang.

PELAJAR

Menyediakan program pengajian dan memberikan pendidikan yang berkualiti untuk melahirkan sumber manusia yang cemerlang serta mempunyai nilai insaniah yang tinggi.



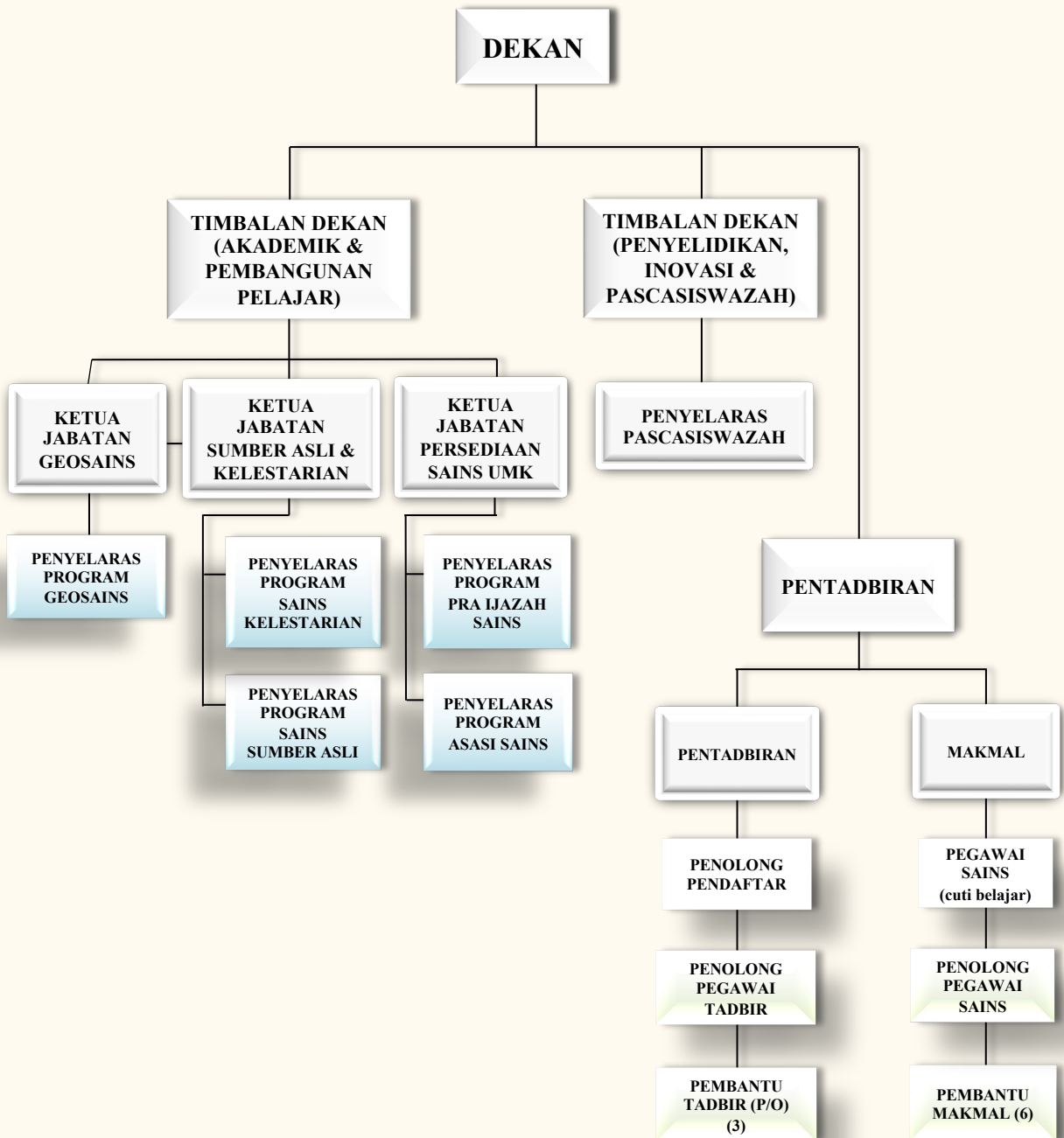
MASYARAKAT

Memastikan peranan fakulti kekal relevan dalam menyokong usaha pendidikan sepanjang hayat dan kesedaran serta keupayaan masyarakat dalam bidang pembangunan lestari dan alam sekitar.

INDUSTRI

Menggunakan kepakaran fakulti untuk industri melalui perundingan, pemindahan teknologi pendidikan dan latihan serta usahasama dalam menjayakan agenda keusahawanan.

CARTA ORGANISASI



JAWATANKUASA FSB



JAWATANKUASA PENGURUSAN FSB



Dekan
Prof. Madya Ts. Dr. Mohamad Faiz
Mohd Amin



Penolong Pendaftar
Pn. Siti Hafidah Kamsani



Timbalan Dekan Akademik &
Pembangunan Pelajar
Dr. Norrimi Rosaida Awang



Timbalan Dekan Penyelidikan, Inovasi
dan Pascasiswazah
Gs. Ts. Dr. Noor Janatun Naim Jemali



Penyelaras
Pascasiswazah
Dr. Noorzamzarina
Sulaiman



Ketua Jabatan
Persediaan Sains UMK
Dr. Hj. Marimah Muhammad



Ketua Jabatan
Sumber Asli & Kelestarian
Dr. Muhamad Azahar Abas



Ketua Jabatan
Geosains
Dr. Nursufiah Sulaiman



Penyelaras Program
Asasi Sains UMK
Dr. Muhammad Firdaus
Abdul Karim



Penyelaras Program
Pra Ijazah Sains UMK
Dr. Aainaa Syazwani
Mohamad Amir Hamzah



Penyelaras Program
Sains Sumber Asli
Gs. Ts. Dr.
Shaparas Daliman



Penyelaras Program
Sains Kelestarian
Dr. Nurul Syazana
Abdul Halim



Penyelaras Program
Geosains
P. Geol. Dr. Hamzah
Hussin

JAWATANKUASA PEJABAT DEKAN



Dari kiri:

En. Muhamad Nizam bin Abdul Rahman (Pembantu Tadbir), Prof. Madya Ts. Dr. Mohamad Faiz bin Mohd Amin (Dekan), Pn. Nurul Izzati binti Mohamad (Penolong Pegawai Tadbir), Pn. Siti Hafidah binti Kamsani (Penolong Pendaftar), Cik Sharifah Aisyah binti Syed Omar (Pekerja Sambilan Harian), Cik Noordiana binti Mohamad Nasir (Pembantu Tadbir) dan Pn. Nur Hidayah binti Hasan (Pembantu Tadbir).

JAWATANKUASA PENGURUSAN MAKMAL

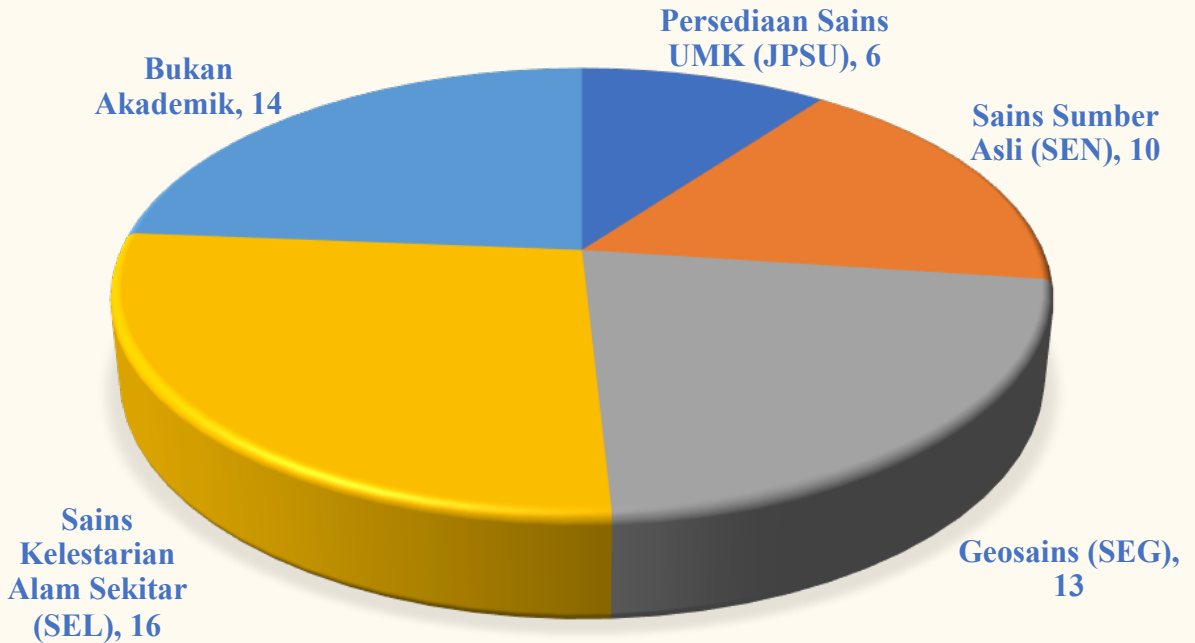


Dari kiri:

Cik Sharifah Aisyah binti Syed Omar (Penolong Pegawai Sains), En. Faathrio Hudaya bin Zulfin (Pembantu Makmal), Prof. Madya Ts. Dr. Mohamad Faiz bin Mohd Amin (Dekan), En. Mohamad Fikri bin Samsudin (Pegawai Sains; Cuti Belajar), En. Mohd Khairul Aizuddin bin Razali (Pembantu Makmal), Pn. Nur Izzati binti Salleh (Pembantu Makmal), En. Mohammed Firdaus bin Mohd Ridzuan (Pembantu Makmal), Pn. Nur Syahida binti Ibrahim (Pembantu Makmal) dan En. Mohamad Rohanif bin Mohamed Ali (Pembantu Makmal).

SUMBER MANUSIA

STAF AKTIF FSB 2021



| JAWATAN | GRED | STATUS | | |
|---|--------------|-----------|---------|----------|
| | | TETAP | KONTRAK | SAMBILAN |
| PROFESOR MADYA / SETARA (FELO KANAN) | DS53 / DS54 | 2 | | |
| PENSYARAH KANAN / SETARA (FELO GRED) | DS51 / DS52 | 29 | 2 | |
| PENSYARAH | DS45 | 9 | 3 | |
| CUTI SABATIKAL | DS51 | 1 | | |
| CUTI BELAJAR (HLP) | C41 | 1 | | |
| BUKAN AKADEMIK | N/C19 - NC41 | 8 | 4 | 1 |
| JUMLAH KESELURUHAN STAF FSB | | 60 | | |

RUKUN KEPAKARAN

| BIL. | NAMA | KELAYAKAN AKADEMIK | BIDANG KEPAKARAN |
|------|---|--|---|
| 1 | Prof. Madya Ts. Dr. Aweng a/l Eh Rak aweng@umk.edu.my | PhD (Civil Engineering), UTM M.Eng (Civil Engineering & Environmental Management), UTM B.Eng (Civil Engineering), UTM | Pemuliharaan Sungai Bioremediasi |
| 2 | Prof. Madya Ts. Dr. Mohamad Faiz bin Mohd Amin mohamadfaiz@umk.edu.my | PhD (Civil Engineering), Delft University of Technology, Netherlands MSc (BioScience), UTM BSc (Industrial Biology), UTM | Rawatan Air dan Air Sisa Bioremediasi Sains Sekitaran |
| 3 | Prof. Madya Dr. Norrimi Rosaida bt Awang norrimi.a@umk.edu.my | PhD (Civil Engineering), USM MSc (Civil Engineering) USM B.Eng (Civil Engineering), UiTM | Kajian Kualiti Udara Geo-Alam Sekitar Permodelan Sekitaran |
| 4 | Prof. Madya Dr. Zulhazman bin Hamzah zulhazman@umk.edu.my | PhD (Plant Taxonomy & Ecology), UMK MSc (Remote Sensing), UPM BSc (Forestry Science), UPM | Taksonomi & Ekologi Tumbuhan Aplikasi Penderiaan Jauh & GIS Pengurusan Hutan & Ekopelancongan |
| 5 | Gs. Ts. Dr. Noor Janatun Naim binti Jemali janatunnaim@umk.edu.my | PhD (Forest Engineering), University of the Ryukyus, Okinawa, Japan MSc (Forest and Nature Conservation), Wageningen Universiteit, Netherlands BForr Sc, Universiti Putra Malaysia UPM | Kejuruteraan Hutan GIS & Penderiaan Jauh dalam Perhutanan Pemuliharaan dan Pengurusan Hutan Tropikal dan Subtropikal |
| 6 | Gs. Ts. Dr. Shaparas binti Daliman shaparas@umk.edu.my | PhD (Electrical Engineering), UTM M.Eng (Electrical Engineering), UTM B.Eng (Electrics, Electronics & System Engineering), UKM | Pemprosesan Imej GIS & Penderiaan Jauh Pemprosesan Isyarat Berdigit |
| 7 | Gs. Dr. Nazahatul Anis binti Amaludin nazanis@umk.edu.my | PhD (Ecology), University of Aberdeen, UK MSc (Conservation Biology), UKM BSc (Hons) (Biology), UKM | Ekologi Biologi Pemuliharaan Biologi |
| 8 | Ts. Dr Suganthi a/p Appalassamy suganthi.a@umk.edu.my | PhD (Biotechnology), USM BSc (Biotechnology Resource), UNIMAS | Genetik Tumbuhan Transkriptomik Tumbuhan (Analisis Bioinformatik) Kultur Tisu Tumbuhan |

| BIL. | NAMA | KELAYAKAN AKADEMIK | BIDANG KEPAKARAN |
|------|--|--|---|
| 9 | P.Geol Dr. Hamzah bin Hussin hamzah.h@umk.edu.my | PhD (Geologi Kejuruteraan), UKM MSc (Geology), UKM BSc (Geology), UKM | Geologi Kejuruteraan |
| 10 | ChM. Ts. Dr. Hj. Noor Syuhadah binti Subki syuhadah@umk.edu.my | PhD (Environmental Health), USM Master of Environmental Management (Safety and Health), UKM BSc (Hons) (Chemistry), USM | Kimia Alam Sekitar (perawatan air sisa) Pengurusan Persekitaran Keselamatan, Kesihatan dan Pekerjaan (keselamatan kimia) Sains Kimia (Pengkompputeran kimia) Foto-Pemangkin Sains Kimia |
| 11 | ChM. Dr. Nik Raihan binti Nik Yusoff nraihan@umk.edu.my | PhD (Water and Waste Water Treatment), Brunel University, UK MSc (Chemistry), UTM BSc (Petroleum Chemistry), UPM | Foto-Pemangkin Sains Kimia |
| 12 | ChM. Dr. Musfiroh binti Jani musfiroh@umk.edu.my | PhD (Geography and Environmental Science), University of Reading, UK MSc (Chemistry), UTM BSc (Industrial Chemistry), UTM | Geo-Kimia & Kimia Analisis Pencemaran Air dan Tanah |
| 13 | ChM. Dr. Rozidaini binti Mohd Ghazi rozidaini@umk.edu.my | PhD (Chemistry), UTM MSc (Chemistry), UTM BSc (Chemistry), UTM | Kimia Analisis Kimia Alam Sekitar Rawatan Air Sisa |
| 14 | Dr. Aainaa Syazwani bt Mohamad Amir Hamzah syazwani@umk.edu.my | PhD (Pest Management), UPM MSc (Conservation Biology), UKM BSc (Biology), UKM | Biodiversity Ornitologi Ekologi Vertebrat Kelakuan Haiwan |
| 15 | Dr. Amal Najihah binti Muhamad Nor amalnajihah@umk.edu.my | PhD (Landscape Ecology), Cranfield University, UK MSc (Environment and Development), UKM BSc (Biodiversity Management and Conservation), UMT | Ekologi Lanskap Bandar GIS & Penderiaan Jauh Permodelan Penggunaan Tanah |
| 16 | Dr. Elvaene James elvaene@umk.edu.my | PhD (Petrologi Igneus), UM MSc (Geology), UKM BSc (Geology), UKM | Petrologi dan Geokimia Mineralogi Geokimia |
| 17 | Dr. Hafzan Eva binti Mansor hafzan.eva@umk.edu.my | PhD (Petroleum Geology), UM MSc (Geology), UMS BSc (Geology), UMS | Sedimentologi Stratigrafi |

| BIL. | NAMA | KELAYAKAN AKADEMIK | BIDANG KEPAKARAN |
|------|--|---|--|
| 18 | Dr. Jayaraj Vijaya Kumaran jayaraj@umk.edu.my | PhD (Mammalogy), USM MSc (Quantitative Statistics and Molecular Genetic), UNIMAS BSc (Hons) (Animal Resource Technology Management and Science), UNIMAS | Mammalogi Filogenetik Molekular dan Evolusi Populasi Genetik Morfometrik |
| 19 | Dr. Kamarul Ariffin bin Kambali @ Hambali kamarul@umk.edu.my | PhD (Wildlife Management and Ecology), UPM MSc (Conservation Biology), UKM BSc (Biology), UKM | Ekologi dan Pengurusan Hidupan Liar Biologi Pemuliharaan Zoologi |
| 20 | Dr. Marieanne Christie Leong marianne@umk.edu.my | PhD (Atmospheric Science), University of Leeds, UK BASc (Natural Resources Science), UMK | Mikrofizik Awan Interaksi tanah dan atmosfera Pemodelan Numerikal Kesan perubahan iklim |
| 21 | Dr. Hj. Marinah binti Muhammad marina@umk.edu.my | PhD (Mathematical Statistics), University of Southampton, UK MSc (Applied Statistics), UPM BSc (Hons) Statistics, UPM | Permodelan Spatial Statistik Matematik Statistik Hidrologikal Statistik |
| 22 | Dr. Mohammad Muqtada Ali Khan muqtada@umk.edu.my | PhD (Geology in Hydrogeology), Aligarh Muslim University, India MSc (Applied Geology), Aligarh Muslim University, India BSc (Geology), Aligarh Muslim University, India | Hidrogeologi Hidrokimia Penilaian Sumber Air |
| 23 | Dr. Muhamad Azahar bin Abas azahar.a@umk.edu.my | PhD (Environment Management), UTHM MSc (Sustainable City and Community), USM BSc (Biology), USM | Pengurusan Alam Sekitar Sosiologi Alam Sekitar |
| 24 | Dr. Muhammad Firdaus bin Abdul Karim firdaus.ak@umk.edu.my | PhD (Soil Nutrition), University of Aberdeen, UK BASc (Natural Resources Science), UMK | Nutrisi Tanah Biogeokimia Tanah (Interaksi Tanah-Tumbuhan, Gas Rumah Hijau) |
| 25 | Dr. Noorzamzarina binti Sulaiman zamzarina@umk.edu.my | PhD (Geology), UKM MSc (Engineering and Environment Geophysics), UKM BSc (Geology), UKM | Geologi Geofizik Stratigrafi |
| 26 | Dr. Nor Shahida binti Shafiee @ Ismail shahidashafiee@umk.edu.my | PhD (Organic Geochemistry), Newcastle University, UK MSc (Petroleum Geochemistry), Newcastle University, UK BSc (Hons) (Petroleum Chemistry), UPM | Geokimia Organik Petroleum Geokimia Kimia Petroleum Geologi Petroleum |

| BIL | NAMA | KELAYAKAN AKADEMIK | BIDANG KEPAKARAN |
|-----|---|---|--|
| 27 | Dr. Nor Shahirul Umirah binti Idris shahirul@umk.edu.my | PhD (Environmental Science), UM MSc (Environmental Assessment & Monitoring) UKM BSc (Environmental Science), UKM | Persekitaran Hijau (Green Environment) Pengurusan Alam Sekitar |
| 28 | Dr. Norashikin binti Mohd Fauzi ashikin@umk.edu.my | PhD (Environment and Development), UKM MSc (Entomology), UNIMAS BSc (Hons) (Resource Biology), UNIMAS | Biojisim dan Karbon Densiti Sekitaran Entomologi Kepelbagaian Biologi dan Pemuliharaan |
| 29 | Dr. Nurul Irene Hanie irene.c@umk.edu.my | PhD (Entomology), University of Reading, UK MSc (Entomology), UNIMAS BSc (Animal Resource, Science and Management), UNIMAS | Entomolgi Zoologi |
| 30 | Dr. Nurul Syazana Abdul Halim syazana@umk.edu.my | PhD (Environmental Engineering), University of Wollongong MSc (Environmental Engineering) UMT BSc (Environmental Technology), KUSTEM | Teknologi Membran Rawatan Air dan Air Sisa |
| 31 | Dr. Nursufiah bte Sulaiman nursufiah@umk.edu.my | PhD (Earth Science-Micropalaeontology), University of Birmingham, UK MSc (Petroleum Geology), UM BSc (Hons) (Geology), UKM | Geologi Petroleum Sedimentologi Paleontologi |
| 32 | Dr. Roniza binti Ismail roniza@umk.edu.my | PhD (Mineralogy), University of Adelaide, Australia MSc (Mineral Processing), USM B.Eng (Mineral Resources Engineering), USM | Minerologi Geokimia |
| 33 | Dr. Siti Aisyah binti Nawawi aisyah.n@umk.edu.my | PhD (Sustainable Science), UMK MSc (Statistics), UiTM BSc (Statistics), UiTM | Statistik |
| 34 | Dr. Siti Hajar binti Ya'acob hajar.y@umk.edu.my | PhD (Sustainable Science), UMK Master of Philosophy (Risk Management and Toxicology), University of New South Wales, Australia Bachelor of Environmental Health (Hons), UKM | Epidemiologi Persekitaran Penilaian Risiko Kesihatan Kualiti Udara Toksikologi Pekerjaan Toksikologi Persekitaran |

| BIL. | NAMA | KELAYAKAN AKADEMIK | BIDANG KEPAKARAN |
|------|--|--|--|
| 35 | Dr. Sulaiman Chindo sulaiman.c@umk.edu.my | PhD (Economics), UPM MSc (Economics), UPM BSc (Economics), Ahmadu Bello University, Nigeria | Ekonomi Alam Sekitar Ekonomi |
| 36 | Dr. Wani Sofia binti Udin wanisofia@umk.edu.my | PhD (Geomatic Engineering), UTM MSc (Geomatic Engineering), UTM BSc (Geomatic Engineering), UTM | Penderiaan Jauh & GIS Ukur dan Pemetaan Fotogrametri UAV |
| 37 | Dr. Wong Hie Ling hlwong@umk.edu.my | PhD (Environmental Science), University of York, UK BASc (Natural Resources Science), UMK | Penilaian Risiko Racun Perosak Permodelan Matematik |
| 38 | Cik Nur Kyariatul Syafinie binti Abdul Majid syafinie.am@umk.edu.my | MSc (Forestry), UPM BSc (Forestry), UPM | Perhutanan |
| 39 | Cik Nor Sayzwani binti Sukri sayzwani@umk.edu.my | MSc (Integrated Coastal Zone Management), UMT BSc (Environmental Science) UPM | Pengurusan Alam Sekitar Pengurusan Zon Pantai Bersepadu |
| 40 | En. Mohd Syakir bin Sulaiman syakir.s@umk.edu.my | PhD (Geoscience), UMK MSc (Geophysics), UKM BSc (Geoscience), UMK | Geologi Struktur (Mineralisasi Emas) Geofizik Geosains |
| 41 | En. Nor Hizami bin Hassin hizami.h@umk.edu.my | MSc (Environmental Economics), UPM BSc (Economy-International Trade and Finance), UPM | Ekonomi Alam Sekitar |
| 42 | Gs. Cik Rohazaini binti Muhammad Jamil rohazaini@umk.edu.my | MSc (Geoinformatics), UTM BSc (Geoinformatics), UTM | Geoinformatik Permodelan GIS |
| 43 | Ir. Arham Muchtar Achmad Bahar arham@umk.edu.my | MSc (Urban and Regional Planning), Universiti Hasanuddin, Indonesia BSc (Geology), Universiti Hasanuddin, Indonesia | Perancangan Bandar dan Wilayah Geologi |
| 44 | Pn. Farah Khaliz binti Kedri farah.k@umk.edu.my | MSc (Environmental Monitoring and Assessment), UKM BSc (Conservation and Biodiversity Management), UMT | Pemantauan Alam Sekitar Ekologi |
| 45 | Pn. Zaitul Zahira binti Ghali @ Ghazali zaitulzahira@umk.edu.my | MSc (Environment & Development), UKM BSc (Environment & Development), UKM | Geofizik Persekitaran GIS |

AKADEMIK & PEMBANGUNAN PELAJAR

Populariti Program Akademik &
Peratus Jaya FSB 2021

Pendaftaran Pelajar FSB 2021 &
Laporan Graduan 2021

Anugerah Kecermelangan Pelajar

Senarai Aktiviti Pembangunan Pelajar

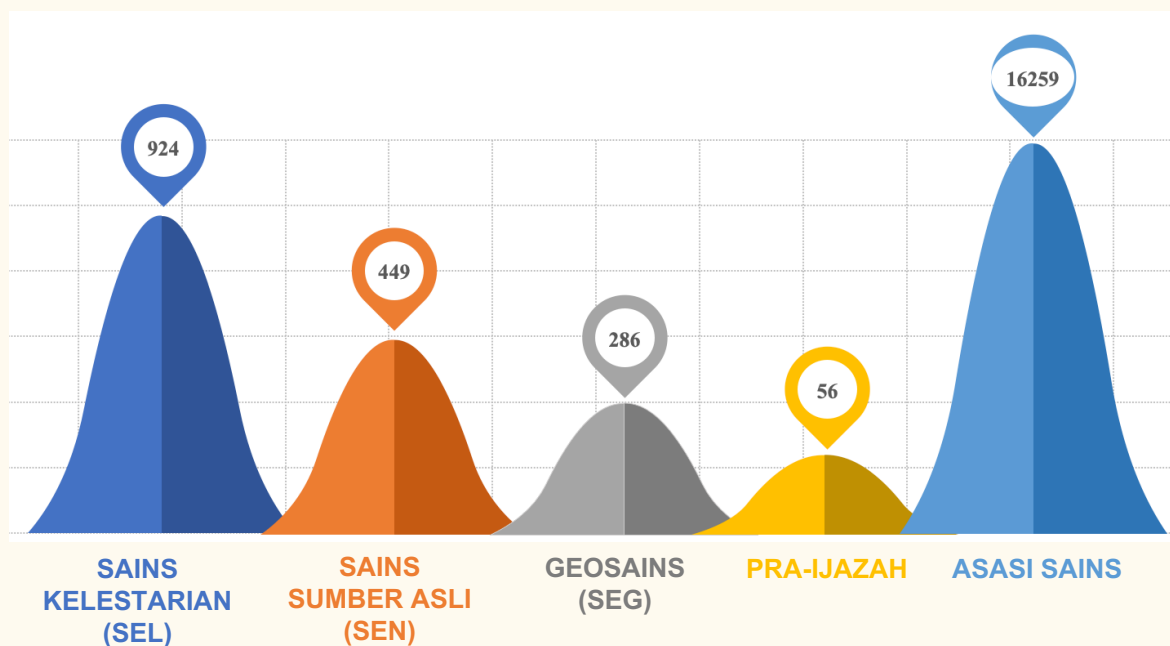
Anugerah Pencapaian Staf

Laporan Kebolehpasaran Pelajar SKPG 2021 &
Program Mobiliti Pelajar



POPULARITI

PROGRAM AKADEMIK FSB 2021

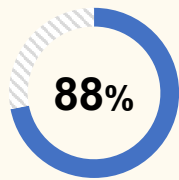


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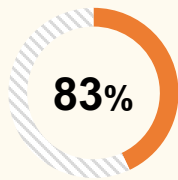
JAYA FSB 2021



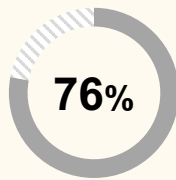
PENDAFTARAN PELAJAR FSB 2021



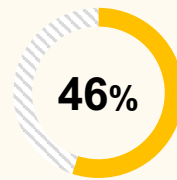
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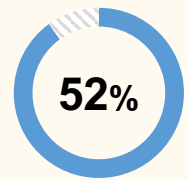
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SEG



PRA-IJAZAH



ASASI SAINS



LAPORAN GRADUAN 2021



ANUGERAH KECEMERLANGAN PELAJAR

MUHAMMAD FAKHRUL
IMRAN MOHD FIZAL

SITI NUR SOLEHAH
SHAIKH AZAHARI



ANUGERAH
CANSELOR

ANUGERAH
NAIB
CANSELOR



ANUGERAH
CANSELOR



NOR FAKHIRA MUHAMAD FAZLI

ANUGERAH KECEMERLANGAN PELAJAR

NUR AQILAH BINTI AZMI

SYAHMI SAJIDAH BINTI SURADI



MUHAMAD ADIB BIN KHAIRUL BAHAR

SENARAI AKTIVITI PEMBANGUNAN PELAJAR

Jan - Mar



1. PENGANJURAN E-KOLOKIAM KURSUS PROJEK PENYELIDIKAN II BAGI PELAJAR TAHUN AKHIR FSB 2020/2021
2. MAJLIS PENSIJILAN PELAJAR PRA IJAZAH UMK TAHUN 2020/2021
3. WEBINAR SHARING KNOWLEDGE AND EXPERIENCE FROM INDUSTRIAL PRACTITIONER BAGI PROGRAM SAINS SUMBER ASLI
4. PRELIMINARY FIELDWORK INTERNATIONAL GEOMAPPING JELI
5. BENGKEL PROJEK PENYELIDIKAN BAGI PELAJAR TAHUN 3 PROGRAM GEOSAINS DAN SAINS KELESTARIAN, FSB SEM FEBRUARI 2020/2021

Apr - Jun



1. WEBINAR REVIVING ECOTOURISM AMID THE COVID-19 PANDEMIC BAGI PENJANAAN PENDAPATAN ANJURAN PROGRAM SEN
2. PROGRAM INTERNATIONAL GEOMAPPING JELI 2021
3. WEBINAR INDUSTRIAL INSIGHTS ON SOLAR ENERGY IN MALAYSIA : CURRENT STATE, PROSPECTS AND OPPORTUNITIES BAGI KURSUS EKE2053 TENAGA & SUMBER ASLI SAINS KELESTARIAN, FSB
4. TAKLIMAT SIEP DAN PERKONGSIAN BUSINESS MODEL CANVAS FSB
5. PROGRAM FSB GE TALK SERIES 1, 2021
6. PENCERAMAH JEMPUTAN BAGI KURSUS EKOLOGI SUMBER ASLI (ENT 2083)
7. CERAMAH BAGI KURSUS EGE4332-PENGENALAN GEOWARISAN DARIPADA PENSYARAH JEMPUTAN INDUSTRI
8. SIRI CERAMAH "LITERATURE SEARCHING, CITING AND REFERENCING
9. INDUSTRIAL TALK SUBJEK EKONOMI, PERDAGANGAN & ALAM SEKITAR
10. INDUSTRIAL TALK: INTRODUCTION TO TECHNICAL WRITING
11. KOLOKIM PEMBENTANGAN AKHIR KURSUS PROJEK PENYELIDIKAN II BAGI PELAJAR TAHUN 3 SEN
12. FSB TALK 2.0: PROTECTING THE CREATION OF MINDS

Jul - Sep



1. BENGKEL PEMETAAN DAN PENTAFSIRAN GEOLOGI ATAS TALIAN BAGI PELAJAR TAHUN AKHIR PROGRAM GEOSAINS, FSB
2. PROGRAM JIWA MERDEKA-PROGRAM ASASI SAINS UMK
3. PROGRAM INDUKSI PELAJAR BAHARU JPSU
4. MAJLIS APRESIASI PELAJAR TAHUN AKHIR PROGRAM SAINS SUMBER ASLI
5. PROGRAM GEOSCIENCE@SCHOOL
6. PROGRAM GEOTALK YANG DI ADAKAN PADA 18-25 SEPTEMBER 2021

Oct - Dec



1. INTERNATIONAL UNDERGRADUATE GEOLOGICAL MAPPING SYMPOSIUM 2021
2. PROGRAM GEOSCINCE@SCHOOL
3. JELAJAH LESTARI VIRTUAL BERSAMA INDUSTRI
4. PROGRAM PERKONGSIAN ILMU BAGI KURSUS PENDERIAAN JAUH & GIS (EFT2182) DARIPADA PENSYARAH JEMPUTAN
5. PROGRAM FSB GE TALK SERIES 2, 2021
6. BENGKEL PROJEK PENYELIDIKAN I BAGI PELAJAR TAHUN 3 PERINGKAT FSB SEPTEMBER 2021/2022
7. BENGKEL LAPORAN SAINTIFIK BAGI PELAJAR TAHUN 1 FSB
8. BENGKEL PENYIASATAN TAPAK
9. PROGRAM BROTHERHOOD 10.0 & 11.0 2021
10. TAKLIMAT KEUSAHAWANAN
11. WEBINAR SHARING KNOWLEDGE AND EXPERIENCE FROM INDUSTRIAL PRACTITIONER FROM INDUSTRIAL PRACTITIONER BAGI PROGRAM SAINS SUMBER ASLI
12. SEMINAR BERSAMA PENCERAMAH JEMPUTAN, JABATAN MINERAL DAN GEOSAINS MALAYSIA BAGI KURSUS EGE4262 GEOBENCA
13. PROGRAM FSB BERSAMA ALUMNI
14. WEBINAR "EMS (ISO14001:2015) PRACTICES IN INDUSTRIES"
15. MENJEMPUT PENCERAMAH LUAR BAGI SUBJEK BIOLOGI KRIPTOGRAMNA

ANUGERAH PENCAPAIAN STAF

ANUGERAH PERKHIDMATAN CEMERLANG



ChM. Dr. Rozidaini
Mohd Ghazi



Dr. Muhammad Firdaus
Abdul Karim



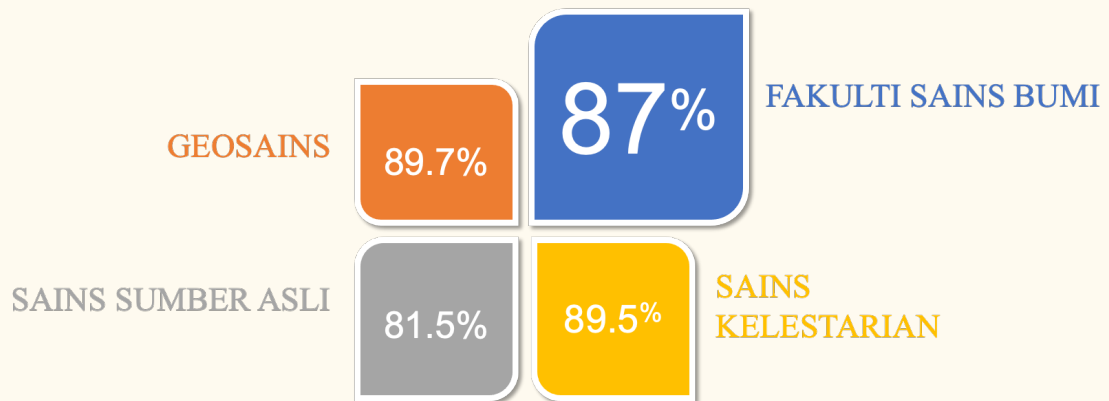
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Kamsani



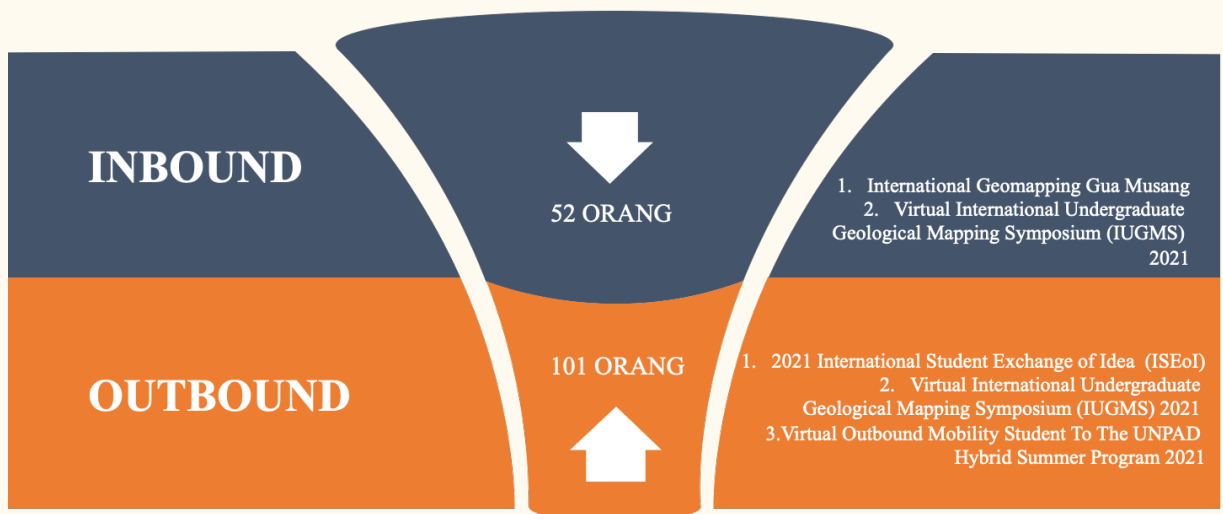
En. Mohamed Firdaus
Mohd Ridzuan

LAPORAN

KEBOLEHPASARAN PELAJAR SKPG 2021



PROGRAM MOBILITI PELAJAR



PENYELIDIKAN, INOVASI & PASCASISWAZAH

Perolehan Geran Penyelidikan 2021

Penerbitan 2021

Anugerah Inovasi Penyelidikan 2021

Persidangan Antarabangsa Anjuran FSB 2021

Laporan Pengkomersilan

Laporan Penjanaan Pendapatan

Senarai Seminar/Webinar/Program Di Peringkat
Universiti/ Negeri/ Kebangsaan/ Antarabangsa
Anjuran FSB

Rangkaian Kerjasama FSB

Program Khidmat Masyarakat 2021



PEROLEHAN GERAN PENYELIDIKAN FSB



GERAN AKTIF (Sehingga Disember 2021)

| BIL | JENIS GERAN | JUMLAH |
|-----|-----------------------------------|-----------|
| 1 | FRGS (termasuk FRGS-Racer) | 13 |
| 2 | KTSA | 1 |
| 3 | Rufford Small Grant | 1 |
| 4 | SGJP (termasuk SGJP-Padanan) | 5 |
| 5 | UMK-C19SG | 1 |
| 6 | UMK-MOF Social Enterprise Project | 1 |
| 7 | UMK-FUND | 6 |
| 8 | UMK-PRO | 3 |
| 9 | UMK-SIR | 3 |
| 10 | TANSRI FNG (TSF) | 2 |
| 11 | UMK-NICE (non-academic) | 1 |
| 12 | UMK-COM | 3 |
| 13 | UMK-STA | 3 |
| 14 | BAT (INTERNATIONAL) | 1 |
| | Jumlah Keseluruhan | 44 |

PENERBITAN 2021



103



17



3



123

Penerbitan 2021

- A. A. Hussin, S. W. To, M. H. Sani, **M. F. M. Amin**, M. F. Kamaroddin (2021) Optimisation and growth kinetic analysis of Microalgae, *Arthrospira platensis* in 2-L Photobioreactors. IOP Conference Series: Earth and Environmental Science 842, 012036
- A. A. S. Saleh, N. Ibrahim, **N. R. Awang**, N. A. Akbar (2021) Characteristics study of ammonia-n and phosphorus in sewage wastewater effluent: a case study of Alkhumrah, Jeddah Wastewater Treatment Plant. IOP Conference Series: Earth and Environmental Science 842, 012034
- A. Baqi, I. Azhar, E. W. Chen, F. A. A. Khan, C. J. Lian, B. R. Nelson, **J. V. Kumaran** (2021) The diversity of small mammals in Pulau Perhentian Kecil, Terengganu, Malaysia. Journal of Threatened Taxa 13: 18427-18440
- A. E. Rak**, S. A. S. Omar, M. Z. Ibrahim, S. H. Samae (2021) Organic content and the number of *Corbicula fluminea* (Muller, 1774) in Lubok Tani Irrigation Canal, Tumpat, Kelantan. IOP Conference Series: Earth and Environmental Science 756, 012011
- A. Eh Rak**, D. K. Han, S. Appalasamy, S. N. A. Md Nasir (2021) Determination of bacteria in *Corbicula fluminea* tissue using 16S rRNA gene sequences. Journal of Environmental Engineering and Science 16, 30-39
- A. H. M Iman, **N. H. Hassin**, M. A. Abas, Z. Hamzah (2021) Modelling *in-situ* factors affecting bud's growth of *Rafflesia kerri* Meijer in Lojing Highlands, Kelantan, Peninsular Malaysia. Pertanika Journal of Science & Technology 29: 1243-1266
- A. N. M. Nor**, H. Abdul Aziz, S. A. Nawawi, R. Muhammad Jamil, M. A. Abas, K. A. Hambali, A. H. Yusoff, N. Ibrahim, N. H. Razaai, R. Corstanje, J. Harris, D. Grafius, H. L. Perotto-Baldivieso (2021) Evolution of green space under rapid urban expansion in Southeast Asian cities. Sustainability 13, 12024
- A. S. Mohamad Amir Hamzah, **M. F. Abdul Karim**, H. L. Wong, K. A. Kambali, M. N. Mohd Yusoff, N. A. Amaludin, M. C. Leong, M. A. Abas, N. H. Hassin, L. Ismail, A Amir (2021) Effect of organic amendments on the growth of Gaharu (*Aquilaria malaccensis*). IOP Conference Series: Earth and Environmental Science 842, 012078
- B. N. Anis-Athirah, A. R. Mohd-Fariz, H. N. R. Bam, S. Majid, M. Muhammad, **N. J. N. Jemali** (2021) Delineation of flood-prone areas using digital elevation model (DEM) in Kuala Krai, Kelantan. IOP Conference Series: Earth and Environmental Science 842, 012045

- C. W. Shean, M. A. Abas, K. A. Kambali, M. F. Abdul Karim, L. Ismail, **N. H. Hassin** (2021) Estimation of consumer's willingness to pay for biodegradable food container in Kota Bharu, Kelantan. IOP Conference Series: Earth and Environmental Science 756, 012084
- E. R. Aweng**, A. B. Arham Muchtar, M. A. Salam, S. O. Sharifah Aisyah, A. Azlan, H. Zulhazman, A. Mohammad Amizi, A. L. Zul Ariff (2021) The distribution of *Corbicula fluminea* (Muller, 1774) and its outer shell colour in Sabah and Sarawak. IOP Conference Series: Earth and Environmental Science 756, 012006
- E. R. Aweng**, A. B. Arham Muchtar, M. Muhammad, M. A. Salam, I. Mohamad Ghazi (2021) Distribution of *Corbicula fluminea* (Muller, 1774) in Kelantan, Malaysia. The Malaysian Nature Journal 73: 77-84
- E. R. Aweng**, M. H. Siti Maryam, S. O. Sharifah Aisyah, I. Mohamad Zamzani, H. S. Shukree (2021) Water usage for hygiene practices among Tanjong Malim, Perak community during Movement Control Order (MCO) due to Covid-19. IOP Conference Series: Earth and Environmental Science 842, 012066
- E. R. Aweng**, S. O. Sharifah Aisyah, M. A. Salam, I. B. Mior (2021) Correlation between physico-chemical water quality and river ecosystems in Malaysia rivers with different land uses. IOP Conference Series: Earth and Environmental Science 842, 012041
- F. Norashikin**, B. Ibrahim, S. N. A. Aziz, J. Musfiroh, H. Kamarul Arrifin (2021) Estimation of liana infestation above canopy in Bukit Bakar recreational park, Kelantan using an unmanned aerial vehicle. IOP Conference Series: Earth and Environmental Science 736, 012049
- F. S. Radin Nizar, **R. Mohd Ghazi**, N. R. Awang, M. Muhammad (2021) Assessment of Kelantan River water quality using water quality index (WQI). IOP Conference Series: Earth and Environmental Science 842, 012005
- H. E. Mansor**, M. H. A. Hassan, J. Asis (2021) A deep marine origin for the Tajau Sandstone member of the Kudat Formation, Kudat Peninsula, Sabah: Evidence from facies analysis and ichnology. Sains Malaysiana 50: 301-313
- H. E. Mansor**, M. H. A. Hassan (2021) Facies and bed type characteristics of channel-lobe transition deposits from the Oligocene-Miocene Tajau Sandstone Member, Kudat Formation, Sabah, Malaysia. Wiley Online Library 56: 5642-5672
- H. L. Wong**, S. A. S. Omar, M. C. Leong, M. F. Abdul Karim, S. Daliman (2021) A preliminary study on current agricultural practices among small-scale rice farmers in Kelantan, Malaysia. IOP Conference Series: Earth and Environmental Science 842, 012059
- H. M. Puteri-Adiba, M. Arifullah, A. A. Nazahatul, T. Sirikitputtisak, S. Klaiklay, P. Chumkaew, S. Chewchanwuttiwong, M. Z. Norhazlini, **H. Zulhazman** (2021) Total phenolic content and antioxidant activity of limestone Araceae species, *Alocasia farisii*. IOP Conference Series: Earth and Environmental Science 842, 012064
- H. S. Fiffy, G. Elia, H. Nor Hizami, **H. Zulhazman**, M. N. Nordiana, A. A. Nor Akmar (2021) Evaluation on the potential of hot spring as nature tourism attraction in Lojing Highlands, Kelantan, Peninsula Malaysia. IOP Conference Series: Earth and Environmental Science 736, 012017
- H. Y. Abdul, N. M. N. Amal, S. Sofiyan, I. Roniza, **H. Kamarul** (2021) Quantifying landscape structure of the Kelantan River basin before and after a major flood event using landscape metrics. International Journal of Geoinformatics 17: 61-69
- H. Zulhazman**, E. R. Aweng, M. A. Mohamad-Faiz, A. Muhamad-Azahar, H. Kamarul-Arifin, H. Nor-Hizami, A. K. Mohammad-Firdaus, H. S. Fiffy, M. Z. Norhazlini, S. Norzielawati (2021) Diversity and ecology of araceae in the water catchment area of Ulu Sat, Kelantan, Peninsular Malaysia. IOP Conference Series: Earth and Environmental Science 756, 012087
- H. Zulhazman**, M. A. Abas, M. Z. Norhazlini, S. Norzielawati, P. C. Boyce (2021) Notes on araceae in Lojing Highlands, Kelantan, Peninsular Malaysia. IOP Conference Series: Earth and Environmental Science 842, 012076

- H. **Zulhazman**, M. Asraf Fizree, A. Muhamad Azahar, A. B. Mohd Fadzelly, A. Nazahatul Anis (2021) A survey on edible aroids consumed by locals in Kelantan, Peninsular Malaysia. IOP Conference Series: Earth and Environmental Science 736, 012076
- H. **Zulhazman**, M. Hafzan-Eva, J. Elvaene, A. K. Muhammad-Firdaus, E. R. Aweng (2021) Phytogeographic study of *Araceae obligate* to limestone hill forest in Kelantan, Malaysia. Malayan Nature Journal 73: 199-211
- H. **Zulhazman**, P. C. Boyce (2021) Studies on Aglaonemateae (Araceae) of Peninsular Malaysia I: *Aglaonema cochinchinense* Engl. And *A. pumilum* Hook. f., new records for Peninsular Malaysia. Malayan Nature Journal 73: 27-41
- Hong Ziexin, **Amal Najihah**, Sunisa Suchat, Siwipa Pruitikanee, Jinda Kongcharoen, Supattra Puttinaovarat (2021) Land use and land cover change detection for water yield estimation using remote sensing data in Batu Pahat, Johor. International Journal on Advanced Science, Engineering and Information Technology 11, 4
- I. Kasawani, A. Mohd-Zaki, Onrizal, H. **Zulhazman** (2021) Estimation of aboveground biomass using allometric relationship between DBH and height for mixed mangrove forest in Setiu Wetland, Terengganu, Malaysia. IOP Conference Series: Earth and Environmental Science 842, 012042
- I. S. Jamaludin, T. W. Seow, I. S. Mat Radzuan, S. Mohamed, M. A. **Abas** (2021) Conserving living heritage site in Portuguese settlement, Melaka world heritage site: issues and conservation elements. IOP Conference Series: Earth and Environmental Science 842, 012056
- I. S. Nur-Alya, M. Aurifullah, A. A. Nazahatul, T. Srisawat, P. Permpoonpattana, M. Z. Norhazlini, O. Suhaimi, H. **Zulhazman** (2021) Synergistic effect of *Alocasia longiloba* fruit's extract with ampicillin and tetracycline against bacteria. IOP Conference Series: Earth and Environmental Science 842, 012065
- J. Jetony, M. Suleiman, N. A. Abdul Aziz, N. Mohd Nordin, A. H. B. P. Bagul, Z. **Hamzah**, F. H. Saikim (2021) Exploring the evidence for conservation-poverty link: the case of Kg. Tudan, Kiulu, Tuaran, Sabah. Malaysia Forester 84: 137- 151
- J. **Elvaene**, A. A. Ghani, O. O. Akinola, J. Asis (2021) Petrology and geochemical features of Semporna Volcanic Rocks, South-east Sabah, Malaysia. Sains Malaysiana 50: 9-21
- J. L. Chong, C. A. Yeap, J. W. H. Yong, J. V. Kumaran, B. R. Nelson, I. H. Loh (2021) Ethological evidence of adaptive predation of Oriental Pied Hornbill (*Anthracoceros albirostris*) on farmed swiftlet (*Aerodramus* spp.) in Kalabakan, Sabah, Malaysia. Acta Ecologica Sinica. <https://doi.org/10.1016/j.chnaes.2021.08.007>
- K. B. Hong, M. **Jani**, R. A. M. Mohamad Zain, N. Mohd Fauzi (2021) Effect of stocking density on the growth performance of red tilapia in zeolite supplemented closed system. Jurnal Teknologi (Sciences & Engineering) 83: 85-92
- K. **Hambali**, N. F. Muhamad Fazli, A. Amir, N. Fauzi, N. H. Hassin, M. A. Abas, M. F. Abdul Karim, A. Y. Sow (2021) The discovery of a melanistic leopard *Panthera pardus delacouri* (Linnaeus, 1758) (mammalia: Carnivora: Felidae) at Bukit Kudung in Jeli, Kelantan, Peninsular Malaysia: Conservation and Ecotourism. Journal of Threatened Taxa 13: 17513-17516
- K. Nur-Hadirah, M. Arifullah, A. A. Nazahatul, S. Klaiklay, P. Chumkaew, M. Z. Norhazlini, H. **Zulhazman** (2021) Total phenolic content and antioxidant activity of an edible Aroid, *Colocasia esculenta* (L.) Schott. IOP Conference Series: Earth and Environmental Science 756, 012044
- L. S. Qing, R. **Mohd Ghazi**, M. Muhammad (2021) Potential of *Epipremnum aureum* in reduction of chemical oxygen demand in wastewater. Malaysian Journal of Analytical Sciences 25: 977-986
- M. A. **Abas**, M. F. A. Karim, N. Fitriani, M. Z. M. Razikin, Z. Hamzah (2021) Commercial herbicides trial against *Alocasia* sp. (wild yam) at oil palm plantation, Borneo, Malaysia. IOP Conference Series: Earth and Environmental Science 756, 012057
- M. A. **Abas**, M. N. A. Abdull Rahman, A. S. Muhammad Shukri (2021) The impact of climate change disaster to the socio-economic of paddy farmer in Malaysia. Disaster Advances 14: 12-19

- M. A. Abas**, N. L. M. M. Lukman, N. Fitriani, Z. Hamzah, S. T. Wee (2021) The importance of Ulu Sat Forest Reserve to socio-economic activity of local community. IOP Conference Series: Earth and Environmental Science 842, 012052
- M. A. M. Idris, S. S. Moe, M. P. Yusoh, **M. A. Abas** (2021) Household preferences for improved municipal solid waste management services in Penang and Terengganu. IOP Conference Series: Earth and Environmental Science 842, 012058
- M. A. Salam, S. C. Paul, F. N. Ab Rahman, M. A. Iqbal, S. A. Siddiqua, **A. Rak**, R. Ahmad, W. R. A Kadir (2021) Trace metals concentration and associated risk assessment in sediment of Kelantan Coastline Area Estuaries, Malaysia. Soil and Sediment Contamination: An International Journal 30: 477-496
- M. A. Salam, S. R. Dayal, S. A. Siddiqua, M. I. Muhib, S. Bhowmik, M. M. Kabir, **A. Eh Rak**, G. Srzednicki (2021) Risk assessment of heavy metals in marine fish and seafood from Kedah and Selangor coastal regions of Malaysia: a high-risk health concern for consumers. Environmental Science and Pollution Research 28: 55166-55175
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- M. F. Alias, **W. S. Udin** (2021) Identifying the potential use of Unmanned Aerial Vehicle (UAV) technique in mining area for geohazards and safety control. IOP Conference Series: Earth and Environmental Science 842, 012009
- M. F. A. Patah, **N. S. Shafiee**, R. Ismail, A. M. A. Bahar, M. M. A. Khan, A. Eh Rak, M. Awang (2021) Distribution of light (LHREE) and heavy rare earth elements (HREE) in Kelantan granitoids rock. IOP Conference Series: Earth and Environmental Science 842, 012038
- M. F. Hasan, M. Nur-E-Alam, M. A. Salam, H. Rahman, S. C. Paul, **A. Eh Rak**, B. Ambade, A. R. M. Towfiqul Islam (2021) Health risk and water quality assessment of surface water in an urban river of Bangladesh. Sustainability 13, 6832
- M. F. Mohd Amin**, M. S. Mat Rasat, M. I. Ahmad, N. S. Aftar Ali, K. Muda, N. S. Zaidi, S. Ismail, M. F. Mohamad Shahimin, M. A. Mohd Amin, M. A. Salam (2021) Potential of oil palm trunk starch as flocculant for contaminant of emerging compound removal. IOP Conference Series: Earth and Environmental Science 842, 012013
- M. Fathullah, **N. R. Nik Yusoff**, Vertic Eridani Budi Darmawan, C. P. Yong, C. G. Eng, S. P. Er, T. M. Ying, W. Q. Hui (2021) Hazard and safety evaluation in construction sites in Malaysia: A case study. AIP Conference Proceedings 2339, 020183
- M. Fathullah, **N. R. Nik Yusoff**, Vertic Eridani Budi Darmawan, M. F. Azhar, A. H. Mazlan, M. S. M. Zulkifli, M. D. A. M. Zaki (2021) HIRARC analysis of a palm oil factory in Malaysia. AIP Conference Proceedings 2339, 020185
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- M. Fauzan, A. M. Muhammad-Hapiz, R. Azizul, S. Rosilan, A. H. Hamidi, I. Zahari, E. R. Aweng, M. A. Mohamad-Faiz, M. A. Abas, H. Kamarul-Ariffin, H. Nor-Hizami, A. K. Mohammad-Firdaus, A. Susatya, **H. Zulhazman** (2021) Managing and protecting of endangered Rafflesia species in Kelantan, Peninsular Malaysia. IOP Conference Series: Earth and Environmental Science 842, 012069
- M. H. S. Ab Razak, **K. Hambali**, A. Amir, N. Fauzi, N. H. Hassin, M. A. Abas, M. F. Abdul Karim, A. Y. Sow, L. Ismail, N. A. H. M. Shubli, N. I. Adanan, A. I. Bakar, N. Mohamad, N. I. F. Saimeh, et al. (2021) A camera trap record of asiatic golden cat *Catopuma temminckii* (Vigors & Horsfield, 1827) (mammalia: Carnivora: Felidae) in State Land Forest, Merapoh, Pahang, Malaysia. Journal of Threatened Taxa 13: 18651-18654

- M. I. Baharuddin, **E. R. Aweng**, S. R. M. Kuty, S. N. Mohd Roslan, R. M. Hanaphi (2021) Potential of a combination of *Heliconia psittacorum* and its associated bacteria for phytoremediation. IOP Conference Series: Earth and Environmental Science 842, 012011
- M. Jani, S. S. Mohammad Zakaria (2021) Determination of formaldehyde from disposal of formaldehyde fixed biological specimen buried in soil. Sains Malaysiana 50: 2241-2249
- M. Lawal, G. E. Ejiga, N. A. Yelwa, U. A. Usman, T. E. Garba, Y. M. Makeen, **H. E. Mansor** (2021) Transverse fluvial sedimentation in forelands: a numerical modelling approach for characterising petroleum reservoirs. Arabian Journal of Geoscience 14, 449
- M. M. A. Khan**, K. Raj, A. Eh Rak, H. E. Mansor, R. Mostapa, K. Samuding, Z. A. Shah (2021) Stable isotope evidence on mechanisms and sources of groundwater recharge in quaternary aquifers of Kelantan, Malaysia. Arabian Journal of Geoscience 14, 1615
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- M. N. Arifuddin, S. Ostermann, H. Yazid, I. Normazzaliana, N. J. Amira, I. Mukri, R. Elly, C. L. Marieanne, S. Appalasamy, **V. K. Jayaraj** (2021) Two new distributional records of gliding squirrels in Merapoh Forest Complex, Pahang. IOP Conference Series: Earth and Environmental Science 736, 012009
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- N. A. Azmi, **N. R. Awang**, S. H. Ya'Acob (2021) Comparative study of variation of ground level ozone concentrations and total column ozone concentrations over Klang Valley. IOP Conference Series: Earth and Environmental Science 842, 012039
- N. A. Barudin, M. A. Abas, N. H. Hassin, K. A. Kambali, M. F. A. Karim, N. Fitriani, M. R. M. Yusooif, S. T. Wee (2021) Pondok community participation in sustainable solid waste management practices. IOP Conference Series: Earth and Environmental Science 842, 012049
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- N. A. Rahman, S. Suchat, **S. Daliman** (2021) Distribution of rubber plantation at Surat Thani using remote sensing. Asian Association on Remote Sensing. ISBN 978-171382908-9
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- Y. H. Leong, N. A. Kamaruzaman, **H. L. Wong**, A. Misnan, M. F. Razali (2021) Glyphosate exposure: perspectives of epidemiology, ecotoxicology and regulations. In *Glyphosate: agricultural uses, ecological impacts and potential carcinogenic effects* (edited by Kassio Ferreira Mendes). Nova science publishers, New York

ANUGERAH INOVASI PENYELIDIKAN 2021

| Bil | Penyelidik | Anugerah | Nama Pameran | Peringkat |
|-----|---|-----------------------|--|--------------|
| 1 | Ts. Dr. Suganthi Appalasamy Dr. Jayaraj Vijaya Kumaran | Exhibition Award | The International Exhibitions of Innovation of Geneva 2021 | Antarabangsa |
| 2 | Ts. Dr. Suganthi Appalasamy | Exhibition Award | Virtual Research & Innovation Exhibition UNIMAP (EREKA) 2021 | Kebangsaan |
| 3 | Dr. Hjh. Marinah Muhammad | Exhibition Award | International Exhibition & Symposium on Productivity, Innovation, Knowledge & Education (I-SPIKE 2021) | Antarabangsa |
| 4 | Dr. Muhamad Azahar Abas | Emas | International Research & Innovation Symposium & Exposition (RISE 2021) | Antarabangsa |
| 5 | Dr. Jayaraj Vijaya Kumaran | Emas | 32 nd International Invention, Innovation & Technology Exhibition (ITEX) 2021 | Antarabangsa |
| 6 | Ts. Dr. Suganthi Appalasamy | (Best Category Award) | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 7 | Ts. Dr. Suganthi Appalasamy | Emas | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 8 | Gs. Ts. Dr. Shparas Daliman | Emas | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 9 | Gs. Ts. Dr. Noor Janatun Naim Jemali | Emas | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 10 | Dr. Marieanne Christie Leong | Emas | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 11 | Dr. Muhamad Azahar Abas | Emas | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 12 | ChM. Ts. Dr. Hjh. Noor Syuhadah Subki | Emas | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 13 | Dr. Siti Hajar Ya'acob | Perak | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 14 | Cik Rohazaini Muhammad Jamil | Perak | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
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| 16 | Dr. Amal Najihah Muhamad Nor | Perak | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
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| 22 | Dr. Noorzamzarina Sulaiman | Gangsa | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 23 | ChM. Dr. Nik Raihan Nik Yusoff | Gangsa | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 24 | En. Arham Muchtar Achmad Bahar | Gangsa | Carnival of Research & Innovation (CRI 2021) | Kebangsaan |
| 25 | Dr. Marieanne Christie Leong | Perak | Research & Innovation Carnival (UTeMEX) 2021 | Kebangsaan |
| 26 | Ts. Dr. Suganthi Appalasamy | Gangsa | Seoul International Invention Fair (SIIF) 2021 | Antarabangsa |
| 27 | Dr. Hafzan Eva Mansor | Perak | 7 th Go Green Summit | Antarabangsa |
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|--------------|------------------------------|---|------------------------------------|
| LY2021C03280 | Hak Cipta | Conceptual framework of smart fertilization management for oil palm tree based on IoT and deep learning | Gs. Ts. Dr. Shaparas Binti Daliman |
| LY2021C03281 | Hak Cipta (work) Literary | Halia hitam (<i>Kaempferia parviflora</i>) dan kunyit hitam (<i>Cucurma caesra</i>) varieties as potential insecticide and repellent for household pest | Ts. Dr. Suganthi A/P Appalasamy |
| LY2021C03282 | Hak Cipta (work) Literary | Anatomy study of limestone Zingiberaceae species | Ts. Dr. Suganthi A/P Appalasamy |
| LY2021C03283 | Hak Cipta (work) Literary | Introduction to Scientific Computing in Science with Python | Dr. Marianne Christie Leong |
| LY2021C03284 | Hak Cipta (work) Literary | Scientific Computing Lab Module for EKE4153 Global Resources and Climate Change | Dr. Marianne Christie Leong |
| LY2021C04042 | Hak Cipta (work) Literary | Learning Innovation amidst Nationwide Movement Restriction Order and the Outcome: Community-based e-Waste Recycling Model | Dr. Marianne Christie Leong |

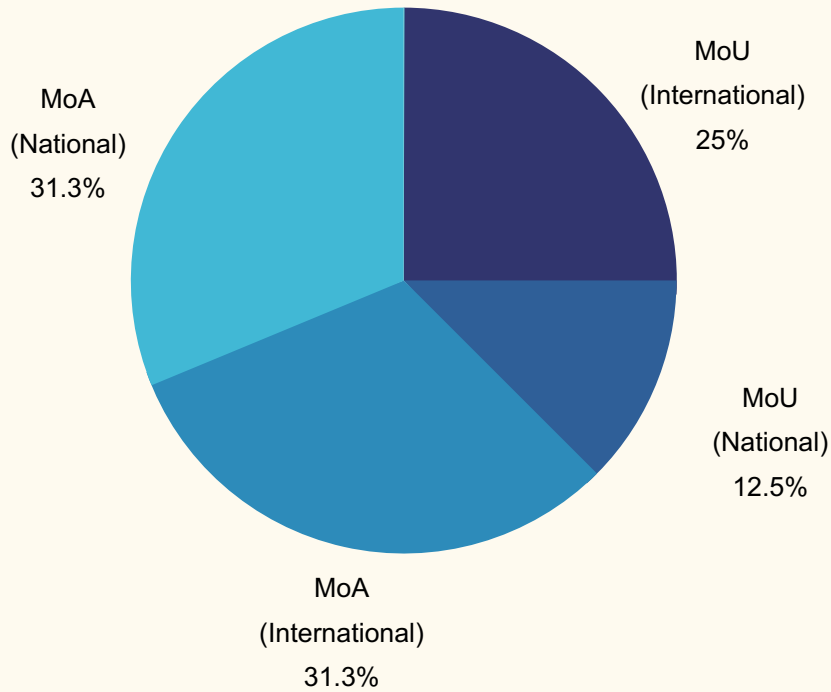
LAPORAN PENJANAAN PENDAPATAN MELALUI PROGRAM / KURSUS/ AKTIVITI PERUNDINGAN/ BUKAN PENYELIDIKAN (kuantiti/amaun)

| Bil | Perunding | Projek | Jumlah (RM) |
|-----|--------------------------------------|---|-------------|
| 1. | Gs. Ts. Dr. Noor Janatun Naim Jamali | Projek Kajian Separuh Penggal Rancangan Pengurusan Hutan 2016 – 2025 Jabatan Perhutanan Negeri Pahang | 150,000 |
| 2. | Gs. Ts. Dr. Noor Janatun Naim Jamali | Projek Penilaian Perkhidmatan Ekosistem Menggunakan Toolkit For Ecosystem Service Site-Based Assessment (TESSA) di Rangkaian Ekologi Central Forest Spine (CFS) Negeri Kelantan | 30,000 |
| 3. | P.Geol Dr. Hamzah Hussin | Projek Kajian Potensi Emas Di Daerah Dabong, Kuala Krai, Kelantan | 18,400 |
| 4. | ChM. Dr. Rozidaini Mohd Ghazi | Projek Kajian Analisis Kualiti Air bagi Sistem Saliran Bio-ekologi (BIOECODS) di Ibu Pejabat Polis Daerah Pasir Mas, Kelantan. | 13,820 |
| 5. | Dr. Muhammad Firdaus Abdul Karim | Perunding bagi Projek Penilaian High Conservation Value (HCV) di Mukim Bebar, Pekan, Pahang | 10,000 |
| 6. | P.Geol Dr. Hamzah Hussin | Projek kajian bagi menentukan potensi air bawah tanah di Kampus Universiti Malaya (UM), Telong, Jajahan Bachok, Kelantan telah dianugerahkan oleh Air Kelantan Sdn. Bhd (AKSB) | 8,000 |
| 7. | P.Geol Dr. Hamzah Hussin | Khidmat Teknikal untuk Kajian Geofizik Bagi Carigali Air Bawah Tanah | 4,000 |
| 8. | P.Geol Dr. Hamzah Hussin | Pakar Rujuk Teknikal untuk kerja-kerja perundingan berkaitan kajian pembangunan semula sumber air panas di Ayer Hangat, Langkawi, Kedah | 3,000 |
| 9. | P.Geol Dr. Hamzah Hussin | Perunding bagi Kerja-Kerja Pemetaan Geologi Terrain bagi Kerja-Kerja Penyiasatan Tanah dan Pengujian Makmal | 1,000 |

SENARAI SEMINAR/WEBINAR/PROGRAM DI PERINGKAT UNIVERSITI/ NEGERI/ KEBANGSAAN/ ANTARABANGSA ANJURAN FSB

| Bil. | Program | Peringkat | Tarikh |
|------|--|--------------|----------------------|
| 1. | FSB International Webinar – Management of Rice Soil for Sustainable Agriculture | Antarabangsa | 15 Februari 2021 |
| 2. | IP Talk 2.0 | Universiti | 20 Jun 2021 |
| 3. | FSB International Webinar – Natural Drug During Research and Development: During Covid-19 Pandemic Era | Antarabangsa | 5 September 2021 |
| 4. | FSB International Webinar – Cloud, Contrail and Climate Change Emerging Aviation Technologies to Reduce Climate Impact | Antarabangsa | 15 Jun 2021 |
| 5. | 3 rd International Conference on Tropical Resources and Sustainable Science | Antarabangsa | 14 – 15 Julai 2021 |
| 6. | FSB International Webinar – Natural Drug Research And Development During Covid-19 Pandemic Era | Antarabangsa | 5 September 2021 |
| 7. | Program Geoscience @School | Universiti | 25 September 2021 |
| 8. | 7 th GoGreen Summit | Antarabangsa | 14 – 15 Oktober 2021 |
| 9. | Program Geoscience @School | Universiti | 16 Oktober 2021 |
| 10. | International Undergraduate Geological Mapping Symposium (IUGMS) 2021 | Antarabangsa | 22 Oktober 2021 |
| 11. | Bengkel Penulisan Laporan Saintifik Pelajar Tahun 1 Fakulti Sains Bumi | Universiti | 29 Oktober 2021 |
| 12. | Apa Khabar Alumni Kita Bicara Santai Bersama Alumni Program Sains Kelestarian Alam Sekitar, Fakulti Sains Bumi | Universiti | 30 Oktober 2021 |

RANGKAIAN KERJASAMA FSB



MOU MEMORANDUM OF UNDERSTANDING
 National International



JABATAN MINERAL DAN GEOSAINS MALAYSIA.



RANGKAIAN KERJASAMA FSB



MEMORANDUM OF AGREEMENT

National

International



COLLABORATIVE PARTNERS & PROFESSIONAL BODIES



PROGRAM KHIDMAT MASYARAKAT 2021

SEMBANG SIHAT SIRI 3

SIHAT FIZIKAL DAN EMOSI

Dalam Mendepani Norma Baharu



19 DISEMBER 2021
10.00-11.30 PAGI

GOOGLE MEET LINK:
meet.google.com/uhu-uues-ib

JOM SERTAI KAMI!

- Tips kesihatan & nutrisi kesihatan
- E-Saji disediakan untuk semua peserta
- Hadiah menarik menanti pemenang kuiz

DAFTAR SEKARANG!

IMBAS KOD QR UNTUK MENCIK QR

SEMBANG SIHAT

Sihat Fizikal & Emosi

DALAM MENDEPANI NORMA BAHARU



JOM SERTAI KAMI!

- TIPS KESEHATAN DAN NUTRISI TAMBAHAN
- E-SAJI DISEDIAKAN UNTUK SEMUA PESERTA
- HADIAH MENARIK MENANTI PEMENANG KUIZ

DAFTAR SEGERA !!

12 DECEMBER
10AM - 11AM

GOOGLE MEET LINK: meet.google.com/uhu-uues-ib

UNIVERSITI MALAYSIA KELANTAN

DRONE @SCHOOL

READY, SET, DRONE!

Program khas peningkatan pendidikan STEM peringkat sekolah rendah

Ayuh sertai kami!

- Mari berkenalan dengan drone dan fungsinya.
- Peserta berpeluang mengaturcara dan menerbangkan drone disamping memperkuik pendidikan STEM

Google Meet

webinar

FUN LEARNING with BIOLOGY

27 SEPTEMBER 2021 (MONDAY)
2:00 P.M. - 5:00 P.M.

USTP PPD KOTA BHARU
(Link: <https://youtu.be/gpjkxaz-d-o>)

Officiated by:

Mohamed Bin Jusor
Timbalan Sektor Pembelajaran,
Pejabat Pendidikan Daerah Kota Bharu, Kelantan

Moderator:
Marhaini Jamaludin
UiTM Kelantan

Speakers:

- "Biologi Haiwan & STEM"**
Dr. Ainaa Syazwani bt. Mohamed Amir Hamzah
(Fakulti Sains Bumi, Universiti Malaysia Kelantan)
- "Biologi dalam Keseimbangan"**
Musa Al Ghazali Bin Omar
MRSM Muadzam Shah
- "Tumbuhan & Teknologi"**
Dr. Sahana Ninti Zakaria
(Fakulti Industri Asas-Tani, Universiti Malaysia Kelantan)

BAJA KOMPOS ORGANIK: DIY DARI RUMAH

16 JULAI 2021 | 10 PAGI

Jom sertai program khidmat komuniti #COM2021 Society

Morid akan dibekalkan dengan semua cara pengiraan bagaimana menggunakan bahan-bahan di rumah

Sila bawa alat: Botol (gelang & +) + Heli

Set event!

SEMINAR PERNIAGAAN SHOPEE PERCUMA UNTUK KOMUNITI

TARIKH : 22 & 23 DISEMBER 2021
MASA : 8.30 PAGI - 5.00 PETANG
TEMPAT : DEWAN UTAMA UMK KAMPUS JELI

PENYERTAAN PERCUMA!
MAKAN DAN MINUM DISEDIAKAN SEPANJANG BENGKEL DAN SUJIL AKAN DIBERIKAN

PELUANG MENAMBAH PENDAPATAN KETIKA PROGRAM

HADIAH BAGI PERTANDINGAN JUALAN TERBANYAK

ILMU JUALAN DAN PEMASARAN SECARA DIGITAL DAN TRADISIONAL

LATIHAN SECARA LANGSUNG (HANDS-ON)

TAJARAN PANGGILAN PEMASARAN SEBANYAK RM5.00

SYARAT-SYARAT:
- MEMPUNYAI TELEFON BIMBIT (SMARTPHONE) DAN DIBAWA KETIKA PROGRAM

TERHAD KEPADA 150 ORANG PESERTA TERAWAL SAHAJA!

IMBAS KOD QR UNTUK PENDAFTARAN:

PENCERAMAH
ENCIK WAN YUSOFF WAN IBRAHIM
PEMASAR BERKESAN DAN KUASA RANGKAIAN

PENCERAMAH
ENCIK MOHD RUHAFFI ALIAS
TEKNIK BUAT DUIT DENGAN SHOPEE

MAKLUMAT LANJUT SILA HUBUNGI:
CIK SHARIFAH - 019-726 2311 ATAU ENCIK HIZAMI - 013-311 4458

KEWANGAN FAKULTI

Peruntukan Terperinci Perbelanjaan Pengurusan FSB 2021

| PERUNTUKAN TERPERINCI PERBELANJAAN PENGURUSAN FSB 2021 | | | | | |
|--|--|-------------------------------|----------------------|----------------------------|---------------------------------|
| VOT | AKTIVITI | PERUNTUKAN BAGI TAHUN 2021 | PERBELANJAAN (RM) | BAKI PERUNTUKAN (RM) | PERATUSAN PEBELANJAAN (%) |
| 14000 | Elaun Lebih Masa | 5,000.00 | 3,987.67 | 1,012.33 | 79.75 |
| 21000 | Perbelanjaan Perjalanan Dan Sara Hidup | 23,500.00 | 26,079.97 | (2,579.97) | 110.98 |
| 23000 | Perhubungan Dan Utiliti | 500.00 | 255.31 | 244.69 | 51.06 |
| 24000 | Sewaan | 10,000.00 | 9,403.13 | 596.87 | 94.03 |
| 25000 | Bahan Makanan Dan Minuman | 1,000.00 | 763.10 | 236.90 | 76.31 |
| 26000 | Bekalan Bahan Mentah | 7,000.00 | 2,830.65 | 4,169.35 | 40.43 |
| 27000 | Bekalan Dan Bahan Lain Bukan Aset/Harta Modal | 50,000.00 | 45,051.47 | 4,948.53 | 90.10 |
| 28000 | Penyelenggaraan Dan Pembaikan Kecil Yang Dibeli | 111,000.00 | 109,419.02 | 1,580.98 | 98.58 |
| 29000 | Perkhidmatan Iktisas Dan Perkhidmatan Lain Yang Dibeli | 52,000.00 | 47,436.33 | 4,563.67 | 91.22 |
| | JUMLAH KESELURUHAN | 260,000.00 | 245,226.65 | 14,773.35 | 81.38 |

LAPORAN ASET & AKTIVITI MAKMAL

Makmal Sains Alam Sekitar

Makmal Geosains

Makmal Analysis

Makmal Penyelidikan

Makmal Komputer & GIS

Makmal Biokimia & Mikrobiologi

Makmal Mineral

Infrastruktur & Kenderaan

Aktiviti Makmal

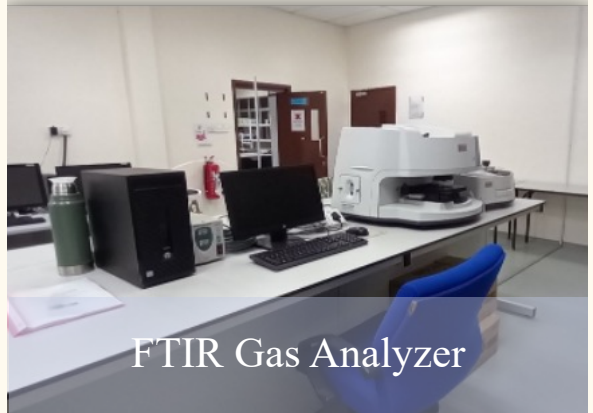
Makmal Sains Alam Sekitar



Makmal Geosains



Makmal Analisis



Makmal Penyelidikan



Makmal Komputer & GIS



Canon IPF 750 Printer - Quality
CAD & GIS Plotter



Makmal Biokimia & Mikrobiologi



Makmal Mineral

INFRASTRUKTUR & KENDERAAN

PENYELENGGARAAN ASET DAN INVENTORI

| PERKARA | KUANTITI | NILAI (RM) |
|-------------|----------|--------------|
| HARTA MODAL | 73 | 2,293,367.00 |
| INVENTORI | 541 | 526,889.00 |

| PENYELENGGARAAN | KUANTITI | NILAI (RM) |
|-----------------|-----------|------------------|
| ASET | 13 | 17,184.02 |
| INVENTORI | 3 | 2,500.00 |
| JUMLAH | 16 | 19,684,02 |



3 TOYOTA HILUX

AKTIVITI MAKMAL

| TARIKH | AKTIVITI | JENIS AKTIVITI |
|--------------|--|----------------|
| 17 Jan 2021 | MS ISO/IEC 17025:2017 AND SAMM Compliance | LATIHAN |
| 13 Apr 2021 | TRAINING ON TECHNICAL, BEST PRACTICE | LATIHAN |
| 17 Jun 2021 | SPECTROPHOTOMETER TRAINING | LATIHAN |
| 25 Jul 2021 | TRAINING DATA REVIEW AND REPORTING | LATIHAN |
| 25 Jul 2021 | TRAINING ON TECHNICAL, BEST PRACTICE | LATIHAN |
| 16 Ogos 2021 | BALANCE TRAINING | LATIHAN |
| 02 Ogos 2021 | PIPETTE TRAINING : HANDLING | LATIHAN |
| 23 Sep 2021 | MANAGEMENT REVIEW MEETING (MRM) | MESYUARAT |
| 20 Sep 2021 | QC TRAINING | LATIHAN |
| 23 Dis 2021 | UNDERSTANDING RISK APPROACH FOR MANAGEMENT SYSTEMS | LATIHAN |

JAWATANKUASA KEUSAHAWANAN

Pendaftaran Syarikat Siswa Pelajar (SSU)

Program Penjanaan Pendapatan

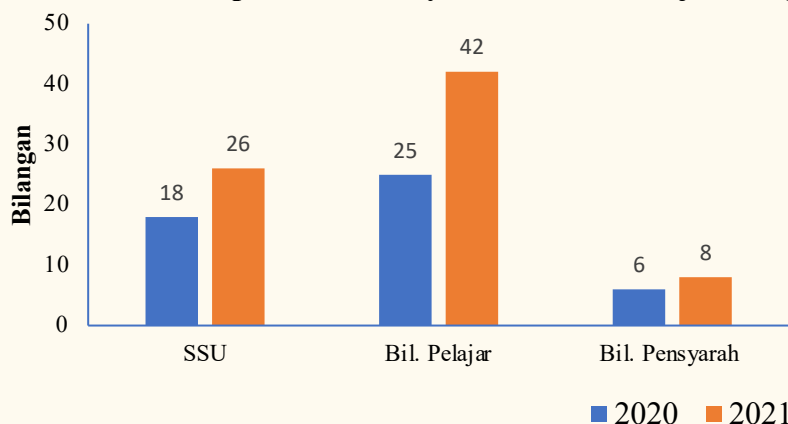
Aktiviti Keusahawanan FSB

PENDAFTARAN

SYARIKAT SISWA PELAJAR (SSU)

Status pendaftaran syarikat siswa pelajar FSB bagi tahun 2021 menunjukkan peningkatan berbanding tahun sebelumnya, tahun 2020 iaitu sebanyak 8%. Ini menjadikan keseluruhan syarikat siswa pelajar adalah sebanyak 26 syarikat dengan bilangan pelajar seramai 42 orang dengan 8 orang pensyarah pembimbing.

Status pendaftaran Syarikat Siswa Pelajar SSU)



Senarai syarikat siswa pelajar bagi Fakulti Sains Bumi yang aktif bagi tahun semasa.

| BIL | NAMA SYARIKAT | NO SSM/ NO. SSU | JENIS PERNIAGAAN | PENSYARAH PEBIMBING |
|-----|---|------------------------------------|-----------------------------|---|
| 1 | CHEEZY BOOM | SSU- 00548/2019 | Makanan dan minuman | Dr. Nor Shahirul Umirah binti Idris |
| 2 | NZ GLORY FASHION | KT0431709-X/ SSU- 00439/2018 | Makanan dan minuman | En. Nik Mohd Firdaus bin Nik Zainal Abidin |
| 3 | GEO EXPLORATION | SSU- 00580/2020 | Makanan dan minuman | Dr. Nor Shahida binti Shafiee @ Ismail |
| 4 | KOREAN SPICY ENTERPRISE | SSU- 00425/2018 | Makanan dan minuman | Puan Munirah binti Mahshar |
| 5 | TATTIE/ WAQAF EDUCATION | SSU- 00547/2019 | Makanan dan minuman | Ts. Dr. Suganthi a/p Appalasanya |
| 6 | JOSHUA A/L WILLIAM | | Makanan dan minuman | |
| 7 | MANJUSHOBASHIN I NADARAJU | | Kecantikan dan kesihatan | |
| 8 | NUR NATASHA HUSNA BINTI ABDUL HALIM | | Makanan dan minuman | |
| 9 | NUR SHAHIRAH BINTI SHUKRI | | Pertanian dan ternakan | |
| 10 | NURUL NADIAH BT ABU KHORI | | Makanan dan minuman | |
| 11 | MONSTR.ANISS | SSU- 00710/2020 | Makanan dan minuman | Dr. Nor Shahirul Umirah binti Idris |
| 12 | SNACKYSHOP | SSU- 00707/2020 | Makanan dan minuman | Dr. Nor Shahirul Umirah binti Idris |
| 13 | YOUR_BOOKS__ | SSU- 00762/2020 | Bahan bacaan dan alat tulis | Puan Raja Rosnah binti Raja Daud |

| BIL | NAMA SYARIKAT | NO SSM/ NO. SSU | JENIS PERNIAGAAN | PENSYARAH PEBIMBING |
|-----|--------------------------|-------------------------------------|------------------------------|---|
| 14 | EMBLEMS OF THE EARTH | SSU- 01053/2020 | Perkhidmatan | Dr. Jayaraj Vijaya Kumaran |
| 15 | GREEN EARTH TOURISM | SSU- 01051/2020 | Perkhidmatan | Prof. Madya Dr. Ng Siew Foen |
| 16 | MS TASTY FOOD ENTERPRISE | 202103224226/ SSU- 01454/2021 | Makanan dan minuman | Dr. Nawi @ Mohd Nawi bin Ismail |
| 17 | RAINBOW BYTES | SSU- 01392/2021 | Makanan dan minuman | Puan Wan Suzanna Aafanii Adeeba binti Wan Ibrahim |
| 18 | TEA-4G | SSU- 01382/2021 | Makanan dan minuman | Gs. Dr. Nazahatul Anis binti Amaludin |
| 19 | BUTTERCHEESE | SSU- 01380/2021 | Makanan dan minuman | ChM. Ts. Dr. Hj Nour Syuhadah binti Subki |
| 20 | ZEN JAYA ENTERPRISE | SSU- 01369/2021/ 003299155-V | Bahan bacaan dan alat tulis | Dr. Nawi @ Mohd Nawi bin Ismail |
| 21 | MARVELLOUS VENTURES | SSU- 01368/2021/ 003267658-U | Bahan bacaan dan alat tulis, | ChM. Dr. Musfiroh binti Jani |
| 22 | NZ CRUNCHIES | SSU- 01082/2021 | Makanan dan minuman | Dr. Mohd Nazri bin Muhayiddin |
| 23 | NUSYANA SHOP | 003301750-A/ SSU- 01446/2021 | Keluaran jahitan | Dr. Nurhanan binti Abdul Rahman |
| 24 | REMOTECH GEEK | SSU- 01269/2021 | Perkhidmatan | Dr. Amal Najihah binti Muhamad Nor |
| 25 | SYAHIRA ENTERPRISE | SSU- 00489/2018 | Makanan dan minuman | Puan Munirah binti Mahshar |
| 26 | HAKU.CO | SSU- 01111/2021 | Perkhidmatan | Ts. Dr. Suganthi a/p Appalasy |

Namun begitu, berdasarkan status pencapaian KPI (Key Performance Indicator) yang ditetapkan oleh UMKEI (UMK Entrepreneurship Institute), FSB didapati masih belum mencapai KPI yang ditetapkan dengan hanya mencapai 7.3% daripada sasaran sebanyak 10% yang telah ditetapkan oleh UMKEI bagi pencapaian KPI peneraju keusahawanan bagi tahun 2021 (Jadual 1).

| Sasaran FSB (%) | Bil. Pelajar | Pencapaian FSB (%) | Bil. Pelajar | Bil. Syarikat |
|--------------------|--------------|-----------------------|--------------|---------------|
| 10% | 50 | 7.3% | 37 | 27 |

Bagi tahun 2021, UMKEI telah menobatkan seramai 2 (5.4%) orang pensyarah FSB mempunyai kepakaran sebagai pengajar/pembimbing keusahawanan. Walaupun peratus sasaran bagi tahun 2021 yang ditetapkan oleh UMKEI adalah 20% iaitu masih jauh untuk dicapai, pencapaian ini harus dibanggakan memandangkan FSB yang merupakan fakulti yang berteraskan sains dan teknologi masih berusaha melengkapkan diri dengan ilmu keusahawanan selaras dengan UMK sebagai sebuah universiti keusahawanan.

PROGRAM

PENJANAAN PENDAPATAN

Keusahawanan sosial: projek pengumpulan minyak masak terpakai yang dilancarkan pada tahun 2020 mencatatkan peningkatan pada tahun 2021. Kerjasama yang dijalankan dengan Synergy Integrated Enterprise, Kota Bharu mencatatkan pengumpulan minyak masak terpakai sebanyak 722.5 kg dengan penajaan pendapatan dari hasil jualan sebanyak RM831.00 bagi tahun 2021. Kempen ini diperluaskan lagi dengan melibatkan lebih banyak kedai makan yang berada di sekitar UMK Kampus Jeli. Di harapkan dengan pelaksanaan kempen ini, dapat membimbing masyarakat luar kampus terutamanya kepentingan memelihara serta memulihara alam sekitar dengan memastikan sistem saliran perparitan dan longkang tidak tercemar dengan buangan dari minyak masak terpakai.



Berikutan penularan wabak Covid-19 dan mengambil kira prosedur operasi standard (SOP) yang disarankan oleh kerajaan, penganjuran Pasar Lambak bagi tahun 2021 terpaksa dibatalkan.

AKTIVITI KEUSAHAWANAN FSB

Aktiviti keusahawanan bagi FSB telah diperhalusi dan diperkemaskinikan sejajar dengan matlamat UMK menjadi sebuah universiti keusahawanan yang berprestij. Di antara aktiviti keusahawanan yang telah di anjurkan adalah bicara keusahawanan siswa yang melibatkan penyertaan wajib pelajar Tahun 1 dan 2 Fakulti Sains Bumi. Sesi perkongsian ini di sampaikan oleh Dr. Mohd Safwan bin Ghazali selaku Pengarah Pusat Pembangunan dan Pendidikan Keusahawanan UMK. Objektif utama program adalah memberikan pendedahan kepada mahasiswa/siswi baru UMK sebagai universiti keusahawanan serta memperkenalkan aktiviti-aktiviti keusahawanan yang dianjurkan oleh CEED.

Selain daripada aktiviti keusahawanan yang di anjurkan oleh FSB, pelajar juga turut aktif melibatkan diri dalam aktiviti yang di anjurkan oleh UMKEI dan agensi luar. Antaranya, pelajar program Sains Kelestarian Siti Nur Syahira Abdullah Kassim mendapat geran Tunas Usahawan Belia Bumiputera (TUBE) bagi membantu beliau mengembangkan dan memajukan lagi bisness yang dijalankan.

**TAKLIMAT
KEUSAHAWANAN**

UNIVERSITI
MALAYSIA
KELANTAN

FAKULTI SAINS BUMI

LIVE

- UMK sebagai Universiti Keusahawanan
- Pengenalan Kepada CEED
- Tatacara pendaftaran syarikat siswa (SSU) & Kelebihannya

WEBEX MEETING NO:
2511 944 9044

PASSWORD:
UMKPTKFSB2021

23 NOVEMBER 2021

10.00 AM - 12.00 PM

PENERAMAH
DR MOHD SAFWAN BIN CHAZALI
PENGARAH PUSAT PEMBANGUNAN DAN
PENDIDIKAN KEUSAHAWANAN, UMK

MODERATOR
DR NOR SHAHIRUL UMIRAH IDRIS
PENYELARAS KEUSAHAWANAN, FSB

Logos: THE, SUSTAINABLE DEVELOPMENT GOALS, ENTREPRENEURSHIP & BIZ UUMK, #WeAreUMFamily, #OneUMKOneDream

UNIVERSITI
MALAYSIA
KELANTAN

FAKULTI SAINS BUMI
MENGUCAPKAN

Tahniah

SITI NUR SYAHIRA ABDULLAH KASIM
PROGRAM SAINS KELESTARIAN
FAKULTI SAINS BUMI

ATAS KEJAYAAN MEMPEROLEHI

RM 15,000.00

**GERAN TUNAS
USAHAWAN BELIA
BUMIPUTERA
(TUBE)**

Logos: #WeAreUMFamily, #OneUMKOneDream

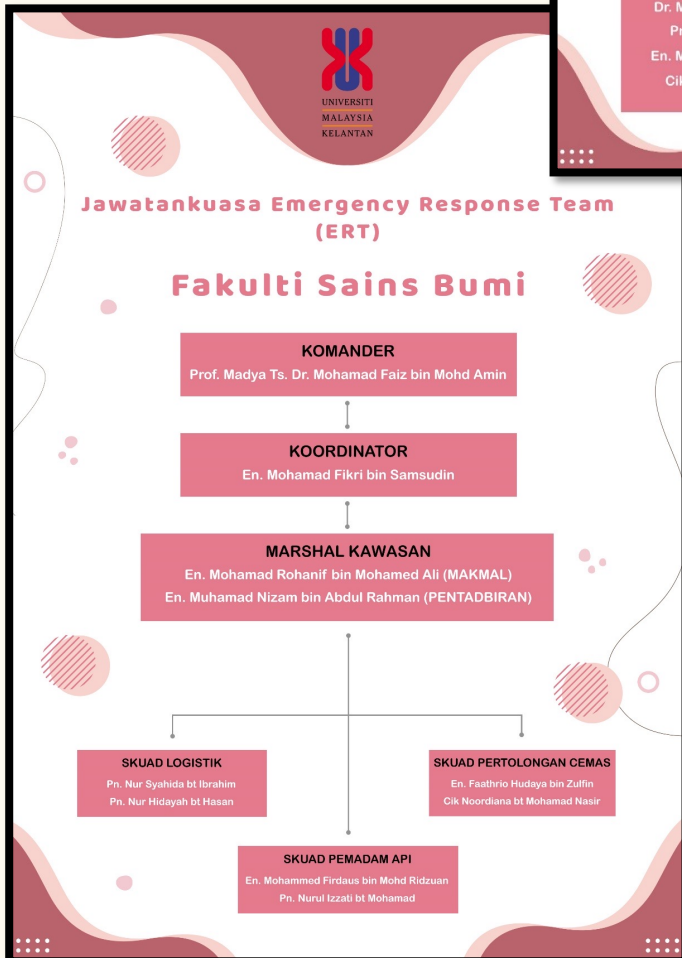
JAWATANKUASA PERSEKITARAN, KESELAMATAN & KESIHATAN PEKERJAAN (JPKKP)

Jawatankuasa JPKKP &
Jawatankuasa Emergency Response Team (ERT)

Aktiviti JPKKP 2021

JPKKP

Jawatankuasa Persekitaran, Keselamatan dan Kesihatan Pekerja Fakulti Sains Bumi (JPKKP_FSB) berfungsi sebagai wakil kepada Jawatankuasa Persekitaran, Keselamatan dan Kesihatan Pekerjaan Induk di fakulti. JPKKP_FSB di ketuai oleh Dekan selaku ketua PTJ dan dibantu oleh setiausaha yang berfungsi untuk menasihati pengerusi berkenaan perkara yang berkaitan dengan persekitaran, keselamatan dan kesihatan pekerjaan.



Ahli jawatankuasa pula terdiri daripada wakil majikan (staf akademik) dan wakil pekerja (staf pejabat). JPKKP_FSB dibantu oleh pasukan *Emergency Response Team (ERT)* yang juga diketuai oleh Dekan sebagai Komander dan dibantu oleh Koordinator, Marshal Kawasan, Skuad Pemadam Api, Skuad Pertolongan Cemas dan Skuad Logistik.

Setiap tahun FSB akan terlibat dengan pemeriksaan tempat kerja yang di selaraskan di bawah CMeOSH. Pemeriksaan tempat kerja ini dijalankan sebanyak 4 kali setahun mengikut keperluan Akta Keselamatan dan Kesihatan Pekerjaan (AKKP) 1994. Markah diberikan bagi setiap kali pemeriksaan tempat kerja bagi mengetahui tahap keselamatan dan kesihatan persekitaran di FSB. Sepanjang 4 kali pemeriksaan tempat kerja yang telah di jalankan pada tahun 2021, FSB telah berjaya mendapat kumulatif markah sebanyak 94%. Ini meletakkan FSB di tahap yang cemerlang.

| BIL. | AKTIVITI JPKKP 2021 |
|------|---|
| 1. | PEMERIKSAAN TEMPAT KERJA |
| 2. | <p>PROGRAM WORLD OSH DAY</p> <ul style="list-style-type: none"> • PERTANDINGAN KUIZ OSH: 69 peserta • LANGKAH RAMADHANKU SIHAT: 37 staf FSB • PERTANDINGAN POSTER: 14 peserta • WEBINAR ON FIRST AIDER: 136 peserta • PERKONGSIAN FLYERS KESELAMATAN KEPADA JANITOR DI FSB: 28 April 2021 |

Sempena **WORLD OSH DAY** tahun 2021, JPKKP_FSB telah menganjurkan beberapa aktiviti yang berkaitan pada 20 hingga 28 April 2021.



AKTIVITI JPKKP 2021

SAMBUTAN MINGGU KESELAMATAN DAN KESIHATAN PEKERJAAN 2021 PERINGKAT FAKULTI SAINS BUMI
ANJURAN JAWATANKUASA PERSEKITARAN, KESELAMATAN DAN KESIHATAN PEKERJAAN FSB

20 – 26 APRIL 2021
Secara virtual di mana sahaja anda berada.
Sempena Kempen World OSH Day 2021.

VIRTUAL RUN "LANGKAH RAMADHANKU SIHAT"

KRITERIA LANGKAH RAMADHANKU SIHAT:

1. Terbuka kepada STAF Fakulti Sains Bumi (FSB) sahaja.
2. Peserta perlu mendaftar di link yang disediakan.
3. Minimum 10,000 langkah larian perlu direkodkan dan layak mendapat sijil penyertaan elektronik.
4. Rekod larian tertinggi akan menerima hadiah misteri.
5. Peserta boleh menggunakan apa sahaja aplikasi yang bersesuaian untuk merekod jumlah langkah larian dan perlu menghantar bukti rekod larian kepada urusetia melalui platform yang disediakan.

Untuk sebarang pertanyaan:
Hubungi: 013-3114458 (Hizami) 019-9862490 (Rohanif) 019-9121582 (Nizam)

ANJURAN JAWATANKUASA PERSEKITARAN, KESELAMATAN & KESIHATAN PEKERJAAN FAKULTI SAINS BUMI

OfficialUMK #BinaLegasiUMK #WeAreUMKFamily #OneUMKOneDream #paukum Entrepreneurship in Our Throat #UMKOneUMK

SAMBUTAN MINGGU KESELAMATAN DAN KESIHATAN PEKERJAAN 2021
ANJURAN JAWATANKUASA PERSEKITARAN, KESELAMATAN DAN KESIHATAN PEKERJAAN FSB

Jom sertai KUIZ OSH @ FSB

Terbuka kepada semua warga FSB (pelajar dan staf)

SECARA ONLINE
21 - 26 April 2021
IMBAS DI SINI



e- sijil dan Hadiah MISTERI menanti pemenang

Sebarang pertanyaan hubungi:
Dr. Noor Shahada binti Stafree @ Ismail 0194787205
Cik Noorhidayah Binti Muhammad Nasir 0132959903

OfficialUMK umk.edu.my ENTREPRENEURSHIP & OUR UMWAL Kita #BinaLegasiUMK Bersama #WeAreUMKFamily #OneUMKOneDream

Webinar Basic First Aider

28 April 2021
2.00 P.M

Dengan kerjasama:
PUSAT PENGURUSAN PERSEKITARAN, KESELAMATAN DAN KESIHATAN PEKERJAAN (PUSATUMK)

KATA ALUAN
Prof. Ir. Ts. Dr. Ahmad Rasdan bin Ismail
Pensyarah, OSH&H UMK

MODERATOR
ChM. Ts. Dr. Noor Syuhadah binti Subki
Pensyarah Kanan, FSB

SPENAKER
Dr. Nursufiah bt Sulaiman
Pensyarah Kanan, Fakulti Sains Bumi
Certified First Aider

LIVE STREAMING
Microsoft Teams
LINK: <https://bit.ly/3gD1owW>

SAMBUTAN MINGGU KESELAMATAN DAN KESIHATAN PEKERJAAN 2021 PERINGKAT FAKULTI SAINS BUMI
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PERATURAN KESELAMATAN & KESIHATAN PEKERJAAN KEPADA PEKERJA KEBERSIHAN MAKMAL

Akta Keselamatan & Kesihatan Pekerjaan 1994
Tanggungjawab memastikan keselamatan dan kesihatan di tempat kerja terletak di atas mereka yang bekerja dengan bahaya tersebut dan mereka yang mengujudkan bahaya tersebut.

Pakai Peralatan Pelindung diri

Kenalpasti simbol amaran

- Mudah terbakar
- Toksik
- Menghakis
- Meletup

Dilarang makan & minum

Lapor sebarang kejadian atau tindakan yang berbahaya kepada staf makmal

Guna peralatan pencuci yang khas @ berasingan untuk kegunaan makmal sahaja

SAMBUTAN MINGGU KESELAMATAN DAN KESIHATAN PEKERJAAN 2021 PERINGKAT FAKULTI SAINS BUMI
ANJURAN JAWATANKUASA PERSEKITARAN, KESELAMATAN DAN KESIHATAN PEKERJAAN FSB

AKTIVITI JPKKP 2021

Aktiviti yang dianjurkan oleh JPKKP_FSB ini telah mendapat sambutan dengan mendapat penyertaan daripada staf dan pelajar dari seluruh UMK. Pemenang daripada setiap kategori telah diberikan hadiah seperti yang telah dinyatakan di dalam poster setiap aktiviti yang dijalankan.

TAHNIHAH!

PERTANDINGAN POSTER OSH

- 🚧 Dr. Nurul Syazana Abdul Halim & Dr. Nor Shahirul Umirah Idris (kategori Staf)
- 🚧 Nur Zubaidah binti Baharudin (kategori pelajar)

LANGKAH RAMADHANKU SIHAT

King 👑
Dr. Kamarul Ariffin Hambali(46592 steps)

Queen 👑
Ts. Dr. Shaparas binti Daliman (86112 steps)

Saguhati

1. Cik Kyariatul Syafinie binti Abdul Majid
2. Dr. Marianne Christie Leong
3. En. Mohammed Firdaus bin Mohd Ridzuan

KUIZ OSH

A+

- 1) Cik. Fatin Athirah binti Mohd Zin
- 2) ChM. Dr Nik Raihan Nik Yusoff
- 3) En. Muhamad Aniq bin Azmi
- 4) Cik. Nur Haiza Izzatul binti Kamaruzaman
- 5) Dr. Marinah Muhammad

PEMENANG AKTIVITI

STAY SAFE

SAMBUTAN MINGGU KESELAMATAN DAN KESIHATAN PEKERJAAN 2021
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SEKALUNG PENGHARGAAN



Sidang Editorial PENA FSB 2021 ingin merakamkan sekalung penghargaan dan jutaan terima kasih kepada semua staf Fakulti Sains Bumi serta semua pihak yang terlibat sama ada secara langsung atau tidak langsung dalam penghasilan PENA FSB 2021.

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#DiscoverYourFSBDNA

Pena Fsb

FAKULTI SAINS BUMI 2021



Universiti Malaysia Kelantan Kampus Jeli
17600, Jeli, Kelantan, Malaysia.



fsb.umk.edu.my



+609-9477341



+609-9477342