UNDERGRADUATE RESEARCH OPPORTUNITY PROGRAM 2015/2016 ANNOUNCEMENT

**What is UROP?**

The Undergraduate Research Opportunities Program (UROP) is a scheme that creates a research mentorship platform between undergraduate students and research academic staff. UROP provides undergraduate students with an exciting opportunity to engage in academic research, hence nurturing them into becoming future HDR students.

**Duration of Program** : 1 year (Oct 2015 – Oct 2016)

**How to apply?**

1. Applicable to Year 2, Semester 2 and Year 3, Semester 1 students under Faculty of Engineering and Science (FOES) only
2. Application date starts on 14th September 2015. The application form is available and can be obtained from Ms. Jill Abigail /Ms. Mary Ann Bulan.
3. Please read the research topics carefully and select the research project of your interest.
4. Submit your application to Ms. Jill Abigail /Ms. Mary Ann Bulan latest by 30th September 2015, before 5pm.

**Application Process**

Step 1: Application form submission will be reviewed by respective supervisors for selection process;

Step 2: Student selection is based on the number required for each research project, after the review and approval from the respective supervisors;

Step 3: Supervisors will contact the selected students directly to arrange for an initial meeting.

**Important Notes to Students**

* You are advised to consult the supervisors if there is any doubt regarding the research project before submitting your application.
* Each students is allowed to submit ONE application only.

Upon completion of the UROP program, a certificate of appreciation from the Faculty of Engineering and Science (FOES) will be awarded to the students.

Please find the details of the UROP Project listing below:

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| **No.** | **Name of Supervisor(s)** | **Name of Co-Supervisor**  | **Research Topics/Titles** | **Maximum No. of Students Required** |
| 1 | Dr Dominique Dodge-Wan |   | 1. Mapping and analysis of joints and faults in the ceiling of the Painted Cave (Niah) using photography and digital mapping technology | 2 |
| N/A | 2. Classification and quantification of marine litter on N Sarawak beaches | 2 |
|   | 3. Preliminary investigation for microplastic particles in beach sediments from N Sarawak | 2 |
| 2 | Prof. Michael Kobina Danquah | N/A | 1. DNA aptamers for rapid biosensing and bio-screening | 2 |
| 2. Kinetic modelling of carbon dioxide bio-sequestration by microalgae cells | 2 |
| 3 | Dr. Mahmood Anwar | Prof. Michael Kobina Danquah | Development of Intelligent Stethoscope (i-Stethoscope) | 2 |
| 4 | Dr. Law Kah Haw  | N/A | 1. Vector control of Multilevel Cascaded H-bridge Inverter (MCHI) based Static Synchronous Compensator (STATCOM) with simultaneous functionality. | 2 |
| 2. Modelling and controller design of cascaded multilevel inverter based motor drives with battery energy management system | 1 |
| 5 | Ammar Masaoud | N/A | Design and implementation of multilevel voltage source inverter for AC drive applications | 2 |
| 6 | Neamul Ahsan Noman Khandoker | N/A | Development of material testing fixture for mixed mode loading conditions | 2 |
| 7 | Dr Lenin Gopal | N/A | Robust Nonlinear Transceiver Design for Non-regenerative Multicasting MIMO Relay Communication Systems | 1 |
| 8 | Chew Ing Ming  | N/A | Process Modeling and Optimization with Matlab-Simulink | 2 |
| 9 | John Lau Sie Yon  | N/A | Enzymatic treatment of phenolic compound in synthetic wastewater by plant-based peroxidase | 1 |
| 10 | Omid Nabinejad | N/A | Investigation on the curing mechanism of natural fiber/filler unsaturated polyester composite | 1 |
| 11 | Amandeep S. Sidhu  | N/A  | 1. Next Generation Genome Sequencing on Cloud Computing  | 2 |
| 2. Speeding up Computational Fluid Dynamics Simulations using High Performance Computing  | 2 |
| 12 | Haidar Fadhil Abbas Al-Qrimli  | N/A  | 1. Car Frontal Longitudinal Design For Crashworthiness Application (Simulation) | 2 |
| 2. Design an Innovative Lower-Limb Exoskeleton of a Therapeutic Rehabilitation and Muscle Strengthening for athletics in Malaysia.  | 2 |
| 13 | Wong Wei Kitt |   | 1. Face identification on  PCA and neural networks  | 1 |
| N/A  | 2. Q leaning for small balancing robot (PID controller) using genetic algorithm  | 1 |
| 14 | A/Prof. Jobrun Nandong and Ms. Lau Shiew Wei  | N/A  | Characterization Study on Algae and it Growth Environment in Curtin Lake | 2 |
| 15 | Dr. Ahmed Mohammed Abdelrhman Ahmed  | N/A  | Early Damage detection method for gearbox tooth based on wavelet analysis transforms and feature extraction method | 2 |
| 16 | Dr. Chua Han Bing |   | 1. Process modeling and optimization of oil palm EFB composting process to improve the quality of the compost produced in the palm mill composting plant.  | 1 |
| N/A  | 2. Integrated design of anaerobic digester for POME treatment, biogas production and microalgae cultivation  | 1 |
|   | 3. Transforming Oil palm EFB to bioethanol : A technical evaluation and review  | 1 |
| 17 | Dr. Yalun Arifin  | N/A  | Algae spirulina cultivation and biorefinery | 2 |
| 18 | Dr. Aja Ogboo Chikere | N/A  | 1. Experimental Investigation of the effect of dust on solar collectors at different tilt angles | 1 |
| 2. Experimental Investigation of the effect of solar collector orientation and tilt angles on system performance | 1 |
| 19 | Mohamed Ali Hamid |  | 1. Analysis of Horizontal Wells  Using KAPPA Software  | 2 |
| N/A  | 2. Reservoir characterization through KAPPA Software  | 3 |
|   | 3. Modelling Velocity and Mobility of Fronts during Alkaline Surfactant Polymer Flooding | 4 |
| 20 | Dr Wong Kwong Soon | N/A | 1. Preliminary investigation on the influence of microorganism activity to shear strength of peat mixed with palm oil fuel ash | 2 |
|   | 2. Influence of peat on the compressive and tensile strength of concrete | 2 |