

## Engineering Future-proof Talents



INDUSTRY 4.0, IoT, 5G connectivity, Big Data technologies – are buzzwords that have been talked about in the industries for some time as these new technologies are slowly being integrated into multiple industries and economic sectors driven by the Fourth Industrial Revolution (IR4.0). Pushing the boundaries of innovation, IR4.0 refers to a fusion of technologies with an emphasis on digital transformation and advancement in a broad spectrum of sectors, creating new opportunities for people and businesses.

As engineering continues to advance, gone are the days where engineers would need to get their hands dirty and perform hard manual labour. With newer technologies that shift towards more intelligent systems via the adoption of artificial intelligence, Big

Data, machine learning and 5G connectivity, the future of engineering is expanding exponentially.

In line with Tunku Abdul Rahman University College's (TAR UC) mission to produce graduates who are able to contribute towards the nation's development, in this case being well versed in IR4.0 technology as well as its smart campus initiative, the Faculty of Engineering and Technology (FOET) offers engineering programmes in the fields related to IR4.0 transformation to meet the needs of the complex future. With a research interest in power electronics and smart

robotics, FOET's Department of Mechanical Engineering senior lecturer Dr Lum Kin Yun currently heads the engineering role in TAR UC's Smart Agriculture project and research to incorporate new technologies to boost cultivation of Bentong ginger.

This project is an example of one of the many IR4.0 topics that TAR UC engineering students can get involved in to gain hands-on

experience in the area of Smart Agriculture.

"The project is in line with the UC's research direction of having smart agriculture. The project was initiated to cultivate Bentong ginger due to its medicinal benefits. The aim of incorporating vertical farming and robotic technology is to reduce human labour, reduce land requirements and to increase crop yield. Since there is no existing reference on the design of this automation process, we have to start from scratch to

implement this initiative,” said Dr Lum.

“Engineering is versatile. The foundation of IR4.0 still incorporates elements of electrical, mechanical and mechatronic engineering systems. These are the basis for all technology today and the future. These are the three main fields of engineering offered by FOET,” he added.

Dr Lum further elaborated that TAR UC’s syllabus not only focuses on theory, but practical experience and research skills are equally emphasised on.

“Students can be good at studying theory but they also need to be competent when it comes to practical work such as design, prototyping and integration. Doing practical work in a laboratory is easy

where every step is planned in a controlled environment. In practical projects, we try to expose them to real-life problems where they have to deal with many uncertainties and potential limitations.

“Students are put into groups to handle more challenging capstone projects once they have been equipped with a strong engineering background. This practical work requires them to build a prototype of a specific topic, enabling them to implement what they have learnt and at the same time, sharpening their hands-on skills. Their final-year projects are also based on recent research topics. This exposes them to the latest industry trends and newest technology, giving them the opportunity to

continue a life-long learning process even after graduation,” he said.

FOET's engineering programmes are professionally accredited by the Board of Engineers Malaysia and globally recognised through Malaysia's signatory membership with the Washington Accord. Graduates can register as a

professional engineer after gaining three years of relevant work experience, professional development training and passing the professional exams.

To find out more about engineering programmes offered by FOET, call 011-1082 5613 or log on to [www.tarc.edu.my/foet/TAR](http://www.tarc.edu.my/foet/TAR) UC's Virtual Open Day is happening every weekend from March 27 to April 25, from 10am to 5pm. Applications for the 2021 intakes are now open. Prospective students are encouraged to apply online at [www.tarc.edu.my](http://www.tarc.edu.my)

For enquiries on applications to study at TAR UC, call 011-1078 5997 or email [admission@tarc.edu.my](mailto:admission@tarc.edu.my).

Applicants who submit their applications online by April 30 will receive a RM60 waiver of processing fee. Attractive scholarships are also available at TAR UC on the basis of academic merit and sibling discount for qualified students.



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