

Training highly skilled bioscientists

THE coronavirus pandemic has genuinely exposed the vulnerability of our national pharmaceutical industry, which is still highly dependent on imports, especially for high-value, patented medicine such as the Covid-19 vaccines.

Multinational corporations, aka Big Pharma, from high-income countries such as the United States and from Europe, overwhelmingly dominate our market, accounting for RM3.9bil or 87% of the market share.

We are also lagging behind our neighbours in this aspect. For instance, several local industrial players in Thailand and Indonesia are ranked as leading pharmaceutical companies in their respective countries, whereas no local company is listed as one of the top companies in Malaysia.

Our over-reliance on Big Pharma is not the

most sustainable economic approach, with billions of ringgit of our national wealth flowing out with minimal domestic socio-economic developments.

Thus, there is an urgent need to build a self-reliant national pharmaceutical industry capable of manufacturing locally developed technologies to serve the nation's healthcare sector and expand our economic prospects through technology exportation.

Transforming the pharmaceutical sector is no small feat to take on and will require an excellent collaborative effort between different sectors, including higher education and healthcare, to face multifaceted challenges.

One of the critical challenges is to cultivate a strong research and development (R&D) culture in the biosciences field, which partly involves training an army of highly skilled bioscientists.

The Institute of Medical Science Technology (MESTECH), a branch institute of Universiti Kuala Lumpur (UniKL), is at the forefront of this effort through its postgraduate programme, Master of Applied Bioscience. The master's programme is a two-year research-based degree in which students are given independence to conduct their research project, thus providing ample opportunity to cultivate technical skills and enhance their creativity in the field of biosciences.

The students will receive guidance and supervision from experts who have had extensive doctoral training at the world's best universities. The programme offers a diverse range of expertise in bioscience research, addressing a variety of important and exciting topics, such as parasite infections in the Orang Asli community, novel therapeutic compounds for glaucoma and cancer therapy, molecular pathogenesis in cancers and infectious diseases, regenerative biology in nerve and spinal cord injury, environmental health sciences, and more.

The uniqueness of this master's programme is that students will be exposed to a range of the latest technologies and techniques in the field of applied bioscience that will be useful for future graduate career development. By the end of the programme, the graduates will master critical biological techniques such as advanced cell culture, laboratory animal handling, bioinformatics, molecular biology, advanced microbiology, and genomic and proteomic analysis.

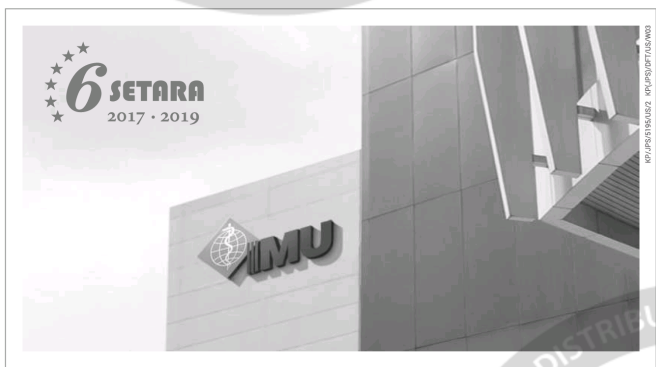
In addition, the students will also gain exposure to transdisciplinary research through close collaboration with industries

and other research institutes such as the Institut Penyelidikan Air Kebangsaan (NAHRIM), the Institute for Medical Research (IMR), and other universities.

Highly skilled bioscientists are vital in transforming the national pharmaceutical industry to become more self-reliant. Bioscientists are needed to serve as clinical researchers, biomedical scientists, pharmaceutical scientists, environmental health scientists, and regulatory scientists to create a conducive ecosystem for this much-needed transformative endeavor.

The Master of Applied Bioscience programme is specifically designed with this transformative agenda in mind. Join UniKL-MESTECH to be part of the transformation. — By Dr Muhammad Fauzi Daud, senior lecturer at UniKL-MESTECH.

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