

BIONEXUS WILL BRING BIOTECHNOLOGY TO GREATER HEIGHTS OF SUCCESS



BioValley Malaysia, the country's Biotechnology hub, was officially launched in May 2003 to spearhead the growth of the Biotechnology industry in Malaysia.

However, according to Dr. Hon Wei Min, Acting Head of the School of Applied Sciences at UCSI, when this flagship science project did not turn into something realistic, coupled with an article, "The Valley of Ghost" published by a famous international journal, a number of students who were interested to pursue Biotechnology degrees became discouraged.

To remedy the situation, Dr. Hon said, the Government had recently introduced the BioNexus. "It is aimed at remedying previous failings,"

she said. "BioNexus is no longer a super-duper ambitious project but a toned-down yet outward-looking approach."

Dr. Hon praised the initiatives under the new scheme. "BioNexus is a programme that will provide tax and other financial incentives, as well as research and development (R&D) grants, to initiatives that will work on products and services that have the potential to be commercialised," she said. "As a result of this, we see a stronger interest to develop the industry."

This also means that more biotechnologists will have to be trained to meet the demand of the industry. “The prospects for biotechnologists will be good,” she said.

Dr. Hon added that the lush natural resources and vast bio-diversity in Malaysia has become the biggest draw for researchers and companies from overseas. “The tropical rainforests in Malaysia are among the world’s oldest,” she said.

To harness the potential of the bio-diversity of the rainforests, the emphasis is to produce scientists who are able to interact with various disciplines within the Applied Sciences.

According to Dr. Hon, Biotechnology is a field that involves various sectors, including Industrial Biotechnology, Medical Biotechnology, Agricultural Biotechnology and Environmental Biotechnology.



Dr. Hon Wei Min
Acting Head of the School
of Applied Sciences

“It does not merely involve research on the bench, but runs the whole gamut – from the thoughts that go into a research project, to the final product that enters into the marketplace,” she said. “There is a whole process which involves feasibility studies and clinical trials, as well as the production processes that are involved in manufacturing the finished product.”

Dr. Hon said that students have to be well-equipped to face the needs of the industry. “Our main aim as academicians and biotechnologists is not only to provide students with the latest knowledge and hands-on practical experience related to Biotechnology,” she said, “but also to arm them with tools across all segments of the product chain.”

Students, she added, have to be familiar with bio-statistics, data analysis, technical writing, bio-informatics, intellectual property, patent law, marketing as well as entrepreneurship.

“Our training will ensure that our graduates would not only be able to fit into the most highly technological research laboratories at the workplace, but also a commercial company which is ready to bring a new Biotechnology product or services to the domestic and export markets,” she said.

To add value to the graduates that it churns out every year, UCSI has introduced the Co-Operative (Co-Op) Placement Programme, where students are required to work two months in a year for the whole duration of their course before they graduate.

“At the end of each of the three academic years, the students will have to be on for their Co-Operative placements in a company,” explained Dr. Hon. “They will have the opportunity to experience real life working experience in various aspects of Biotechnology.”

Some of the students had had unique working experience in law firms, where they learnt about patenting issues pertaining to the commercialisation of products. “We want to ensure that our students get sufficient exposure, even in the patent laws, before they join the workforce,” she added.

As the Biotechnology programme is a multi-disciplinary science-based programme which cannot be run without good laboratory facilities, Dr. Hon said: “We have set up purpose-built laboratories at UCSI, which include a Basic Chemistry and Biology laboratory, a Microbiology laboratory, a Physiology and Pharmacology laboratory, a Molecular Biology laboratory, an Enzyme Technology laboratory, a Fermentation and Scale-Up laboratory, and an Animal and Plant Cell Culture laboratory.”

The laboratories have some of the best facilities which provide UCSI Biotechnology students with real hands-on practical experience in the different fields of Biotechnology. Among the high value equipment are the Bioreactor, High-Performance Liquid Chromatograph and the Atomic Absorbance Spectrophotometer.

“All of our students will have to carry out a final year research project at the end of their third academic year in these laboratories under the supervision of our academic staff,” she said. “The idea is to give them invaluable experience in planning and implementing their own research projects, with some good hands-on laboratory practical.”

Dr. Hon added: “Our lecturers are all qualified experts in their own field, and most importantly, they know that they have an important role to teach and nurture our students to be the future biotechnologists of the country.”

Nearly half of the School of Applied Sciences its academic staff possesses PhD qualifications from overseas and local universities, as well as extensive post-doctoral experience, while the remainder have Masters degrees.

According to Professor Dr. T. K. Kwan, who is Director of Operations at UCSI, the School of Applied Sciences is one of the fastest growing Schools at UCSI. It offers the two much-sought after programmes of Bachelor of Science (Hons.) in Food Science and Nutrition, and Bachelor of Science (Hons.) in Biotechnology.

“Our mission is to produce well-rounded scientists and researchers to meet our national needs for scientific and economic growth,” he said.

For further information about Biotechnology and other UCSI programmes, please contact the Marketing Department at 03-9101 8880 or email to admit@ucsi.edu.my or log on to the website at www.ucsi.edu.my.

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