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Duke-NUS introduces Clinical Sciences PhD programme in translational research

21 November 2019 | News

The School's unique PhD programme is the first in the region to train medical and health science professionals in leading patient-oriented research

Duke-NUS Medical School's PhD programme in Clinical Sciences (PhD CS) addresses an important need in the field, by being the first PhD programme in Singapore and Southeast Asia to specifically train medical practitioners and other health science professionals to lead clinical and translational research. The programme aims to equip clinicians to lead multi-disciplinary translational and patient-oriented research, in partnership with scientists and industry collaborators. The inaugural cohort in 2018 saw five full-time candidates, while this year's batch had seven full-time students. The students have diverse medical specialisations and research interests, and the intake size is projected to triple within four years.

As part of its efforts to develop a vibrant health and biomedical science research ecosystem, Singapore has made significant progress in advancing translational and clinical research. This has led to the development of new therapies and technologies, which translate to health and economic benefits for the country. However, these efforts may be significantly hindered by a shortage of clinician-scientists, due to the major gap between discovery and clinical application.

Clinician scientists play a critical role in bridging basic sciences, clinical and health services research. In particular, clinician-scientists who engage in patient-oriented research are needed to drive translational and clinical research efforts. The government aims to increase the number of clinician-scientists in Singapore, to ensure that Singapore's substantial investments in health and biomedical sciences deliver impactful outcomes that translate to improvements in patients' lives.

"Our PhD CS programme trains experienced senior clinicians to lead biomedical translational research that can transform medicine and improve the lives of patients. Our students are supervised by nationally funded clinician-scientists who are uniquely experienced in leveraging the clinicians' expertise for translational research," said Professor Pierce Chow, Director of the PhD CS programme and Senior Consultant Surgeon at National Cancer Centre Singapore and Singapore General Hospital (SGH).

Dr Tan Hong Chang, an Endocrinologist at SGH, who is from the programme's inaugural cohort, was looking for a PhD programme that would provide structured training to help him develop his translational research skills, to study obesity and

Type 2 Diabetes. “The PhD CS programme at Duke-NUS Medical School features a unique and comprehensive coursework that is suitable for clinicians. It is designed to integrate the training in multiple disciplines such as clinical science, laboratory basic science and quantitative science, which will definitely bring me closer to my research goal,” said Dr Tan.

“The PhD in Clinical Sciences trains our students in the latest technologies such as genomics, precision medicine and Artificial Intelligence, which will become increasingly prominent in advanced translational research. Other features unique to this programme include observations at grant award meetings, reviews of grant applications and submission of manuscripts under the guidance of their supervisors, to better understand the sinews of biomedical research,” said Associate Professor Silke Vogel, Senior Associate Dean for Graduate Studies at Duke-NUS Medical School.

Another student, Dr Chong Jun Hua, Associate Cardiology Consultant at the National Heart Centre Singapore, who is part of the School’s newest cohort said, “I believe this PhD programme will train me in conducting clinical trials to improve cardiovascular outcomes in Asia, as well as establish international thought leader in the emerging field of cardio-oncology. It gives me the opportunity to work closely with world-renowned supervisors and mentors who are respected and influential experts in their fields.”

Through this PhD programme, Duke-NUS aims to create a pipeline of clinician-scientists to lead future biomedical research efforts and improve patient outcomes in Singapore and around the world.