NUS National University of Singapore | Department of Biological Sciences
Faculty of Science

ON-SITE BIOLOGY COLLOQUIUM

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Hosted by Professor Yang Daiwen

Kill or no-kill: A Choice for a Novel Cancer Therapeutic Strategy

By **Jianjun Wang**

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Traditional cancer therapies, including chemotherapy, radiation therapy, target therapy and immunotherapy, are based on a single strategy: to kill cancer cells. This strategy causes several major challenges including toxicity, resistance and cancer recurrence. To solve these challenges, a novel breakthrough cancer therapy has been developed as an anti-solid tumor strategy based on cancer cell-conversion into normal tissue cells. A transcription factor protein drug has been developed to induced intra-tumor cancer cell re-programming inside cancer tissues into transient induced pluripotent stem cells (tiPSCs) that re-differentiate into normal tissue cells, as induced by the resident tissue environment. A FDA IND application and an ethical committee approval for a Phase I clinical trial have been approved by US FDA and Australia ethical committee respectively. A first-in-human and first-in-class Phase I clinical trial is initiated in multiple institutions in the US and Australia for multiple cancer indications including breast cancer, pancreatic cancer, ovary cancer, colorectal cancer and liver cancer.

About the Speaker

Professor Wang graduated from Nanjing University with a PhD degree in chemistry. He went to University of Alberta as a post-doctoral fellow to work with Professor Brian Sykes on structural biology. He started his independent academic career at Southern Illinois University as an Assistant Professor and later moved to Wayne State University to become Professor. His major field back then was structural studies of the critical proteins that were involved in lipid and lipoprotein transport and metabolism. In 2011, Professor Wang completely switched his research to stem cell research. His lab developed several novel protein delivery and stem cell technologies. Using these technology platforms, his lab developed a breakthrough cancer therapy named cell-converting cancer therapy that is capable of transforming cancer cells into normal tissue cells via protein-induced disease tissue reprogramming by a transcription factor (TF) protein drug.