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THE UNIVERSITY OF HONG KONG

Professor Jiandong HUANG
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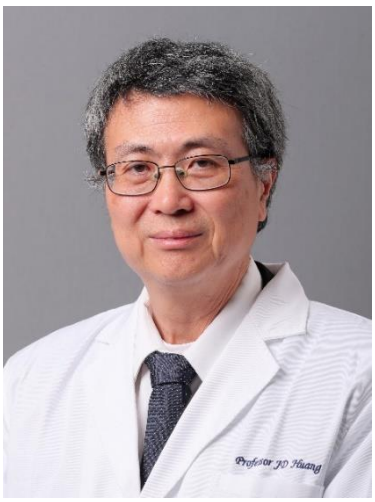
Biography



Professor Huang earned his Bachelor of Science degree from Fudan University, Shanghai and went to the United States through the CUSBEA* programme to pursue his doctoral study in transcriptional regulation during fruit fly embryonic pattern formation. He earned his PhD degree from the University of California, Los Angeles. Thereafter, Professor Huang received his postdoctoral training in mouse genetics at National Cancer Institute, National Institutes of Health in the US. During this period, Professor Huang was the first to report that the two major intracellular transportation systems of mammalian cells, the microtubule- and actin-filament-based system, directly interact with each other through their motor proteins, kinesin and myosin. Later, he established his own laboratory at The University of Hong Kong. Professor Huang is now Chair Professor of Synthetic Biology and the L & T Charitable Foundation Professor in Biomedical Sciences in the School of Biomedical Sciences, The University of Hong Kong.

Professor Huang's current research focuses on two areas: synthetic biology and intracellular transportation. For intracellular transportation study, Professor Huang has focused on illustrating the functions of a microtubule-based motor molecular, Kinesin-1, in different cell types, aiming at understanding its roles in different cell types in development and disease. For synthetic biology, Professor Huang has created novel genetic circuits for the control of gene expression and hence biological behaviour. One successful example is the design and assembly with his colleagues of a genetic circuit for the spatiotemporal control of cell distribution and function. This new circuit was used to reveal how repetitive biological structure could be generated and how the number of repeats in biological structures can be controlled. Most recently, his team further engineered the interactions among multiple cell types to generate biological structures. The ability for spatiotemporal control of gene activities, cell-cell interactions, cell distribution and function is very useful for future preventive and therapeutic medicine, which Professor Huang is applying to vaccine development and cancer therapy.

*CUSBEA stands for 'China-United States Biochemistry Examination and Application'.