

The Fifth Cheung On Tak International Award for Outstanding Contribution to Chinese Medicine

Synopsis

Systemic Investigation of Quality Research in Chinese Medicine Prof. Wang Yitao

The safety and efficacy of Chinese Medicine rely on its quality, which is the key to the modernisation, industrialisation, and internationalisation of TCM. In 2010, the Ministry of Science and Technology (China) approved the first state key laboratory in TCM, the State Key Laboratory of Quality Research in Chinese Medicine (SKL-QRCM, University of Macau) in Macau. The SKL-QRCM has focused on the quality studies of Chinese Medicine, and established a series of world-class research centers for systemic quality study of Chinese medicine, including Center for Efficacy, Center for Safety, Center for Stability, Center for Controllability and Center for Chinese Medical Information.

Efficacy Research: with a focus on the active ingredients (material foundation of Chinese medicine), action mechanisms and molecular pathways, we search for quality markers of Chinese medicine, as the key for quality control, and we explore the development of modern Chinese medicine products.

Safety Research: with a focus on the quantitative analysis of endogenous toxins, as well as exogenous toxins including pesticides, heavy metals, arsenic salts and biotoxins in Chinese medicine, we integrate multidisciplinary cutting-edge approaches and have innovated several breakthrough technologies and methods.

Stability Research: with a focus on new formulation innovation, new engineering technologies and new biomaterials, we revolutionise traditional formulations of Chinese medicine and pharmaceutical engineering technologies, to tackle the challenges of stability and standardisation of Chinese medicine.

Controllability Research: with a focus on innovative evaluation methods and advanced analytical technologies, we establish international quality standards for Chinese medicine. We have recently completed compilation of several Chinese medicine quality standards for EMEA*, US Pharmacopoeia, and Chinese Pharmacopoeia.

Chinese Medicine Information Research: with a strategic focus on the big data of Chinese medicine information, quality assurance and traceability systems, as well as systemic research on classical formulas of Chinese medicine, we study international registration of and international markets expansion for Chinese medicine.

With the efforts from all these centers, we have established 6 disciplines ranked as the global ESI Top 1% disciplines; have been recognised by the National Science and Technology Award, Macau Science and Technology Special Award, and Macau Education Merit Medal; we have nurtured more than 620 PhD and MSc graduates as high-calibre international talents, and have published more than 2,100 SCI papers including those in *Nature*, *Science*, and *Cell* series journals and other reputable journals. In addition, a series of innovative Chinese medicine products developed by our institute have recently been recognised by Geneva International Invention Gold Award. Therefore, we have provided an innovative platform and outstanding talents for the development of Chinese medicine technology

industry in Macau. President Xi Jinping inspected our innovative science and technology achievements in Chinese medicine at University of Macau in 2014, and inspected Peking University - UM Innovation Research Institute for Chinese Medicine in Hengqin (Zhuhai) in 2018.

* Europe, the Middle East and Africa