

# Promoting translational research and technology transfer

*SMU's support for cross-disciplinary research helps straighten the winding path to market.*

Broadening public access to benefit from research innovations is the ultimate goal for many researchers. At SMU, researchers supported by extensive infrastructure and resources have been helping speed up business-academia collaborations, promoting biomedical innovations for patient health.

## AI-EMPOWERED IMAGING ALGORITHMS

Specialists in the field of computed tomography (CT) have been looking to reduce exposure to X-ray radiation while maintaining image quality.

"Together with domestic leading medical companies, our cross-disciplinary research contributes to the development of deep-learning algorithms, and attracts students to exchange new ideas in developing innovative technologies," says Jianhua Ma, head of CT Imaging Lab of SMU.

Apart from promoting imaging of higher spatial-temporal resolution and precision, SMU's research into wide-detector low-dose CT technology has led to successful technological transfers, including more than 500 devices worth 1.31 billion yuan in three years.



## A NATIONAL MODEL FOR CONTRAST AGENT

Visual hints including left ventricular size and function are important prognostic factors for heart diseases. Echocardiography, an ultrasound diagnostic technique of the heart, requires contrast agents to better visualize blood flow through the heart muscle better.

SMU's self-developed sonicated 5% human serum albumin, approved in 2000 by the National Medical Products Administration (NMPA) for hospital use, is the first ultrasonic contrast agent developed in China. A second-generation model, a fluorocarbon-containing contrast agent, was approved by the NMPA in 2006, and achieved technology transfer to a Xiamen-based company in 2008.



## BENEFITING THE PUBLIC

The long list of SMU's innovations goes on, including:

- An international-first SARS antigen detection kit
- A migraine formula approved in 1988 by the National Medical Products Administration (NMPA)
- The only nationally protected medical formula targeting early and mid-stage chronic renal failure
- Herbal extracts for medicated toothpaste and polysaccharide-based supplements

