Department of Surgery
The Chinese University of Hong Kong
香 港 中 文 大 學 外 科 學 系

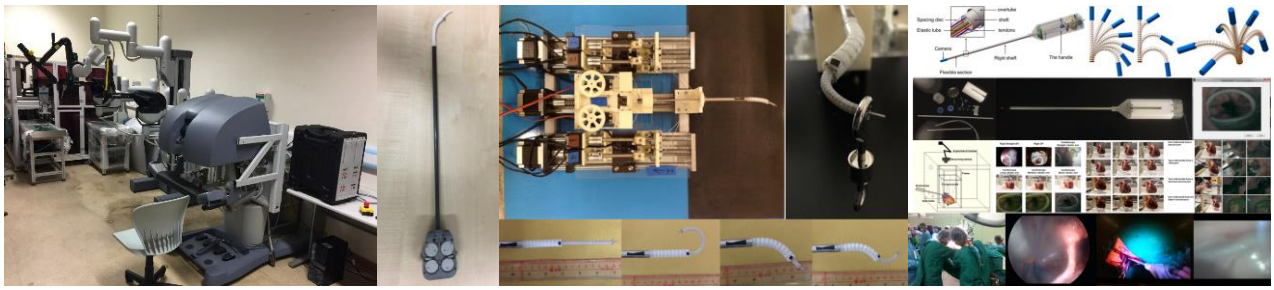
香港中文大學醫學院
Faculty of Medicine
The Chinese University of Hong Kong

Zheng LI
Research Lab - Biomedical Engineering

Projects for Postgraduate Students

Flexible Surgical Robot/Instrument

In this research direction, we design and study the biomimetic flexible mechanisms and develop novel instruments and/or robotic systems for minimally invasive surgery, single port access surgery and natural orifice transluminal/endoluminal surgery.



Soft Medical Robot/Device

In this research direction, we develop medical robots or devices by employing soft materials to enhance the safety, accessibility, maneuverability, dexterity, etc. during surgery or diagnostic procedure.

Interested candidates please send your CV, a brief research statement and supporting document to postgrad@surgery.cuhk.edu.hk for consideration. Applications are open year round.

Publications:

1. Yuan Han and Li Zheng, 'Workspace analysis of cable-driven continuum manipulators based on static model', Robotics and Computer-Integrated Manufacturing, 69 (2018) 240-252.2.
2. Yuan Han, Chiu Philip Waiyan and Li Zheng, 'Shape-Reconstruction Based Force Sensing Method for Continuum Surgical Robots with Large Deformation', Robotics and Automation Letters (RA-L), May, 2017
3. Li Zheng, Wu Liao, Ren Hongliang and Yu Haoyong, 'Kinematic comparison of surgical tendon-driven manipulators and concentric tube manipulators', Mechanism and Machine Theory, pp.148-165, vol. 107, Jan. 2017
4. Li Zheng, Yu Haoyong and Ren Hongliang "A novel constrained wire-driven flexible mechanism and its kinematic analysis", Mechanisms and Machine Theory, pp.59-75, Vol. 95, Jan. 2016
5. Li Zheng, Min Zin Oo, Varun Nalam, Vu Duc Thang, Hongliang Ren, Theodoros Kofidis and Haoyong Yu, 'Design of A Novel Flexible Endoscope - Cardioscope', ASME Journal of Mechanisms and Robotics, pp. 051014 1-9, Vol. 8, No. 5, 2016