The Robotics and Intelligent Machines Center at Chinese Academy of Science (CAS, Chongqing), as the youngest research institute of CAS system, is part of the Chinese National Robotic Initiatives. The center mainly focuses on assistive robotics with medical applications, including surgical robot, haptics, prosthesis, and human-interactive robotics. Collaborating with Cancer Center of Chinese Academy of Medicine Sciences and China Southwest Hospital, the pioneer of robotic surgery in China, we aim to develop an interdisciplinary community through engineers, scientists and clinicians, which will deliver novel surgical and interventional therapies to patients. The medical robotics research has been immersed with various other frontier researches, including Graphene-based MEMS, 3D Printing and prototype, Nonlinear Optics, and Terahertz Medical Imaging. The partnerships with hospital, industry and research institute, both domestically and internationally, have greatly contributed its technology advance. In this talk we will overview the development and application of the robotic minimally invasive surgery system in China, with particular emphasis on the compact, low cost and tele-operation design. With the evolution of the new technologies, we expect to create a semi or full automation of surgery plus operation simulation feature, which will allow surgeons to significantly improve the accuracy and efficiency of surgery in the future.