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Development History, Progress and Future Prospects of Biomechanics and Biorheology in Chongqing University

—For Specially Celebrating the Centennial of Professor Yuan-Cheng Fung

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Abstract: The biomechanics research of Chongqing University (CQU) began in the late 1970s, which has always been guided and helped by Prof. YC Fung. Prof. YP Wu, Prof. GR Wang at CQU were two of the earliest four Chinese scholars to visit and study in Fung's laboratory in the United States. In the autumn of 1979, Fung held a biomechanical workshop in CQU and the former Huazhong Institute of Technology. With the help of him, Prof. YP Wu founded the first Biomechanics Research Lab in China in the late 1970s. The first program for master's degree on biomechanics was approved to set up at CQU and other two universities in 1981, and the first program for doctor's degree on biomechanics was approved to set up at CQU and other two universities in 1986. Biomechanics discipline became the first National Key Discipline at CQU, and CQU got the first State Award for Inventions (1984) and Natural Science Award (1988) in the field of biomechanics and biorheology. The Open Lab on Biomechanics and Biorheology under the National Education Commission was set up in 1994. On the basis of the Institute of Biological Engineering personally inscribed by Prof. Fung, the College of Bioengineering of CQU was formally established in 1998, which developed from the Biomechanics Lab and Biomedical Electronics Teaching Lab that were built in 1979. Since then over ten research bases were approved to establish such as National "111 project" Base on Biomechanics and Tissue Repair (2006); Key Lab for Biomechanics and Tissue Engineering of MOE (2008)，the Chongqing Public Experiment Center of State Bioindustrial Base (2008), Key Lab for Biorheological Science and Technology of MOE(2011)，State and Local Joint Engineering Lab for Vascular Implants (2015). Biomedical engineering based on biomechanics and biorheology was approved to be first-level national key discipline and also supported by the National "211" and "985" projects. A series of studies on biomechanics and biorheology are flourishing in CQU. For example, CQU and other institutions jointly undertook a major project from the national natural science foundation" The relationship of stress and growth" and a general project from the national natural science foundation "An experimental study on the accumulation of the tension in the upper cell membrane of endothelium in shear flow field". A series of research papers on biomechanics and biorheology have been published in academic journals at home and abroad. Currently CQU has developed into one of the largest research teams and the most influential high-level talent training bases of biomechanics and biorheology in China. This review summarizes the history, progress and future prospects of biomechanics and biorheology in CQU so as to celebrate the Centennial of Prof. Y C Fung and encourage the later generations to go forward.

Keywords: Biomechanics; biorheology; progress; prospect; chongqing university

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