

Institute for Tissue Engineering and Regenerative Medicine, CUHK

INAUGURAL SEMINAR

TITLE

Recapitulating Embryonic Development to Regenerate Tendon with Stem Cells

SPEAKER

Catherine K. Kuo, Ph.D.

Associate Professor
Department of Biomedical Engineering,
University of Rochester
Department of Orthopaedics,
University of Rochester Medical Center
Center for Musculoskeletal Research,
University of Rochester Medical Center



DATE

16 April 2018 (Monday)

TIME

2:30 pm - 3:30 pm

VENUE

**G02, Lo Kwee-Seong Integrated Biomedical Sciences Building,
Area 39, CUHK**

ABSTRACT

Tendons play critical roles in skeletal movement and stability, yet when injured are incapable of healing with normal functional properties. This seminar will discuss our research to advance tendon tissue engineering and regenerative medicine strategies by recapitulating key aspects of embryonic tendon development and healing. To that end, we have been characterizing structure-property relationships of the developing embryonic tendon. Our findings have established novel markers to evaluate functional tendon formation and design parameters to engineer microenvironments that promote stem cell tenogenesis. Additionally, by elucidating specific mechanisms of embryonic tendon mechanical property elaboration during development, we have identified putative targets that may be manipulated to enhance functional tendon formation in tissue engineering or healing approaches.

BIOGRAPHY

Catherine K. Kuo is an Associate Professor in the Department of Biomedical Engineering, the Department of Orthopaedics, and the Center for Musculoskeletal Research at the University of Rochester. Dr. Kuo is the recipient numerous national and international awards and honors including Sweden's Go:Life Award for Innovation in Research (2015), Stem Cell Research and Therapy Emerging Investigator Award (2015), NSF CAREER Award (2013), and March of Dimes Basil O'Connor Starter Scholar Research Award (2011). Her research has been continuously funded by the National Institutes of Health (NIH), Department of Defense (DoD), National Science Foundation (NSF), March of Dimes Foundation, and Biogen Idec. She has been invited to speak by the National Academy of Engineering and the Royal Society of London. She serves on the editorial board for Biomedical Materials and the advisory council for the International Society of Ligaments and Tendons and holds leadership positions with the Orthopaedic Research Society (ORS). She received her B.S.E. in materials science and engineering and Ph.D. in biomaterials and macromolecular science and engineering from the University of Michigan and did her postdoctoral studies at the NIH in the Cartilage Biology and Orthopaedics Branch directed by Dr. Rocky S. Tuan.

~ All are Welcome ~

Contact:

3943 5204 (Nicole)
nicolewan@cuhk.edu.hk