

Project #8: Zigang Ge and Robert Guldberg: *Cartilage Regeneration with Functional Biomaterials and Quantitative Assessment of Regeneration*

Cartilage regeneration is a research focus of both the Guldberg lab from Georgia Institute of Technology and the GE lab from Peking University. The proposed collaboration between these two labs will integrate techniques and resources from the individual labs towards the development of effective strategies for functional restoration of degenerated articular joints. Ge's lab will establish rabbit models of meniscus injury and osteoarthritis (OA), while Guldberg's lab will employ self-developed high-resolution quantitative assessment 3D imaging technology to evaluate cartilage degeneration and regeneration in animal models. Both labs are currently developing strategies for cartilage regeneration, including biologics and functional biomaterials, and will test them in the jointly-developed animal model with quantitative assessment. Furthermore, they will work intimately with the orthopaedic surgery department at Peking University to provide clinical perspective to the project and progress towards developing improved therapeutic options for patients with cartilage injury and osteoarthritis.