Dr Jinwen Tu (centre)
ANZAC Research Institute, Concord Repatriation General Hospital, Sydney

*'Tamoxifen-Induced Deletion of the Glucocorticoid Receptor in Chondrocytes Enhances K/BxN Serum–Induced Arthritis in Mice'*

Glucocorticoids (steroids) have been used successfully for many years to treat rheumatoid arthritis (RA). We have a clear understanding of how these drugs work, but we know much less about how the steroids that are produced by our own body (endogenous glucocorticoids) also affect the development and severity of diseases such as RA and osteoporosis. Dr Tu will present research at the 2016 Annual Scientific Meeting of the American Society for Bone and Mineral Research (ASBMR), in Atlanta, Georgia, that demonstrates the importance of the interactions between endogenous glucocorticoid molecules and cartilage cells in the development of RA. In a series of laboratory experiments, Dr Tu has shown that blocking the ‘signals’ that cartilage cells receive from endogenous glucocorticoids results in loss of control of cartilage cell behavior. As a result, cartilage cells release molecules that stimulate inflammation, leading to the destruction of cartilage and bone that are characteristic of RA.  Understanding these complex processes is important in order to develop new, specifically targeted drugs that may help to control the devastating effects of RA on joints and bones.