



Using mouse models to understand osteoarthritis pathogenesis.

- Speaker:** Frank Beier, Canada Research Chair in Musculoskeletal Research, University of Western Ontario and a member of Western's Bone and Joint Institute. Professor and the Chair of the Department of Physiology and Pharmacology in the Schulich School of Medicine & Dentistry.
- When:** 4pm on Wednesday 7th of November 2018
- Where:** B2.36 & B2.37, TBSI

While osteoarthritis is one of the major causes of disability world wide, treatment options are very limited, largely because of our lack of understanding of the underlying mechanisms. Our lab is using mouse and rat models to identify these mechanisms, with focus on early osteoarthritis. We then select candidate genes for in depth studies using conditional mutagenesis approaches. We examine these mutant mouse strains in various forms of osteoarthritis, e.g. post-traumatic and aging-associated forms of the disease. Examples from our recent work will be presented, in particular studies on the gene Pannexin 3 (Panx3). Our work has shown opposing roles of Panx3 in different forms on osteoarthritis, providing further support for the emerging notion that osteoarthritis is not one singular disease but a collection of various phenotypes.



Frank Beier is the Canada Research Chair in Musculoskeletal Research at the University of Western Ontario and a member of Western's Bone and Joint Institute. He is a Professor and the Chair of the Department of Physiology and Pharmacology in the Schulich School of Medicine & Dentistry. His lab explores mechanisms controlling cartilage and joint biology, using genetically engineered mice in combination with surgical, dietary and activity manipulations. Dr. Beier has published over 100 peer-reviewed articles and gave more than 100 invited presentations. His work is supported by the Canadian Institutes of Health Research and The Arthritis Society. He was a member of the Board of Directors of the Osteoarthritis Research Society International, and is a current member of the Faculty of 1000 and several editorial boards, including the Deputy Editor for *Osteoarthritis & Cartilage*. He was the Chair of the 2017 Cartilage Gordon Conference and has recently completed a four-year term on the SBSR study section at NIH.