

Paxton Moon

2016 Scholarship Recipient

In 2016 I was fortunate to receive the Dick Heinegard Memorial Award, an OARSI Collaborative Scholarship. The receipt of this scholarship allowed me to travel to Paris, France and work in the lab of Dr. Francis Berenbaum over the summer of 2016. My project while there focused on understanding the role of Pannexin 3 (Panx3) in chondrocyte responses to mechanical loading, an extension of my PhD project that identified a protective role for Panx3 deletion in post-traumatic osteoarthritis. More specifically, we used the FlexorCell compression system to mechanically load rib cartilages obtained from WT mice and assess the magnitude of the response using prostaglandin E2 (PGE2) as a marker. Using various inhibitors of the proposed Panx3 mechanosensory pathways including Panx3 neutralizing antibodies, the P2Y receptor inhibitor Suramin, the channel blocking molecule probenecid and the ATP hydrolase Apyrase we compared mechanical responses between treated and untreated cartilages. Preliminary results suggest that treatment of cartilage with probenecid, suramin and Panx3 specific antibodies attenuates the mechanical response as indicated by reduced PGE2 release into the culture medium. These results provide us with more insights into the mechanism by which Panx3 loss protects against the development of post-traumatic osteoarthritis in mice.

This OARSI collaborative scholarship, in addition to providing me with an opportunity to travel to a new lab, learn new techniques and advance my project in ways I would not have been able to at my home institution it also enabled me to gain insights into the different ways research is done and medicine is practiced in a system quite different than that which exists in Canada. Furthermore, it allowed me to meet new people, and make new connections within the greater research community abroad all while exploring a new place and experiencing a new culture. Thank you OARSI for this truly amazing opportunity!

Paxton Moon, PhD

