

**Orthopaedic Research Society Meeting, San Francisco, 4-7<sup>th</sup> February 2012***'A Mechanosensory Role for the Primary Cilium in Human Mesenchymal Stem Cells'*

The Orthopaedic Research Society (ORS) is the leading conference in the field of Orthopaedics and is attended by over 3,000 delegates each year, bringing together Scientists, Engineers and Surgeons from across the world. At this year's conference, there were 2,500 posters on 26 different topics including areas of real interest to me including Cell and Molecular Biomechanics, Tissue Engineering and Bone. In addition to posters, there were numerous Workshops, Research Interest Group meetings and Oral presentations covering many topics in the Orthopaedic field. More information can be found at <https://www.ors.org/annual-meeting-2012/>.

This is my 3<sup>rd</sup> attendance at this meeting and each year I return home with a better understanding of the current state of the art in my field. There were many highlights to this year's conference. Of particular interest to me was a workshop on the regenerative potential of the periosteum. The periosteum is a vastly under researched region of the musculoskeletal system and is crucial in bone formation and repair. Understanding the mechanisms of periosteal mediated repair could reveal new approaches for bone regenerative medicine and tissue engineering. Other highlights included walking tours of the poster sessions by leading experts in each field within orthopaedics. This allowed one on one interaction with experts and an intimate interpretation of their take on the progress being made in my area of research.

At this year's ORS, I was fortunate enough to be shortlisted for the New Investigator Recognition Award (NIRA) which allowed me to present my work as both an oral and poster presentation. My work was entitled '*A Mechanosensory Role for the Primary Cilium in Human Mesenchymal Stem Cells*'. The primary cilium is a solitary, immotile, antenna like structure which extends from the surface of most cells in the human body. My work demonstrated that human MSCs present a primary cilium and utilize this cilium to sense extracellular fluid flow, regulating flow mediated changes in stem cell proliferation and osteogenic differentiation. Therefore this work highlights the cilium as a potential therapeutic target for efforts to enhance osteogenesis in bone loss diseases such as osteoporosis. Presenting at the ORS gave me an excellent platform to promote my research to a diverse audience, allowing me to enhance my research profile, receive helpful feedback and develop new collaborations with likeminded researchers.

I would like to take this opportunity to thank the Anatomical Society for facilitating my attendance at the Orthopaedic Research Society.

Dr David Hoey  
Lecturer in Biomedical Engineering,  
University of Limerick