

Breaking The Wall of Gene Therapy - Austyn Matheson

Austyn Matheson is one of the fifteen MSCA fellows who will participate in the Falling Walls Lab competition.

Austyn received a BSc in Mechanical Engineering from Queen's University (Canada) and an MSc in Bioengineering from Trinity College Dublin, completing her MSc thesis with the Tissue Engineering Research Group (TERG) at the Royal College of Surgeons in Ireland (RCSI). She held leadership roles in the medical devices industry at Xagenic Inc. (Toronto, Canada) before returning to academia and completing a PhD. in **Biomedical Engineering** at the University of Calgary (Canada) in 2020. During her PhD, Austyn initiated a collaborative project on **bio-lubrication of cartilage biomaterials** with the TERG at RCSI.



She joined TERG as a postdoctoral researcher in 2021 and is now the recipient of an ADMIRE Marie Skłodowska-Curie Actions Postdoctoral Fellowship to develop advanced materials for **osteocondral applications**. Austyn's research focuses on developing biomechanically inspired and gene-activated biomaterials for musculoskeletal tissue engineering applications. Her fellowship objectives are to investigate how the physical properties (bio-lubrication) of a cartilage biomaterial and the therapeutic factors it delivers (non-viral genetic cargoes) determine the regenerative capabilities of the implant. The future objective is to develop implants capable of **self-lubrication**, in order to improve the quality of life of people suffering from **joint disorders**.

