



CanCell 5th Annual Retreat, Keynote lecture I

Victoria Sanz-Moreno

Victoria Sanz-Moreno received her first degree in chemistry and later a masters degree in biochemistry from the University of Oviedo in Spain, followed by a PhD in chemical sciences at the University of Cantabria. After a short postdoc with a Lady Tata Memorial Trust Fellowship, she moved to the Institute of Cancer Research in London as a CRUK and Marie Curie Intra-european Fellow with Chris Marshall. In 2008, I received an EACR 40th Anniversary Research Award. In 2011 she established her lab with a CRUK Career Development Fellowship at King's College London. In 2015, she was highly commended as CRUK Communications and Brand Ambassador for communicating science to the public. In 2017 she was awarded the BSCB Women in Cell Biology Early Career Award Medal. The same year she received a CRUK Senior Fellowship and I was badged CRUK Werth Trust Fellow. Victoria joined Barts Cancer Institute (BCI-QMUL) as a Professor of Cancer Cell Biology in 2018. In 2019 she received paper of the year award at BCI and Distinguished Alumni Award at Colegio Inmaculada Gijon. In 2021 she was elected to be a part of the Phone App "La Milla de las Cientificas" together with other 8 female scientists. In 2022, she received the Estela Medrano Memorial Award from Society for Melanoma Research and the VP Award for Research Excellence from QMUL Faculty of Medicine and Dentistry. Victoria's lab works on understanding how Rho signalling and cytoskeletal dynamics control cancer cell growth and dissemination. Moreover, her lab is interested in deciphering how invasive cancer cells interact with their microenvironment while evading anti-cancer therapies.

Cytoskeletal remodelling as a key hallmark of cancer

Cell migration is essential for many biological processes, while abnormal cell migration is characteristic of cancer cells. Epithelial cells become motile by undergoing epithelial-to-mesenchymal transition (EMT), and mesenchymal cells increase migration speed by adopting amoeboid features via cytoskeletal remodelling. In this talk, I will highlight how amoeboid behaviour is not merely a migration mode but rather a complex cellular state- within the EMT spectra - by which cancer cells survive, invade and colonise challenging microenvironments. Molecular biomarkers and physicochemical triggers associated with amoeboid cancer cells and their nucleus will be discussed, including an amoeboid associated tumour microenvironment. I will reflect on how amoeboid characteristics support metastasis and how their liabilities could turn into therapeutic opportunities.