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Switching off the forces that drive pancreatic cancer: Current and future perspectives

Pancreatic cancer is the fourth leading cause of cancer in developed countries with a particularly grim outlook putting the median survival at less than 6 months and the overall 5-year survival rate at only 4%, arguably the worst of all cancers. Unfortunately, despite development of therapies to target specific pathways in cancer cells (in addition to surgical and radiotherapy approaches), there has been little improvement in the outcomes of patients with pancreatic cancer in the last three decades, possibly because an important element of the tumour microenvironment, the abundant stromal reaction or desmoplasia, has been largely ignored, and most studies have focused on the genetics and biochemical signalling in cancer cells themselves. In our lab, we combine cutting edge biophysics and mechanobiology tools to target mechanosensitive pathways in pancreatic stellate cells – the cells responsible for producing this fibrotic reaction in the microenvironment. In this seminar we will discuss the most recent discoveries in the biomechanics of pancreatic cancer.

Biography

Armando Del Rio Hernandez obtained his PhD in Chemistry from the Computense University in Madrid. Following this, he completed a period of Postdoctoral training in the US. He worked at Columbia University of New York as a Research Fellow first, and as a Research Associate, later. He currently leads the Cellular and Molecular Biomechanics group in the Department of Bioengineering at Imperial College London. He is a European Research Council Fellow and Editorial Board Member of several journals.

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