DBMR Research Conference

Langhans Auditorium
Murtenstrasse 31, 3008 Bern

Date: **Monday, February 5, 2024, 5 pm – 6 pm**

Title: **Leveraging Mechanobiology to treat Stiff Cancers**

Speaker: **Dr. Stephen Thorpe, Ad Astra Fellow – Assistant Professor**
UCD School of Medicine, University College Dublin, Ireland

Bio: Stephen is an Ad Astra Fellow and Assistant Professor in the School of Medicine and Conway Fellow at University College Dublin. A graduate of Mechanical and Manufacturing Engineering, Stephen was awarded a PhD in bioengineering from Trinity College Dublin in 2012. Stephen received a Marie Curie Postdoctoral Fellowship to investigate the biophysical regulation of genome function at Queen Mary University of London where Stephen remained as a part-time lecturer and BBSRC funded researcher until 2020. As someone working at the interface between cancer biology and bioengineering, Stephen is interested in how physical signals impact cell function in health and disease. His lab use ex vivo and in vitro tissue culture and mechanical perturbation approaches to explore the role of mechanobiology in cancer progression.

Abstract: Cells sense and respond to their physical environment through a process called mechanotransduction, whereby the cell translates an extracellular biophysical signal into an intracellular biochemical response. The nature of a cell's interaction with its extracellular matrix (ECM) dictates how the cell senses a given biophysical stimulus. Cellular sensitivity to biophysical signals depends upon its biomechanical state which is characterised by factors including cytoskeletal contractility and nucleus stiffness. Both cell-ECM connections and biomechanical state are cell-type dependent, and dynamically change during developmental processes such as differentiation and pathological disease progression. In this seminar I will highlight the role biophysical stimuli can play in directing cell fate, demonstrate how mechanical reprogramming of the tumour microenvironment could aid pancreatic cancer treatment, and outline a recently discovered mechanotransduction pathway involving cell surface receptor syndecan-4.

Dr. Stephen Thorpe has been invited by Prof. Dr. Marianna Kruithof-de Julio, Cancer Therapy Resistance, Department for BioMedical Research, University of Bern.

The DBMR Research Conference takes place from 5 pm – 6 pm and will be followed by an apéro.

Next DBMR Research Conference

Monday, March 4, 2024, 5 pm – 6 pm
Speaker: tba
Title: tba