



Mechanobiology of Cancer Summer School · 17-21<sup>st</sup> September 2019

Buzz Baum – 18<sup>th</sup> September 12.15

## Cancer cell division

The homeostatic state of a normal animal tissue relies on cells dividing with precision as and when required. By contrast, in order to generate a metastatic tumour, cancer cells must be able to divide across the wide range of physical-chemical environments they encounter during the path of tumour evolution. It is not understood cancer cells do this. In this talk I will discuss work in my lab that set out to identify aspects of cell division that differ between normal and cancer cells, and to explore how deregulation of the Ras-ERK pathway influences cell division under conditions of physical confinement like those found in a crowded tumour.

Buzz studied Biochemistry as an undergraduate in the UK, did his PhD with Paul Nurse, before joining Norbert Perrimon's lab at Harvard Medical School for a post-doc. After returning to the UK in 2001, he set up a lab at UCL, where he is a Professor of Cell Biology at the MRC-LMCB and the director of the Institute for the Physics of Living Systems (IPLS).

Buzz has long been interested in cell shape. More specifically, his team and their collaborators use a range of techniques to better understand the evolution of eukaryotic cell shape and division, to determine how cells regulate their form, and to determine how these processes contribute to normal tissue development and homeostasis and, when they go awry, to the evolution of metastatic cancer.