joint CANCER and BIOENGINEERING SANDWICH SEMINAR

“Stromal Function in the Tumour Microenvironment: You Are What You Eat”

Monday – June 2, 2014 – 12:15 p.m.
EPFL – room SV1717a

Dr. Jacqueline Shields
Group Leader, MRC Cancer Unit,
University of Cambridge (UK)

host: Prof. M. Swartz

Abstract

Non-cancerous cells within tumours form a supportive network commonly known as the tumour stroma. Lymphatic vessels found within stromal zones link a tumour to downstream lymph nodes and the immune system, yet in many cases the anti-tumour immune response is ineffective. The mechanisms by which a tumour evades destruction whilst being directly connected to the immune system still remains unclear, although it is becoming apparent that stromal components have the potential to directly contribute.

A subset of cancer–associated fibroblasts (CAF) share characteristics with lymph node stroma: a site of immune decision making within lymph nodes. One of these shared characteristics is the expression of podoplanin. Clinical studies have correlated its presence with poor prognosis, and in mouse models podoplanin-expressing stroma was also associated with enhanced tumour progression and changes in immune responses.

We are working towards identifying the mechanisms by which supporting cells within a tumour operate in favour of a developing tumour, and in particular, how the uptake of tumour cell debris may facilitate this. We show that CAFs are able to engulf and process tumour debris and soluble antigen, reminiscent of the lymph node stroma and therefore have the potential to directly modulate the developing anti-tumour immune response in situ.

Sandwiches will be provided