

## **PCL/17/03 - Characterising the role of CXCR2 signalling in colorectal cancer metastasis**

Colorectal cancer is the second most frequent cancer in our population. Half of the patients who die from the disease do so because their cancer has spread to other organs. At the moment surgery is the best way to treat cancer that has spread to the liver, although this is not an option for most patients. Cancer specialists have been trying to improve treatments by tailoring therapies based on the genetic make-up of a cancer. Knowing which genes are mutated in a patient's cancer enables scientists to predict what therapies might treat their cancers better. Certain cancers are known to express proteins that lead to aggressive disease and do not respond well to current therapies.

Cancer is reliant on a number of different factors to survive and thrive in other organs. My previous work has focused on immune cells, including neutrophils that are associated with the cancer and play a role in helping cancer spread. These cells interact directly with cancer cells, creating a suitable environment for successful cancer growth. A cell receptor CXCR2, has been proven to play a key role in migration of neutrophils to sites of spread in other cancers and these support cancer cell multiplication by protecting the cells from clearance by the patient's immune system. Our group has previously shown CXCR2 is important in generating tumours within the colon. The aim of my work is to assess the role of CXCR2 signalling in generating spread of colorectal cancer. I will determine which patients would benefit most from CXCR2 directed treatments. I will develop a laboratory platform for testing these treatments before trial in humans. I hope to provide evidence for targeting CXCR2 in colorectal cancer that has spread to the liver with the ultimate aim of making more of these tumours amenable to surgery.