

Cancer 2015

Cancer remains the biggest worldwide killer. More than one in three of us develop cancer at some stage in our lives. The post-genomic era has opened up major new approaches to develop a better understanding of the interaction between our genes and our environment, and to tackle cancerous cells at the molecular level.

The fight against cancer is on the move in Manchester. The University has established the Manchester Cancer Research Centre (MRCR), bringing together the University's researchers and the Paterson Institute for Cancer Research (funded by Cancer Research UK, the world's largest specialist oncology research charity).

The new Centre is developing its activities over the next five years to create the largest concentration of cancer researchers in Europe. The Centre will support and develop world-class translational and clinical research as well as basic research into the causes and progression of cancer.

The MRCR will also work in partnership with the Christie Hospital NHS Trust in Manchester, which treats more cancer patients (over 10,000 per annum) than any other hospital in Western Europe. This extensive patient base provides the active volunteer network required for clinical trials. The MRCR will ensure maximum benefit is derived from this via the largest facility for early-stage clinical trials in the world.

The focus on translational research will make full use of the University's £20 million Wolfson Imaging Centre. The imaging facilities at the WMIC are unique in the UK, and among only a handful of centres with similar capability in the world. A new partnership between the WMIC and arguably the most renowned cancer research centre in the world – the MD Anderson Cancer Centre at the University of Texas has recently taken place and Professor Juri Geolvani from the Centre of Advanced Biomedical Imaging Research at MD Anderson has been appointed to head up a new joint programme to develop new tracers for the study and treatment of a wide variety of tumors.

Recent research at the University has led to the discovery of a potential new way of killing tumours which could one day lead to alternative forms of cancer treatments. The research has identified a key gene that appears to play a critical role in the normal process of cell division. Cells divide creating new cells as part of the body's natural growth, renewal and healing processes but cancer results when cells divide in an uncontrolled way. The Manchester team has discovered that a protein in our cells called 'Bub 1' is essential for normal cell division to take place; if the gene that generates Bub 1 is 'switched off' then the cells are unable to divide successfully.

Other recent research at Manchester includes the discovery that a drug used to treat Alzheimer's patients could help prevent breast cancer from recurring.