Colorectal Oncogenomics Group

Identifying and investigating subtypes of colorectal cancer.

The Colorectal Oncogenomics Group's research program is focused on the identification of clinically and biologically relevant subtypes of colorectal cancer including hereditary colorectal cancer and polyposis syndromes. The Colorectal Oncogenomics Group uses genomic, epigenomic and transcriptomic profiling integrated with immune cell profiling, histopathological characterisation, environmental/lifestyle risk factors and clinical data to determine the underlying aetiology of colorectal tumourigenesis so that greater steps can be made towards personalised risk stratification for early detection and prevention of this disease.

Opportunity for PhD, Honours or Masters:

Unravelling the aetiology of Colonic Polyposis through multi-omic profiling

The development of a colorectal cancer (CRC) is usually preceded by pre-cursor/pre-malignant lesion called a polyp. There are two major types of polyp defined by histological features namely the adenomatous polyp and the serrated polyp. Individuals who develop 10 or more polyps throughout their colon are referred to as having polyposis, which predisposes individuals to develop CRC. Approximately 30-50% of individuals with adenomatous polyposis and the majority of individuals with Serrated Polyposis do not currently have a genetic basis identified for their disease. This project will utilise multi-omic approaches including genomics, gene and protein expression, microbiome and DNA methylation analysis to investigate the genetic basis of colonic polyposis. This project will develop expertise in molecular genetics/biology, histology, bioinformatic and statistical analysis. A stipend for this project is available to the selected student.

Contact us
Colorectal Oncogenomics Group
Associate Professor Daniel Buchanan
University of Melbourne
Department of Clinical Pathology
Victorian Comprehensive Cancer Centre
Level 10, 305 Grattan Street
Melbourne, Victoria 3000
+61 3 8559 6142
clinical-pathology@unimelb.edu.au

For more information, visit medicine.unimelb.edu.au/clinical-pathology