



THE UNIVERSITY OF
MELBOURNE

Faculty of Medicine,
Dentistry and Health
Sciences

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:

Genomic and Immune cell profiling of sebaceous skin lesions for optimising identification of patients with Lynch syndrome

Sebaceous neoplasms describe rare skin tumours involving the sebaceous glands that include sebaceous adenomas, sebaceous carcinomas and sebaceomas (collectively referred to as sebaceous neoplasia). Muir-Torre syndrome (MTS) is a phenotypic variant of Lynch syndrome, where carriers of germline mutations in the DNA mismatch repair (MMR) genes (MLH1, MSH2, MSH6, PMS2), develop sebaceous neoplasia and are at risk of developing internal (non-cutaneous) malignancies, predominantly colorectal cancer. Therefore, the presence of sebaceous neoplasia may be an early warning sign for Lynch syndrome, for which there are effective risk management plans for cancer prevention if a carrier is identified. We have assembled an internationally unique resource of sebaceous neoplasia tissue from Lynch and

non-Lynch individuals. The aim of this project is to profile the somatic mutation and immune cell landscape in sebaceous neoplasia from Lynch syndrome carriers and from non-carriers. This project will develop expertise in genomics, histology, bioinformatic and statistical analysis. The outcomes of this project will have significant international impact through development of genomic and immune landscape of sebaceous neoplasia which may result in improved triaging of patients who present with sebaceous neoplasia for the identification of Lynch syndrome. A stipend for this project is available to the selected student.



Contact us

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