

Fully funded North West Cancer Research PhD Studentship ‘Establishing the immune-profile of cholangiocarcinoma and the utility of human precision cut tumour slices (hPCTS) as a platform to assess immunotherapy response’

Department of Pharmacology and Therapeutics, The University of Liverpool.

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Cholangiocarcinoma (CCA) includes a cluster of highly heterogeneous biliary malignant tumours that can arise at any point of the biliary tree. Their incidence is increasing globally, currently accounting for ~15% of all primary liver cancers. The silent presentation of these tumours combined with their highly aggressive nature and refractoriness to chemotherapy contribute to their alarming mortality, representing ~2% of all annual cancer-related deaths and representing a global health problem. Novel targeted therapies are urgently required to improve the outcome for these patients.

This project aims to implement a human *ex-vivo* model, based upon precision cut cholangiocarcinoma tumour slices to evaluate the tumour immune microenvironment and understand the mechanisms of response/resistance to immunotherapies. The proposed research will be undertaken in the world-renowned Centre for Drug Safety Science at The Department of Pharmacology and Therapeutics, University of Liverpool.

Working as part of the liver team alongside other PhD students, post docs, academics and surgeons, our initial goal will be to determine the immune-profile of the TME from resected CCA specimens, before assessing hPCTS capability to recapitulate this immune-profile *ex-vivo*. We will then assess their utility as a novel platform to test response/resistance to various immunotherapeutic and chemotherapeutic regimes. The successful applicant will gain experience in flow cytometry, immunohistochemistry, slice preparation and *ex vivo* tissue culture, QRTPCR amongst others.

We welcome applications from highly motivated research students with expertise in pharmacology / biomolecular sciences and a passion for understanding the underlying mechanisms of hepatobiliary disease and improving patient outcomes. An MSc in cancer biology and /or immunology would be advantageous.

Email Dr Laura Randle (Laura.Randle@liverpool.ac.uk) to discuss this opportunity further.

The studentship is funded by the North West Cancer Research and is open to UK applicants.

The award will pay full tuition fees and a maintenance grant for 3 years. The maintenance grant is £19'000 per annum. To apply please send your CV and covering letter to Laura.Randle@liverpool.ac.uk.

Application deadline Friday 25th November, 5pm.