

ACF Medical Oncology Programme Details in conjunction with the University of Liverpool

Recruitment to posts starting by August 2022

Post availability

There is one post in Medical Oncology with a research theme of Platform Science (“omics”) and Bioinformatics

You can apply at ST1 OR ST2 level or above in this round of recruitment.

Please note if you are appointed at ST1 or ST2 level, you will be placed in an appropriate Core Medical Training track until you reach ST3 level.

Overview

These are up to three-year posts. Entry to the training posts will normally be at ST3 level however consideration will be given to candidates at ST1 or 2. During the post, trainees who are meeting ACF requirements can either apply for an “Out of Programme Research” (OOPR) or for an Academic Clinical Lecturer (ACL) post (see NIHR website guidelines). Trainees obtaining an ACF will be expected to complete their relevant medical oncology training including any exams during the normal time period.

The ACFs will have 25% protected research time to undertake preliminary work with the aim of acquiring experience and research outcome to provide a strong application for a research fellowship or a clinical lectureship post. This will be a part of their training programme and will not lengthen their training period.

Appointees who are not successful in obtaining a research training fellowship after three years will be allowed to enter directly into the clinical training programme in the deanery at an appropriate level. If this occurs, they will work in the same way as the other trainees on the programme and will no longer have the 25% of academic training time.

Training will take place in hospitals in the Mersey training programme, please refer to clinical training section.

You can find generic information about Academic Clinical Fellowships in the North West plus links to the National Institute for Health Research’s guidance via <https://www.nwpgmd.nhs.uk/nihr-academic-clinical-fellowships-glance>

Academic Training

These posts offer the opportunity for the successful applicants to become involved with a number of research activities currently undertaken within the academic department of medical oncology. The department has expertise and active research programmes in a number of areas including breast cancer (Prof Carlo Palmieri), Pancreatic Cancer (Prof Dan Palmer), Lung Cancer and head and neck (Prof Christian Ottensmeier) Melanoma and head and neck cancer (Dr Joe Sacco) and Ovarian Cancer (Dr Rosie Lord).

Trainees will have the opportunity to benefit from access to the Liverpool Clinical Trials Centre (LCTC), and it is anticipated that The ACF will be encouraged to develop a clinical trial idea and attend the ECCO-AACR-EORTC-ESMO Workshop on Methods in Clinical Cancer Research. Liverpool has previously lead the **North West Coast Genomic Medicine Centre** as part of the 100,000Genome Project (Cancer Lead: Palmieri), with opportunities for trainees to access the previously collected data and material collected as part of the programme for their projects. Liverpool is an **Experimental Cancer Medicine Centre (ECMC)** with expertise in cancer biology and pharmacology to develop novel biomarkers of efficacy, resistance and drug safety. The Liverpool ECMC capabilities amongst others include the ability to deliver first in man studies and a number of tumour biobanks as well the ability to collect relevant clinical samples. The ECMC also has access to all the requisite modern equipment and technology to undertake translational research. **Liverpool Cancer Research Institute (LCRI)** and the **Liverpool Centre for Cardiovascular Science (LCCS)** as designated research centres of excellence within the University of Liverpool. Cardio-oncology research is a key strategic priority for the LCRI and LCCS and multidisciplinary collaborative research between cardiology, oncology and basic science research is being developed. These academic links build on the strong clinical relationship **Liverpool Heart and Chest Hospital** and **The Clatterbridge Cancer Centre**, two large tertiary referral centres, which have developed a cardio-oncology service for the benefit of patients.

The ACF will be encouraged to apply and undertake a preceptorship run by the European Society of Medical Oncology. Training in regulatory matters related to the delivery of translational/clinical trials will be provided by spending time within the clinical trials unit.

The fellow will gain practical real world experience/insight of clinical trials by being appointed to the trial management group of a study led by one of the academic oncologists.

Research Areas / Research Environment

The research associated with these fellowship will concentrate on one of the key areas of interest within the academic group. These are described below:

Prof Ottensmeier (Translational Immunotherapy group) examine antigen specific immune responses by evaluating T cells in blood and tissue. A focus is the characterisation of immune cells that react with cancer cells, as well as how these immune cells are 'trained' in lymphatic tissue and within the tissue microenvironment. To this end the team uses human tissue from patients, predominantly with head and neck and lung cancer, and applies cutting edge analytics such as single cell analysis for genomic probing. Basic principles are evaluated in preclinical models, including mouse models to verify and to understand the molecular features that the team has uncovered in patient tissue, both independent of and as a consequence of treatment.

Strong links have developed with surgical team at Liverpool University Hospitals, the Liverpool Heart and Chest Hospital and with Southampton and Poole University Hospitals. Internationally, the group works with the laboratory of Prof. Vijayanand at the La Jolla Institute for Immunology, Dr. Laban at the Head and neck centre at the University of Ulm in Germany and the team of Dr. Kue Peng and Dr. Sok Ching at Cancer Research Malaysia. Strong collaborations with industry partners further extend our work. Multiple research projects exist also to examine clinical consequences and outcomes of cancer treatment.

Prof Palmer (Pancreatic and Hepato-Biliary Cancer) major research themes include Defining biomarkers and identifying high risk population at risk of pancreatic cancer for screening/early diagnosis (including a CR UK programme for early detection of pancreatic cancer); Investigating the role of the tumour microenvironment in cancer progression and response/resistance to therapy, with established preclinical in vitro and in vivo model systems and cutting edge methodology for interrogation of the immune landscape; Developing/validating predictive biomarkers and advanced statistical methodology for personalised therapies for hepato-biliary Cancer cancers. University of Liverpool and The Clatterbridge Cancer Centre are leading centre for HPB clinical and translational research, with established laboratories providing a supportive environment for the research projects.

Prof Palmieri (Breast Cancer) major research interests are in endocrine therapy for breast cancer in particular defining and understanding the role of the androgen receptor in ER-positive breast cancer and the development and testing of Selective Androgen Receptor Modulators (SARMs) as a novel form of endocrine therapy. The group is also involved in defining and characterising the genomic lesions within brain metastasis (BM) secondary to breast cancer (BC) and assessing the use of cfDNA from the CSF to delimitate the genomic lesions within brain metastasis with the overarching aim of trying to predict the

development of brain metastasis as well as the development of clinical trials based on the genomics of the brain metastasis. Work in both these areas are underpinned by in vitro models and tissue from patients from clinical trials and prospective collections.

The group is supported in its work by breast surgical (Ms Julia Henderson), and pathological (Dr Vijay Sharma) colleagues at the Liverpool University Hospitals NHS Foundation Trust as well by Prof Michael Jenkinson, Consultant Neurosurgeon at the Walton Centre. The group collaborates internationally in the field of nuclear receptor biology with colleagues at the Garvan Institute (Dr Elgene Lim) and at the University of Adelaide (Prof Wayne Tilley) with regard to the androgen receptor biology, as well as with pharma and genomic companies. An industry collaboration has resulted in the group having access to a large genomic dataset of sequenced brain metastasis secondary to breast cancer.

Dr Sacco (Head and Neck and Malignant Melanoma) runs a portfolio of both commercial and investigator led early phase trials with a focus on melanoma (and particularly uveal melanoma) as well as head and neck cancer. The applicant would have the opportunity to be involved in clinical and translational research investigating cutting edge agents including oncolytic viruses and TCR therapeutics. JS additionally is UK lead for an international uveal melanoma registry which will underpin further investigations/collaborations into this rare cancer. JS also work closely with Dr Anna Olsson-Brown who has collaborations investigating immune-oncology toxicity and who set up several trials and real world data collection initiatives in this area.

Cross-cutting research opportunities with other key specialties at the University of Liverpool exist and these build on strong clinical links these include (1) Projects based on the large prospective data set of cancer patients hospitalised with COVID-19 (currently >20,000) from the CCP-CANCER UK study which is co-lead by Dr Lance Turtle (Infectious diseases) and (2) A range of cardio-oncology projects these interdisciplinary research opportunities, range from epidemiology, data science, pathophysiology, translational science, and clinical studies in collaboration with Prof Greg Lip (Director of Liverpool Centre for Cardiovascular Science, University of Liverpool).

In developing and delivering their chosen research project, as well as any competitive fellowship application trainees' will benefit from access to (1) innovative samples/data eg pancreatic cancer, paired primary and brain secondary, as well as samples treated with novel agents eg enbosarm (1st in class SARM) and 100,000 genome data; (2) Innovative technologies including omics approaches; xenograft models and bioinformatic approaches;(3) innovative research approaches eg use of cell free DNA within the CSF to guide treatment of brain metastasis; as well as single cell analysis of pancreatic cancer; (4) Samples collected via the ECMC biomarker discovery programme which is

collecting prospective clinical samples that cross cuts all the key tumour types of research interest.

The research programme will be bespoke and centred on the trainees' interest.

An academic supervisor and a postdoctoral scientist for day-to-day laboratory support will be assigned to the post holder.

The ACF will develop pilot data to enable an application for a competitive clinical training fellowship.

The successful applicants will have the opportunity to gain more detailed information about each of the research areas outlined above, by having one-to-one discussions with the research lead. Following this, the fellows will decide on either of the research projects that most suits her/his interests, under the guidance of the academic supervisor.

Research Facilities

The projects will utilise a wide variety of platform science approaches as well as bioinformatics. Trainees will have access to **The Centre for Genomic Research** (MRC Genomics Hub since 2009) (Univ of Liverpool), which will enable access to single cell analysis, next generation sequencing platforms, expression profiling and 10x Genomics. While **Computational Biology Facility** (Univ of Liverpool) will provides up to date and innovative bioinformatics support. While **The Centre for Proteome Research** will support Protein Mass Spectrometry and discovery proteomics (UoL). **The Liverpool Clinical Trials Centre (LCTC)** has all the necessary infrastructure to enable the development and delivery of phase I to III clinical trials. As well as providing training related to undertaking studies with investigational medicinal products.

Clinical Training

If entering at ST1/2 the trainee will be on the IMT training programme, rotating around trusts in the Mersey region, to experience a range of medical specialties.

If entering ST3 or above the clinical training components of the posts will be as part of the Mersey Deanery medical oncology specialty rotation. Trainees will be posted to the Clatterbridge Cancer Centre NHS Foundation Trust in Liverpool and will also rotate to other hospitals within the region. They will obtain the full breadth of clinical experience and competencies necessary for completion of the Medical Oncology Curriculum.

In ST3 to ST6, the trainee will rotate through 6 month placements in medical oncology within the Clatterbridge Cancer Centre Higher Specialist Training

Programme. They will receive training in the management of patients with a broad range of cancers to enable them to achieve the competencies required for completion of the Medical Oncology curriculum. This will include attendance at outpatient clinics and MDT meetings, as well as gaining experience in acute oncology and the management of inpatients with the complications of cancer or its treatment. Trainees will attend local weekly oncology teaching and regional teaching.

Liverpool's first cancer hospital in central Liverpool opening in May 2020

The Clatterbridge Cancer Centre (CCC) NHS Foundation Trust is one of the UK's leading providers of non-surgical cancer treatment including pioneering chemotherapy, radiotherapy and eye proton therapy. Employing more than 1,200 staff members we cover a population of 2.4million people in Merseyside, Cheshire, North Wales, the Isle of Man and parts of Lancashire. Caring for over 7,600 inpatients each year, our extensive network of clinics at 15 local hospitals provides highly-specialist cancer care at almost 150,000 outpatient appointments annually.

An £162 million investment has been made in facilities including a new cancer hospital in the heart of Liverpool was open in June 2020. Based on the same research and healthcare campus as the University of Liverpool and Royal Liverpool University Hospital, the new hospital will ensure every patient receives truly outstanding care and can access the most advanced treatments and clinical trials for generations to come. In addition, the extremely close proximity of the hospital and the key research facilities at the university (these are separated by a small road) will enable academics and trainees to work in a virtually seamless fashion and will be an enabler of bed to bench research as well as closer working between clinicians and scientists.

Academic Supervisor

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You can find out more about the clinical training programmes in the North West via the following link - <https://www.nwpgmd.nhs.uk/specialty-schools>

Clinical person specifications can be found via the following link - <https://specialtytraining.hee.nhs.uk/Recruitment/Person-specifications>.

Useful Links

<https://www.orient.nhs.uk/Web/Vacancies>

<https://www.nwpgmd.nhs.uk/nhr-academic-clinical-fellowships-glance>

<https://specialtytraining.hee.nhs.uk/Recruitment/Person-specifications>

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