THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF BIOLOGY, MEDICINE & HEALTH

SCHOOL OF MEDICAL SCIENCES

DIVISION OF CANCER SCIENCES

RESEARCH ASSOCIATE IN CANCER CELL BIOLOGY

VACANCY REF: BMH-030120

Salary:	£37,694 - £46,049 per annum depending on experience
Hours:	Full time (1 FTE)
Duration:	Fixed term from 5th January 2026 until 30th June 2028
Location:	Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:
Name: Angeliki Malliri
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Background

Most Small Cell Lung Cancer (SCLC) patients have metastatic disease at the time of diagnosis, consequently having poor prognosis with median survival <1 year. Druggable driver oncoproteins are rare in SCLC, confounding approaches to treatment and the development of therapeutics. Therefore, new insights into the biology of SCLC are required to identify mechanistic vulnerabilities and guide future drug development. SCLC tumours are considered predominantly neuroendocrine (NE) and are classified into subtypes based on the expression of different NE-defining transcription factors. However, a second, non-neuroendocrine (non-NE), cell type exists within SCLC tumours, as demonstrated in genetically engineered mouse models, patient-derived xenografts, patient-circulating tumour cell-derived explants (CDX), and patient tumours. This intra-tumoural heterogeneity arises through NE cells transitioning to non-NE, wherein they lose expression of NE transcription factors and gain expression of non-NE markers. This process is driven by MYC and NOTCH1 activity, includes a substantial transcriptional change and a shift in culture from growth as floating clusters to adherent monolayers. Importantly, cooperation between non-NE and NE cells is required for metastasis in

mice, and non-NE cells are chemoresistant. Therefore, discerning the mechanisms that drive this transition is important for understanding the aggressive nature of SCLC.

We have previously identified a role for the small GTPase RAC1 in SCLC NE cell survival and have pilot data revealing a role for RAC1 signalling in promoting NE to non-NE transition. This project focuses on two transcription factors, which we have identified as being downregulated downstream of NOTCH1 and RAC1 signalling during the transition. We will discern the genes regulated by these transcription factors and their interactors required for the maintenance of NE phenotypes and investigate the mechanism by which they suppress the transition to non-NE to limit the metastatic potential of SCLC.

The research will be part of an integrated, interdisciplinary research programme aimed at investigating the mechanisms promoting heterogeneity in small-cell lung cancer. The studies will integrate cellular, molecular biology and biochemistry techniques, including high-resolution and high-throughput microscopy, several omics techniques (RNA sequencing, ChIP sequencing, RIME, proteomics), mass spectrometry, as well as bioinformatics. This position is funded by Northwest Cancer Research. The job is targeted at highly motivated individuals who are looking for an exciting project to make new discoveries in the above research areas.

Prof. Malliri's group is located within state-of-the-art laboratories at the Oglesby Cancer Research Building (OCRB) as part of the Manchester Cancer Research Centre (MCRC).

To read more about Prof. Malliri's past and current research and the research environment please visit the following website:

https://research.manchester.ac.uk/en/persons/angeliki.malliri

Overall Purpose of the Job

To undertake innovative research under the supervision of Prof. Malliri to realise the objectives and development of the research programme, as outlined above.

Key Responsibilities, Accountabilities or Duties

The range of duties will include:

- Be involved in the assessment of student knowledge and supervision of projects.
- Assist in the development of student research skills.
- Develop research objectives and proposals for own or joint research, with the assistance of a mentor if required.
- Conduct individual and collaborative research projects.
- Write up research work for publication.
- Continually update knowledge and understanding in field or specialism.

- Translate knowledge of advances in the subject area into research activity.
- Deal with routine communication using a range of media.
- Communicate complex information, orally, in writing and electronically.
- Prepare proposals and applications to external bodies, e.g. for funding and contractual purposes.
- Communicate material of a specialist or highly technical nature.
- Liaise with colleagues and students.
- Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
- Join external networks to share information and identify potential sources of funds.
- Manage own research and administrative activities, with guidance if required.
- Work with colleagues on joint projects, as required
- Collaborate with academic colleagues on areas of shared research interest.
- Attend and contribute to relevant meetings.
- Use new research techniques and methods.
- Use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio.
- Use creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Contribute to collaborative decision making with colleagues in areas of research.
- Use research resources, laboratories and workshops as appropriate.
- Plan and manage own research activity in collaboration with others.
- Balance, with help, the competing pressures of research and administrative demands and deadlines.
- Be aware of the risks in the work environment and their potential impact on their own work and that of others.

Person Specification

Essential

- Have, or be about to obtain, a relevant PhD or equivalent
- Specialist knowledge in the disciplines of cell biology, biochemistry, molecular biology, small cell lung cancer, RAC signalling, cell-cell interactions and mechanisms of migration and invasion
- Experience in research methods associated with the above, particularly with respect to the culture and manipulation of primary cells, migration and invasion assays, including 3D spheroid assays and super-resolution and high-throughput microscopy
- Excellent communication and interpersonal skills
- Excellent time management and organisational skills
- Ability to work independently and as part of a team

- Ability to liaise confidently and effectively with a range of individuals
- Flexible approach to dealing with research problems as they arise
- Willingness to learn and develop
- Ability to present in both written and oral publications
- Ability to meet deadlines
- The ability to evaluate complex data
- Ability to contribute to broader management and administrative processes.
- Ability to assess and organise resources
- Understand equal opportunity issues as they may impact areas of research content.