CANCER RESEARCH UK | Manchester Institute

Job Reference Number:	MI/25/17_2
Position:	Computational Immunologist
Group/Department:	Cancer Inflammation and Immunity
Salary:	£31,000 - £37,000 (dependent upon experience)
Duration:	3 years fixed term

CRUK MI FURTHER PARTICULARS

disability confident LEADER

Cancer Research UK Manchester Institute is a Research Institute within The University of Manchester and is core funded by Cancer Research UK

MANCHESTER 1824
The University of Manchester

CANCER RESEARCH UK | Manchester Institute

PARTICULARS OF APPOINTMENT

Ref: MI/25/17_2

Job Title: Computational Immunologist

1. The Institute invites applications for the above post.

2. Salary will be within the range of £31,000 - £37,000 per annum, dependent upon experience.

3. Applications should be submitted via JobMarker, the online recruitment system by the closing date as stipulated in the advert.

4. For applicants who require assistance with their application please contact the HR Department for further information on:
   Tel: +44 (0) 161 306 9752
   Email: ***jobs@cruk.manchester.ac.uk***

5. Informal enquiries can be made to Dr Santiago Zelenay: santiago.zelenay@cruk.manchester.ac.uk

6. Applicants are advised that if the Institute receives a high level of applications, we reserve the right to close the vacancy earlier than advertised.

7. The Institute will endeavour to contact shortlisted candidates promptly. However, there may be occasions where a high volume of applications are received, therefore an applicant's patience is appreciated.

8. As an equal opportunity employer, we welcome applicants from all sections of the community regardless of age, sex, gender (or gender identity), ethnicity, disability, nationality, religion or belief, sexual orientation, marital or transgender status. All appointments are made on merit.

9. As our Computational Immunologist you will be a visible presence within the Institute, providing professional and timely services within your role.

COPY OF THE ADVERTISEMENT

The Institute will actively foster a culture of inclusion and diversity and will seek to achieve true equality of opportunity for all members of its community.

Computational Immunologist

- Salary in the range of £31,000 - £37,000 (dependent upon experience)
- Job Ref: MI/25/17_2
- Duration: 3 years fixed term

About the role:

Immunotherapy has revolutionised survival outcomes for cancer patients across different malignancies but only a minority of patients respond. Biomarkers that can reliably distinguish responders from non-responders, predict treatment-induced toxicities, or rationalise treatment choices are lacking. To address these clinical unmet needs, the Cancer Inflammation and Immunity group at CRUK Manchester Institute (CRUK MI) led by Santiago Zelenay and the CRUK National Biomarker Centre (CRUK NBC) led by Caroline Dive have established a pioneering patient derived tumour fragment (PDTF) platform building on the ground-breaking work of collaborators at The Netherlands Cancer Institute (Voabil et al. 2021, *Nature Medicine*, Roelofsen et al. *START Protocols*, 2023). We are using PDTFs as *ex vivo* patient avatars to test rational therapeutic approaches within standard of care treatment options to predict efficacy.

We are seeking to recruit a highly motivated immunologist with computational skills to join the patient derived tumour fragment (PDTF) platform team within the context of a government-funded MANIFEST (Multi-omic ANalysis of Immunotherapy Features Evidencing Success and Toxicity) consortium (Lim et al, *Cancer Discovery*, 2025), a tumor type-agnostic platform to provide deep profiling of patients receiving immunotherapy.

About you:

You should have a BSc degree or equivalent in biological sciences or a related subject (or equivalent relevant experience), together with knowledge and significant experience working in immunology research. Experience in computational analysis of multiparametric data, immune profiling approaches along with a strong work ethic, and motivation to succeed are essential.

You will be comfortable working in fast paced environments and able to adapt to the changing needs of a dynamic research project. You will have and further develop computationally biology skills to undertake comprehensive data analysis and

integration of multi-omic datasets generated in the context of the PDTF platform team. You will work together with members of the PDTF team and the Cancer Inflammation and Immunology group, in collaboration with the Computational Biology Core facility at CRUK MI, and the Bioinformatics and Biostatistics team at CRUK NBC and the wide network of scientist, computational biologists and clinicians within the MANIFEST consortium. This is an exciting opportunity to work on a cutting-edge clinically relevant platform learning from, and training, a highly dynamic and collaborative team of PhD students, Clinical Fellows, Postdocs, Scientific Officers and Computational Biologists.

Why choose Cancer Research UK Manchester Institute and the CRUK National Biomarker Centre?

The Cancer Research UK Manchester Institute (www.cruk.manchester.ac.uk) and the Cancer Research UK National Biomarker Centre (https://cruknbc.org/) are world-leading centres in cancer research. Both CRUK MI and CRUK NBC are core funded by Cancer Research UK (www.cancerresearchuk.org), the largest independent cancer research organisation in the world. In spring 2023, we moved into the new Paterson Building, a £150 million flagship purpose-built biomedical research centre directly attached to The Christie NHS Foundation Trust (www.christie.nhs.uk), in South Manchester.

We are partnered with The Christie NHS Foundation Trust, one of the largest cancer treatment centres in Europe. These factors combine to provide an exceptional environment in which to pursue basic, translational and clinical research programmes.

About Cancer Inflammation and Immunity Research Group

Please visit our website to view information about Cancer Inflammation and Immunity Research Group: https://www.cruk.manchester.ac.uk/team-member/santiago-zelenay/

How to apply?

To apply for this position please complete the online application via 'Apply Now'. Please ensure you detail the names of two referees and ensure you submit your application before the closing date specified.

Please note this vacancy will close for applications at 11:59pm on the closing date specified.

For any informal enquiries about this post, please contact Dr Santiago Zelenay: santiago.zelenay@cruk.manchester.ac.uk

Disabilities and alternative formats

The University of Manchester is a disability confident Leader and is committed to supporting disabled people in recruitment, employment, and career development. We will make reasonable adjustments to enable applicants to compete to the best of their ability wherever it is reasonable to do so. Therefore, if you have any additional support needs throughout the recruitment process or require documentation in alternative formats, please do not hesitate to contact the HR Department, for further information, on:

Tel: +44 (0) 161 306 9752

Email: ***jobs@cruk.manchester.ac.uk***

The Disability Confident scheme, accredited by the Department for Work and Pensions (DWP), helps employers recruit, retain and train great people. Disability Confident organisations play a leading role in changing attitudes about, and increasing understanding of, disability. There are three levels of the scheme with Leader being the highest.

CANCER RESEARCH UK MANCHESTER INSTITUTE
JOB DESCRIPTION

JOB DETAILS

Job Title: Computational Immunologist

Grade: MI3

Department: Cancer Inflammation and Immunity

Division: CRUK Manchester Institute (CRUK MI) and CRUK National Biomarker Centre (CRUK NBC)

ORGANISATIONAL ARRANGEMENTS

Accountable to:
1. Group Leader Cancer Inflammation and Immunity Group, CRUK MI
2. Director of CRUK NBC
3. Team lead of Translational Immunology Group at CRUK NBC

BACKGROUND

Immunotherapy has revolutionised survival outcomes for many patients diagnosed with cancer. However, biomarkers that can reliably distinguish responders from non-responders, predict treatment-induced toxicities, or rationalise treatment choices are lacking. To address these clinical unmet needs, the Cancer Inflammation and Immunity group at CRUK MI led by Santiago Zelenay and the CRUK NBC led by Caroline Dive have established a pioneering patient derived tumour fragment (PDTF) platform building on the ground-breaking work of collaborators at The Netherlands Cancer Institute (Voabil et al. 2021, *Nature Medicine*, Roelofsen et al. *START Protocols*, 2023). PDTFs are generated from freshly surgically resected tumours and retain the architecture and microenvironment within the tumour fragments including immune cells. Crucially, the immune response measured in these PDTFs following PD-1 blockade *ex vivo* is highly concordant with the clinical response to immune

checkpoint blockade in the donor patient. We are using PDTFs as *ex vivo* patient avatars to test rational therapeutic approaches within standard of care treatment options to predict efficacy.

As part of a government-funded MANIFEST (Multi-omic ANalysis of Immunotherapy Features Evidencing Success and Toxicity) consortium (Lim et al, *Cancer Discovery*, 2025), a tumor type-agnostic platform to provide deep profiling of patients receiving immunotherapy, we are seeking to recruit a highly motivated computational immunologist to join the PDTF team at the Cancer Inflammation and Immunity group (CRUK MI) and Translational Immunology team (CRUK NBC).

JOB PURPOSE

To perform state-of-the art computational analysis and integration of multi-omic datasets generated by the PDTF team. You will have and further develop computationally biology skills to undertake comprehensive data analysis and integration. These will include multiparametric immune profiling of tumour patient samples including spectral flow analysis of PDTF infiltrating immune cells and their secretome, as well as spatial cellular and molecular profiling of the corresponding baseline FFPE tumour surgical specimens.

You will work together with members of the PDTF team and the Cancer Inflammation and Immunology group, in collaboration with the Computational Biology Core facility at CRUK MI, the Bioinformatic and Biostatistics team at CRUK NBC and the wide network of scientist, computational biologists and clinicians within the MANIFEST consortium.

The post-holder should have knowledge in immunology and previous experience in computational analysis of multiparametric data and be willing to further develop computational biology skills for immune profiling.

The post-holder will apply their own computational analysis expertise, leverage expertise from the PDTF team, Cancer Inflammation and Immunology group, and the MANIFEST consortium and work collaboratively to:

DUTIES AND RESPONSIBILITIES

- To contribute to the success of a research programme by undertaking specific research project(s) on behalf of and guided by the Team Leaders.
- To work with members of the PDTF team, Cancer Inflammation and Immunity group, and MANIFEST consortium to collaboratively undertake computational data analysis and integration.
- To implement computational methods and data analysis pipelines enabling effective and efficient data analysis.
- To be inquisitive, collaborative and proactive.
- To use established procedures and develop new approaches; to independently acquire new skills.
- To maintain accurate records of analyses and approaches.
- To perform data curation and annotation.
- Contribute to the preparation of manuscripts for scientific publication.
- To summarise results and deliver analyses on data sets to team members and group leaders.
- To manage time efficiently to bring projects to completion within a range of agreed deadlines.
- To work independently and to be responsible for defined areas of a research project and consult with others where appropriate.
- To modify procedures and routines to increase efficiency.
- To work closely with other facilities and Computational Support, in particular, to progress sample analyses.
- To stay abreast of literature and identify new data analysis methodologies or technology that would be advantageous to the group.
- To prepare for and attend weekly laboratory meetings.
- To work with team members on site.
- To present and discuss your work with team members and colleagues to obtain feedback and facilitate knowledge sharing.
- To deliver formal presentations of your work at team meetings/wider Institute to communicate findings, progress, and results to a broader scientific audience.
- To attend the Institute retreat, space permitting.
- To interact with academic, clinical and industry collaborators.
- To adhere to the rules and regulations of any facilities, in house or external, that needs to be accessed during the work programme.
- To conform to COSHH, Codes of Practice, and Local and Institutional Rules.
- To perform other functions consistent with the position and nature of the post as determined by the Group Leader.

STANDARDS OF PERFORMANCE

- Work efficiently, cost-effectively and in a flexible manner.
- Meet objectives within pre-determined timescales.
- Effective communications to be maintained with staff at all levels.
- Strict adherence to protocols and Institute policies.
- Comply with Health & Safety requirements, including having an awareness of personal responsibilities to maintain a safe working environment.
- Contribute to the University's agenda for social responsibility, including sustainability.
- Maintain confidentiality of information in line with data protection requirements and University.
- Familiarise yourself with the University's Equality and Diversity policies and to actively support these wherever possible.
- Be a team player.
- Strive to accomplish high quality of work.
- The post holder may be offered Hepatitis B immunisation by a vaccination programme, although this is dependent on the nature of the work and the availability of vaccine.

PERSON SPECIFICTION

The person specification should set out the qualifications, experience, skills, knowledge, personal attributes, interests, other requirements which the post holder requires to perform the job to a satisfactory level

Job Title: **Computational Immunologist**

	ESSENTIAL The qualities without which a post holder could not be appointed	*DESIRABLE* Extra qualities which can be used to choose between candidates who meet all the essential criteria	*METHOD OF ASSESSMENT*
QUALIFICATIONS	• BSc degree (or equivalent) in Biological Sciences or related subject (or equivalent relevant experience). OR • A degree in Computational Biology/Bioinformatics, Mathematics or related discipline or substantial relevant experience.	• Research experience in biological sciences at the PhD or postgraduate level. • Health and Safety qualifications. • Academic training to include cancer biology. • Relevant postgraduate degree in computer science or bioinformatics (or related field) plus significant relevant experience	Application form and Presentation of certificate
EXPERIENCE	• Significant experience of working in immunology research. • Experience of analysing 'omics data and access/analysis of publicly available data. • Experience in assays for analysis of the immune system, for example profiling of immune-cell subpopulations by flow cytometry, blood/tissue profiling of cytokines, chemokines and other	• Proven ability to work effectively. • Experience of working in cancer biology research. • Experience of processing and/or analysis of clinical samples. • Experience in carrying out NGS sequencing experiments. • Familiarity with analysis of gene expression. • Familiarity with analysis of spatial high-dimensional data.	Application form, References, Publications and Interview

EXPERIENCE contd …	immune-related factors, immune gene expression analysis. • Ability to write and maintain documents such as protocols and standard operating procedures. • Contribution to peer reviewed scientific publications.		Application form, References, and Interview
SKILLS	• Excellent interpersonal skills with ability to establish effective working relationships, build networks and manage expectations. • Some experience writing code in R, Python, or another relevant language. • Ability to work independently. • Demonstrable time-management skills. • Ability to design experiments and interpret results. • Accurate comprehensive record-keeping, attention to detail. • Excellent communication skills, written and verbal. • Effective organisational skills and good multi-tasking ability. • Problem solving capabilities. • Creative thought	• Substantial experience writing code in at least R, Python, or another relevant language. • Familiarity with computer databases in a laboratory context, e.g. LIMS systems. • Excellent Presentation skills. • Ability to inspire and motivate colleagues, including students and technicians.	Application form, References, and Interview

SKILLS contd …	regarding key scientific issues. • Ability to search and monitor the scientific literature to identify and interpret relevant publications. • Computer literate, familiarity with MS office package. • Ability to work under minimal supervision.		Application form, References, and Interview
KNOWLEDGE	• A strong foundational knowledge of immunology. • Working knowledge of "Health and Safety at Work" requirements. • A general knowledge of cancer. • Computational skills for analysis of omics data.	• Knowledge of cancer inflammation, immunology and immunotherapy. • Knowledge in the field of bioinformatics and computational biology as applied to cancer studies.	Application form, References, and Interview
OTHER	• Willingness to travel. • Willingness to work out-of-hours. • Self-motivated. • Meticulous. • Demonstrates initiative. • Team player. • Interactive. • Organised. • Ability to work to strict deadlines. • Ability to work well within a team framework as well as on an individual project. • Technically focused. • Willingness to learn new	• Able to demonstrate creativity and innovation.	Application form, References, and Interview

	experimental techniques. • Willingness to implement new management and experimental techniques. • To be willing to work across organisational boundaries. • To seek new knowledge and share ideas. • To be open and responsive to change and innovation. • To show commitment to equality and fairness and integrity in dealing with others.		

THE CITY OF MANCHESTER AND THE REGION

Manchester is one of the great European cities and the Cancer Research UK Manchester Institute is located a short distance from the city centre and is serviced by regular public transport to the city centre. The city's architecture represents one of the high points of Victorian achievement. The modern city is a major centre of banking, commerce and manufacturing.

It is consistently ranked as the best liveable city in the UK by the Economist Intelligence Unit. In 2021, Manchester was ranked in the top 3 of the TimeOut World's Best Cities list with the comment, "the friendliest city with the best community spirit and top-notch nightlife including its Gay Village and Northern Quarter in the heart of the city." It has a highly cosmopolitan atmosphere, and its cultural life is internationally renowned.

Manchester offers extensive provision for research. Library facilities include the John Rylands University Library (the major library in the North West and the third largest in the country) and the Manchester Central Reference Library.

Housing is varied, plentiful and the price ranges can start moderately priced and are as varied as the requirements. Schooling ranges from world-famous private schools to excellent sixth-form colleges and comprehensives.

Manchester is well served by a major international airport, with direct scheduled flights to many destinations in Europe as well as North America and Asia. Some of the most beautiful countryside in Europe is just short of an hour's drive from the Institute in the Peak District National Park, while the Lake District and Snowdonia in Wales are also within easy reach.

Manchester Piccadilly railway station has been refurbished and is served by inter-city and other train services – with a direct link to Manchester Airport. The network of Metrolink tram services offers an alternative mode of public transport from certain parts of the conurbation and includes connections near to the Institute.

There are three outstanding professional theatre companies, the halls of the Hallé and BBC Philharmonic orchestras, the Cornerhouse as well as other cinemas, and Europe's fastest-growing Chinatown.

Amongst the developments enriching the area's cultural life have been the opening of the Lowry Centre and Media City at Salford Quays; the opening of the Bridgewater Concert Hall; the refurbishment of the City Art Gallery; the opening of Urbis in the centre of Manchester and of the Imperial War Museum North, designed by Daniel Libeskind, in Trafford.

Trafford, specifically Old Trafford, is known internationally for sport, it is a venue for Test cricket and the home of Manchester United FC. The Commonwealth Games were held in Manchester in 2002 and were highly acclaimed. The Commonwealth Stadium became the home of Manchester City FC in 2003.

OUR BENEFITS PACKAGE

Facilities and General Discounts

We have a wide range of fantastic facilities for you including coffee shops, cafes, and restaurants in various buildings on Oxford Road, library, museum, art gallery, theatre (providing music and drama) and the world-famous radio telescope at Jodrell Bank. You can attend a varied programme of events at these, many of which are free to staff. Staff also have a plethora of discounts available to them on fitness, entertainment, restaurants, hotels, supermarkets, and online retailers.

Health and Fitness

We have a fantastic range of sports and fitness programmes across three of the best sports facilities in the city of Manchester. Each of our facilities provides something for everyone and are in convenient locations across Oxford Road, Fallowfield and all the way into the City Centre. Staff have a discounted membership to these facilities.

Wellbeing

The Institute is committed to supporting staff wellbeing and have a range of resources available. This includes a free 24/7 helpline through our Employee Assistance Programme which allows staff to talk in confidence to trained counsellors and advisers on areas like emotional, physical, and mental health.

The University's counselling service offers confidential help with any personal issues affecting work, self-esteem, relationships, sexuality, mental health and general well-being. It is accessible to all staff and is part of a wider network of help and support; and can advise on where else to seek help and make referrals to NHS mental health services.

The University's Occupational Health service provides confidential services to protect the health of staff and ensures that all health issues are effectively managed. Additionally, the Institute has wellbeing working groups and employee champions to support staff.

We offer a generous annual leave allowance of 32 days per year, (pro rata for part time staff) plus bank holidays for England. The Institute gifts an additional day's leave on Christmas Eve.

Travel

The Institute is committed to reducing its environmental impact and actively supports and promotes travel by sustainable means. We work closely with The Christie NHS Foundation Hospital to have a green travel plan that aims to provide a package of measures that increase the travel options available to staff. These options include as a Cycle to Work Scheme and annual interest-free travel loans with Northern Rail, Stagecoach and Metrolink.

Family Friendly Support

If you have childcare responsibilities the Institute can provide you with a range of support to assist you in balancing your work and home life commitments. Information is available on the government's Tax Free Childcare Scheme and The University's Workplace Nursery Scheme. We also have a range of family friendly policies and staff have the right to request to work flexibly.

Equality, Diversity, and Inclusion (EDI)

The Institute is committed to creating an environment where diversity is celebrated and everyone is treated fairly, regardless of gender, gender identity, disability, ethnicity, religion or belief, sexual orientation, marital or transgender status, age, or nationality. The Institute has an EDI committee which provides leadership, drive and strategic direction on equality, diversity, and inclusion across all parts of the Institute. The committee will seek to promote cultural change and ensure that the EDI action plan is embedded across all functions of the Institute.

Personal Development

Whether you are a research scientist, technical or operational staff, you will receive excellent on the job training and an opportunity to share skills experience and expertise in a collaborative environment. The Institute has a range of training available for support and professional development.

Disability

The Institute is committed to providing a positive working environment free from discrimination, harassment, or victimisation due to a disability where all staff are treated with respect and dignity. The Institute has access to a Disability Advisory and Support Service (DASS) which has a dedicated disability adviser for staff to provide advice, guidance and support about a range of practical adjustments in the workplace.

Pension

We have two generous pension schemes to provide benefits for you and your family. For more details, please contact the HR department.

ADDITIONAL RECRUITMENT AND SELECTION PARTICULARS

Shortlisted Candidates:

1. We will reimburse reasonable travel expenses. You need to retain all your receipts, as you will need to submit these with your expense claim form. This form will be given to you when you attend your interview.

2. If candidates require accommodation the Institute can arrange this for you. Please notify the HR Department as soon as possible so that this can be arranged on:
   Tel: +44 (0)161 306 9752
   Email: ***jobs@cruk.manchester.ac.uk***.

   *Please note that reimbursement for accommodation may **not** apply.*

3. If candidates have any additional support needs to enable them to attend an interview, they will be able to request/discuss this with the HR department when arranging the interview.

4. Shortlisted candidates may be expected to complete a presentation as part of the selection process. Information regarding the duration and title of the presentation will be provided in the invitation to interview correspondence. We supply both laptop and projector for presentations.

5. All dates and times stated in correspondence from the Institute refer to UK BST (British Summer Time).

6. Candidates need to bring along their passport to interview, a copy of which will be taken for our records, when you visit the Institute. If candidates have difficulty in producing their passport, please contact the HR Department prior to the interview on:
   Tel: +44 (0)161 306 9752
   Email: ***jobs@cruk.manchester.ac.uk***

7. MS Teams or **Zoom interview with or without presentation:**
   Instances may arise where we propose to hold an online interview as a (first stage) selection process. If this is the preferred method of interview, this will be

stated on your invite to interview email. You will be provided with a link and password to attend the interview at a specified time on a specified date. This link will redirect you to your MS Teams/Zoom interview. 24 hours prior to interview we will require:

- A contact telephone number emailed to ***jobs@cruk.manchester.ac.uk*** along with a scanned copy of passport for ID purposes
- Where applicable, a copy of your presentation emailed to: ***jobs@cruk.manchester.ac.uk***.

***Please note*:**
You do not have to have a Zoom account to attend a Zoom interview. You will be prompted to download the software, once you have clicked on the link that you have been provided. You do, however, need to have a working microphone and camera connected to your electronic device, for this interview to go ahead.

The criteria will be consistent with all other candidates.

STANDARD CRUK MANCHESTER INSTITUTE TERMS AND CONDITIONS

The following is a basic summary of the standard terms and conditions applicable to the post you have applied for:

- The post of Computational Immunologist is on a Cancer Research UK pay scale. It's on an MI3 grade with a salary range of £31,000 - £37,000 per annum (dependent upon experience).
- Your employment will be with The University of Manchester appointed under the Cancer Research UK Manchester Institute terms and conditions.
- Salary is paid monthly on the penultimate last working day of the month.
- There are 32 days holiday per year plus Bank Holidays for England.
- Duration of contract is 3 years fixed term.
- Working hours are 35 hours per week.
- There is a probationary period attached to this post of 6 months. It's standard for many organisations now and consists of two 3-monthly reviews with your line manager.
- You are eligible to join USS (https://www.uss.co.uk/) pension scheme.
- Any offer made by the Cancer Research UK Manchester Institute would require the successful candidate to undergo a medical clearance. This is arranged with Occupational Health department at The University of Manchester prior to starting employment and consists of a basic medical. This is to address and gain clearance for any potential hazards identified for the role on offer.
- Offer is subject to receipt of satisfactory references and proof of your highest qualification.
- Offer is subject to documented evidence of your right to work in the UK under the Home Office UK Border Agency Regulations.
- The successful candidate is required to complete a Rehabilitation of Offenders/Criminal Records declaration form at the offer stage of the process.

Please note a criminal record will not necessarily be a bar to obtaining a position.

- The Institute is promoting a green travel plan and there are staff benefits promoting this including a cycle to work scheme and the use of public transport. There are strong links to bus routes and trains to all CRUK Manchester Institute locations. More information about this can be found on our 'Our Benefits Package' page or by contacting the HR Department.

  Please note there are car parking restrictions imposed around these sites.

DON'T FORGET TO FOLLOW US ON SOCIAL MEDIA

#LifeAtCRUKMI

CANCER RESEARCH UK | Manchester Institute

THANK YOU!

Cancer Research UK Manchester Institute is a Research Institute within The University of Manchester and is core funded by Cancer Research UK