Biomarker Data Analyst
Candidate Information

May 2025

The Institute of Cancer Research

About our organisation

We are one of the world's most influential cancer research institutes with an outstanding record of achievement dating back more than 100 years. We are world leaders in identifying cancer genes, discovering cancer drugs and developing precision radiotherapy. Together with our hospital partner The Royal Marsden, we are rated in the top four centres for cancer research and treatment worldwide.

As well as being a world-class institute, we are a college of the University of London. We are consistently in the top performing universities in the league table of university research quality compiled from the Research Excellence Framework (REF 2014 & 2021). We have charitable status and rely on support from partner organisations, charities, donors and the general public. We have more than 1000 staff and postgraduate students across three sites – in Chelsea and Sutton.

The Clinical Trials and Statistics Unit (CTSU)

Under the directorship of Professor Emma Hall, the ICR-CTSU is an internationally recognised, methodologist-led academic clinical trials unit (CTU), with over 30 years' experience in the design, conduct and analysis of cancer clinical trials. ICR-CTSU receives programmatic core funding from Cancer Research UK and is UK Clinical Research Collaborative registered.

ICR-CTSU translates cutting-edge science into quality clinical trials that can transform cancer care, by:

- Leading patient-centred trials of smarter, kinder therapies that treat cancer more precisely
- Transforming the way we design and conduct trials with innovations in trial methodology
- Learning as much as we can with integrated translational research and data science
- Championing purposeful and inclusive patient and public involvement
- Embedding research to improve the sustainability of our trials
- Supporting interdisciplinary training to empower the next generation of trialists.

ICR-CTSU is a key part of the ICR/Royal Marsden Centre for Trials and Population Data Science. The Centre brings together expertise across the two institutions to advance methods-based and methodologist-led research to improve cancer research outcomes and quality.

Biomarker Data Analyst
Candidate Information

ICR-CTSU's portfolio of national and international phase II and III trials covers a wide range of disease sites from common cancers (e.g. breast, prostate, lung) through to rarer malignancies (e.g. ovarian, testicular, penile). Our expertise in intervention assessment includes novel targeted drugs and immunotherapy, hormonal therapies and chemotherapy, radiotherapy (including advanced targeted technologies), drug-drug and drug-radiotherapy combinations, imaging technologies and diagnostics/companion diagnostics. Our cross-cutting Integrative Genomic Analysis team facilitates interrogation of the wealth of emerging trial data to further understand mechanisms of action and markers of treatment sensitivity or resistance and to translate novel diagnostic, prognostic and therapeutic strategies into clinically relevant biomarker-driven trial designs. Our Early Phase and Adaptive Trials team provide methodology leadership to an expanding number of early phase trials.

Recent publications highlighting the breadth and impact of our portfolio include:

- PACE: radiotherapy in five larger daily doses is as good as the standard 4-week therapy for patients with low/favourable intermediate risk prostate cancer (New Engl J Med 2024); the most recent of our long-standing portfolio of phase III radiotherapy trials to report practice changing results.
- plasmaMATCH: pioneering evidence to support the use of liquid biopsy ctDNA mutation detection to inform targeted treatment selection for breast cancer patients thus avoiding the need for invasive tumour biopsies (Lancet Oncol 2020).
- POUT: adjuvant chemotherapy improves outcomes for patients with upper tract urothelial cancer (J Clin Oncol 2024)
- NICAM: a phase II study demonstrating activity of nilotinib in a rare form of melanoma with a mutation in the *KIT* gene (Cell Rep Med 2024).

We are a multi-disciplinary CTU, with more than 90 staff including statisticians/methodologists, clinical trial programme management, trial management, data management, research IT programming and administrative support staff. We are based at ICR's Sutton site.

We have over 75 multi-centre trials in set up, open to recruitment, or in active or long-term follow-up. Our senior management team hold leadership roles shaping clinical research at the local, national and international level.

Further information is available at:

ICR www.icr.ac.uk | **Facebook** www.facebook.com/theinstituteofcancerresearch

ICR-CTSU www.icr.ac.uk/research-and-discoveries/centres-and-strategic-collaborations/clinical-trials-and-statistics-unit-icr-ctsu | **Bluesky** @icr-ctsu.bsky.social

Biomarker Data Analyst
Candidate Information

Job description

Department / division:	Clinical Trials and Statistics Unit (ICR-CTSU), Division of Clinical Studies
Pay grade / staff group:	Analytical Scientist 3
Hours / duration:	Full time (35 hours per week), Monday to Friday. Fixed term contract for 3 years in the first instance with possible further extensions dependent on funding.
Reports to:	Group Leader, ICR-CTSU
Main purpose of the job:	To work on analyses of biological data (for example, genomic, transcriptomic and proteomic datasets) to address correlative science hypotheses, identify biomarkers of resistance and evaluating the clinical utility of genomics tests

Role Summary:

The post-holder will be based at ICR-CTSU (in Sutton) where they will work as part of multi-disciplinary project teams. The focus of the work will be analyses of translational data (for example, genomic, transcriptomic and proteomic datasets) from the cancer trials to address key correlative science hypotheses, determine the clinical utility of genomic tests, e.g. ctDNA assay and opportunity to integrate data from spatial biology techniques. Bioinformatics work will primarily focus on identifying biomarkers of resistance in molecular data generated from the clinical samples taken from the biomarker-enriched breast cancer trials but may include analysis and support to other similar clinical-focused studies.

We seek a highly motivated Biomarker Data Analyst with expertise in correlative science and biomarker research to join our biomarker translational research efforts. Practical oral and written communication skills and enthusiasm for team-based science in a collaborative interdisciplinary environment are essential.

Duties and responsibilities:

The post-holder will be a member of the statistical team at ICR-CTSU and part of the Integrative Genomics Analysis in Trials Group within the Division of Clinical Studies. They will work across a varied portfolio of clinical studies under the guidance of the ICR-CTSU Genomic Analysis Group Lead and Principal Statistician. They will be supported in their career development with a range of formal courses and on-the-job training as appropriate. Specific duties and responsibilities will include some or all of the following:

Biomarker Data Analyst
Candidate Information

Duties and responsibilities

Analysis and Management of Clinical and Biological Data

Integration and visualisation of datasets from clinical and multiple high-throughput omics platforms.
Interrogate clinical outcomes data to clinically qualify biomarkers of interest.
Analysis of spatial transcriptomics and proteomics data
Develop and define translational statistical analysis plans
Pathway activity analyses (including proteomic data).
Perform analyses on correlating data generated from exome and whole genome sequencing, RNA-seq and/or digital gene expression profiles data with patient's outcome in clinical trials.
Apply as appropriate data interrogation methods and advanced multivariate statistical methods (e.g. Lasso regression).
Work with IT programming/database staff to set-up, test and maintain translational databases as required.
Undertake interim analyses and produce reports for submission to the Independent Data Monitoring Committee

Trial Initiation and Design

Develop and define appropriate translational or biomarker study/clinical trial questions and endpoints with Protocol Development Group (with clinical colleagues, translational expert, proposed chief investigator, ICR-CTSU scientific lead, trial statistician) including, as appropriate, a review of the available literature and analysis of data available from other sources.
Develop the translational sub-study protocol/study protocol with Protocol Development Group, particularly the statistical considerations of endpoint definition, sample size and data collection tools/methods.
Develop the (biological) statistical analysis plan ensuring compliance with relevant guidelines.
Contribute to the development of (biomarker-related) trial literature (e.g. patient information leaflets and ethics committee submissions).
Liaise and collaborate with trial co-coordinators and specialist advisors working on translational studies/clinical trials.
Contribute to submission to grant awarding bodies for external funding of specific translational/clinical trial projects as appropriate.

Management and Analysis of Trials

Assist and advise our trial teams at ICR-CTSU who managed the clinical aspect of cancer trials on their work to ensure completeness and correctness of trial data, in all aspects related to biological data and liaisons with the different collaborating laboratories.

Biomarker Data Analyst
Candidate Information

Assist the trial manager in the preparation of reports for Trial Management Group and Trial Steering Committee meetings in the specific translational aspects of the main trial.
Assist the trial statistician in the reports for the Independent Data Monitoring Committee meetings in the specific translational aspects of the main trial.
Undertake or assist the trial statistician in the final analyses of the translational/biomarker endpoints. Compilation of reports for presentation and publication.
Contribute to the drafting of translational/biomarker focused manuscripts for scientific publication.
Perform exploratory analyses.
Research and utilise appropriate statistical methodologies. Work with statistical colleagues to develop or modify novel statistical methodology as required by each analysis. This may include collaboration with others with similar interests to develop professional specialism.
Explore opportunities for appropriate analysis of data from similar studies in order to perform a systematic overview or meta-analysis.

Other duties

Keep up to date with the related medical, bioinformatics and statistical literature.
Actively contribute to national citizenship in areas of statistical aspects of translational research (e.g. membership of Data Monitoring, ethics or R&D committees, editorial boards, journal reviews).
With statistical colleagues, monthly review of Royal Marsden Hospital (RM) or ICR research projects submitted to the joint RM/ICR Committee for Clinical Research.
Contribute to monthly meetings of ICR-CTSU statisticians and ICR bioinformaticians, to the ICR-CTSU monthly journal review
Provide occasional consulting advice to clinical and scientific colleagues and occasional lectures on undergraduate, postgraduate medical and nursing courses run locally.
Attend statistical and medical meetings both locally and externally, as appropriate.
Adhere to relevant standard operating procedures and work within the guidelines laid out by the ICR-CTSU Quality Management System.
Keep up to date with the related medical, bioinformatics and statistical literature.

General

All staff must ensure that they familiarise themselves with and adhere to any ICR policies that are relevant to their work and that all personal and sensitive personal data is treated with the utmost confidentiality and in line with the General Data Protection Regulations
Any other duties that are consistent with the nature and grade of the post that may be required

Biomarker Data Analyst
Candidate Information

To work in accordance with the ICR's Values
To promote a safe, healthy, and fair environment for people to work, where bullying and harassment will not be tolerated

Biomarker Data Analyst
Candidate Information

Person specification

Education and Knowledge

First degree in (bio)statistics, bioinformatics, genetics or a related field with a strong statistical / mathematical component.	Essential
Post-graduate qualification in biostatistics, bioinformatics, computer science or related field.	Essential
Higher degree (MSc or PhD) in bioinformatics or computational biology or biostatistics or computer science or in a related quantitative field	Desirable
Basic knowledge of biology	Essential
Understanding of the concepts of SNPs, genetic association studies, gene signatures, statistical genetics	Essential
A good understanding of cancer and its treatment modalities.	Essential
A sound understanding of the concept of randomised clinical trials.	Essential

Skills

Working knowledge of statistical software (e.g. R, STATA, SAS).	Essential
Scripting experience in Unix/Linux.	Desirable
Excellent written and spoken English.	Essential
Effective oral and written communication skills.	Essential
Excellent organisational and time management skills; ability to organise and prioritise both personal and project workload.	Essential
Ability to work accurately, with a strong attention to detail.	Essential
Excellent interpersonal skills to facilitate liaison with colleagues and trial collaborators.	Essential
Basic laboratory skills	Desirable

Experience

Experience of analysing biomarker or genetic/genomic data and associated clinical data.	Essential
Experience of working as an applied translational statistician/analyst within academia or the pharmaceutical industry.	Essential
Experience of working as a clinical trials statistician.	Desirable
Experience of applying data interrogation and/or multivariate statistical methods.	Essential

Biomarker Data Analyst
Candidate Information

Experience in data integration and visualisation.	Essential
Experience with regression modelling in survival analysis, development, and validation of prognostic and predictive models.	Desirable
Experience in relational databases.	Desirable
Experience of and familiarity with clinical trials procedures.	Desirable
Experience with sample size calculations.	Desirable
Experience of working in the cancer field.	Desirable
Statistical experience of clinical trials, epidemiology, or an allied research field.	Desirable
Experience of statistical and critical review of documents.	Desirable
Laboratory experience	Desirable

General

Ability to project a positive and professional image of the ICR-CTSU both to ICR and external collaborators.	Essential
Ability to maintain adherence to written procedures and clinical and regulatory standards applicable to ICR-CTSU clinical trials.	Essential
Experience of working on and with a trial management committee.	Desirable
Experience of handling sensitive and confidential information.	Desirable

Biomarker Data Analyst
Candidate Information

Our values

The ICR has a highly skilled and committed workforce, with a wide variety of roles, each requiring different skills. But whether you work as a researcher, or work as part of our corporate team, your work and behaviour is underpinned by these six values. They are what bring us together as one team - as 'One ICR'.

Pursuing excellence

We aspire to excellence in everything we do, and aim to be leaders in our field.

Acting with Integrity

We promote an open and honest environment that gives credit and acknowledges mistakes, so that our actions stand up to scrutiny.

Valuing all our people

We value the contribution of all our people, help them reach their full potential, and treat everyone with kindness and respect.

Working together

We collaborate with colleagues and partners to bring together different skills, resources and perspectives.

Leading innovation

We do things differently in ways that no one else has done before, and share the expertise and learning we gain.

Making a difference

We all play our part, doing a little bit more, a little bit better, to help improve the lives of people with cancer.

Our values set out how each of us at the ICR, works together to meet our mission – to make the discoveries that defeat cancer. *They summarise our desired behaviours, attitudes and culture – how we value one another and how we take pride in the work we do, to deliver impact for people with cancer and their loved ones."*

Professor Kristian Helin
Chief Executive

Biomarker Data Analyst

Candidate Information

Benefits

We offer a fantastic working environment, great opportunities for career development and the chance to make a real difference to defeat cancer. We aim to recruit and develop the best – the most outstanding scientists and clinicians, and the most talented professional and administrative staff.

The annual leave entitlement for full time employees is 28 days per annum on joining. This will increase by a further day after 2 years' and 5 years' service.

Staff membership to the Universities Superannuation Scheme (USS) is available. The USS is a defined benefit scheme and provides a highly competitive pension scheme with robust benefits. The rate of contributions is determined by USS and details of the costs and benefits of this scheme can be found on their website. If staff are transferring from the NHS, they can opt to remain members of the NHS Pension Scheme.

We offer a range of family friendly benefits such as flexible working, a parents' group, and a maternity mentoring scheme. Other great benefits include interest free loans for discounted season tickets for travel and bicycle purchases, access to the NHS discounts website, a free and confidential Employee Assistance Programme which offers a range of well-being, financial and legal advice services, two staff restaurants, and access to a gym and sporting facilities at our Sutton site.

Further information

For informal discussion about the role please contact Dr Maggie Cheang, email: maggie.cheang@icr.ac.uk. For general queries about the recruitment process, please contact ICR-CTSU, email: ctsu@icr.ac.uk.

This job description reflects the current position and is subject to review and alteration in detail and emphasis in the light of future changes or development.

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