



## **Post-Doctoral Scientist – Computational Biology**

LifeArc is the new name for MRC Technology, a medical research charity with a 25 year legacy of helping scientists and organisations turn their research into treatments and diagnostics for patients. LifeArc is pioneering new ways to turn great science into greater patient impact. It brings together a network of partners to tackle specific diseases and directly funds academic and early stage research. Our Centre for Therapeutics Discovery (CTD) in Stevenage operates at the interface between academic research and the drug discovery industry. We take novel academic targets and generate lead stage small molecules and therapeutic antibodies for indications with unmet medical need.

The Milner Therapeutics Institute is a new biomedical research institute at the University of Cambridge, dedicated to the conversion of basic science into therapies. Its mission is to foster close collaborative interactions between academia and industry to accelerate medical advancement. The computational biology research group at the Institute is developing cutting-edge computational methods and applying them to identify new or better drug targets from the analysis of biomedical datasets across therapeutic areas.

Early this year, LifeArc and the Milner Therapeutics Institute set up a new partnership to identify and validate new drug targets in immune-oncology and respiratory diseases. Under this new collaborative research projects, cutting-edge computational approaches, including artificial intelligence, machine learning, statistical and mathematical methods, are being developed and applied to pharmacogenomics and drug discovery processes to identify novel therapeutics targets, stratify patient populations and predict efficacy of new and existing drugs. Combining the drug discovery expertise of LifeArc with the machine learning and computational analysis expertise of the Milner Therapeutics Institute facilitates the identification and selection of novel targets for drug discovery.

We are looking for a Post-Doctoral scientist to provide support for our on-going LifeArc-Milner collaborative projects. The post-holder will integrate, refine and analyse biological (multi-omics) data in order to identify, validate and prioritise novel drug targets, with a special focus on establishing disease associations. The post-holder will be required to develop a framework for large scale data analysis which will involve collation and analysis of data from a variety of sources including third-party data, in-house data and publicly available datasets. The post-holder will be co-located at LifeArc and the Milner Therapeutics Institute to take full advantages of both environments and also work at the interface between industry and academia.

### **Responsibilities:**

1. Identify disease associations for the targets of LifeArc drug discovery programmes
2. Analyse internal as well as published biological or medical datasets with a focus on targets of interest for LifeArc
3. Provide bioinformatics support for data analysis, interpretation and presentation.
4. Work closely with other scientists at LifeArc and Milner to contribute to various research projects
5. Gather requirements, develop software collaboratively, propose validation experiments etc.

6. Present ideas and results, including issues and possible solutions
7. Publish (or contribute to the publication of) research findings and computational tools/resources in peer-reviewed journals

## Requirements:

- Essential:
  - PhD in Bioinformatics or Computational Biology or a related discipline
  - Expertise in computational analysis on biological and clinical data
  - Statistical background in machine-learning, survival or Bayesian techniques
  - Experience in the use of a scripting language (ideally Python)
  - Experience in Next Generation Sequencing data analysis such as ChIP-seq and RNA-seq
  - Experience in integration, curation and analysis of large scale database such as TCGA
  - Experience in the use of relational databases such as MySQL or PostgreSQL
  - Good theoretical knowledge of DNA & RNA bioinformatics
  - Working knowledge of LINUX operating systems
- Desirable:
  - Experience with machine learning and statistical computing software such as R and MatLab
  - Experience of automating procedures for routine data-analysis, programming, evaluation and assessment
  - Experience with installing, using and maintaining local databases; genomic information database deployment
  - Downstream data modelling, including pathway analysis and clinical association studies
  - Experience with data visualisation
  - Experience with front-end web development and associated languages/frameworks

In addition to the technical requirements listed above, the following attributes and skills are essential:

- Ability to carry out independent research, but accept guidance
- Ability to establish and manage productive collaborations
- Excellent communication skills and proven skills in collaborative projects between industry and academia
- Interpersonal skills to ensure technical tasks can be understood by non-bioinformaticians and the ability to translate the needs of end-users of the data into a framework for delivery
- Proven ability to work well as part of a team
- Conduct research with due regard to Data Protection policies
- Proven track record of applying informatics-based techniques to solve drug discovery problems



Your salary will be determined by qualifications and experience. In addition, LifeArc offers a defined contribution pension scheme, private health insurance, a flexible benefits scheme and 31 days paid holiday per year.

The post will be mainly based at LifeArc, Accelerator Building, Open Innovation Campus, Stevenage, SG1 2FX. At least one day per week will be at the Milner Therapeutics Institute, Cambridge Biomedical Campus, CB2 0RE.

LifeArc is committed to the principles and practices of equal opportunities and to encouraging the establishment of a diverse workforce. It is our policy to employ individuals on the basis of their suitability for the work to be performed and their potential for development, regardless of age, sex, race, colour, nationality, ethnic or national origin, disability, marital status, pregnancy or maternity, sexual orientation, gender reassignment, religion or belief. This includes creating a culture that fully reflects our commitment to equal opportunities for all.

For informal enquiries please contact Dr Namshik Han ([n.han@milner.cam.ac.uk](mailto:n.han@milner.cam.ac.uk)).

To apply please email your CV and covering letter explaining why you want to work for LifeArc to: [recruitment@lifearc.org](mailto:recruitment@lifearc.org).

Closing date: 28<sup>th</sup> January 2019