Postdoctoral Researcher in Bioinformatics

(Development of a cloud-based platform for cancer immunotherapy)

School of Mathematical and Statistical Sciences

Ref. No. University of Galway 270-22

Applications are invited from suitably qualified candidates for a full-time fixed-term position as a Postdoctoral Researcher in Bioinformatics within the School of Mathematical and Statistical Sciences at the University of Galway.

This position is funded through a Disruptive Technologies Innovation Fund (DTIF) award and is available immediately until contract end date of Jan 16th 2025 (with the possibility of extension).

The University of Galway is a publicly funded university in the top 1% in the world (QS rankings), and has earned international recognition as a research-led university with a commitment to highest-quality teaching and research. The university plays a leading role in Bioinformatics and Genomics Data Science nationally and is the lead institution of the Science Foundation Ireland (SFI) Centre for Research Training (CRT) in Genomics Data Science.

This post is based in the Ó Broin lab (https://www.universityofgalway.ie/our-research/people/mathematics-statistics-and-applied-mathematics/pilibobroin/) which has research interests in the development and application of statistical and machine learning approaches for the analysis of biomedical data, in particular genomics data in the areas of cancer, immunology, and neuropsychiatric disorders.

Job Description:
Cancer and autoimmune disorders impose massive, life-limiting burdens on a majority of the population at some point in their lives, and in their advanced stages, often remain highly resistant to conventional treatments. HEALED is a €10.5M project that aims to change this by leveraging technologies from two leading Irish biotech companies (RemedyBio and aCGT Vector), along with deep clinical expertise in cancer and immune cell biology (TTMI) and cutting-edge genomics data science approaches (University of Galway) to develop an end-to-end data-driven approach to tumour infiltrating lymphocyte (TIL) therapy. This project has the potential to quickly translate findings into clinical care, improving outcomes for cancer patients for whom current therapies have not been effective, as well as bringing a new generation of advanced therapeutic medicinal products (ATMPs) to the Irish and international markets.

At the University of Galway, our work on the HEALED project will include the use of massively parallel DNA and RNA sequencing data to: 1) Build scalable and secure cloud-based neoantigen analysis pipelines, 2) Develop deep learning approaches for the prediction of neoantigens, and 3) Identify biomarkers of functional TILs from scRNA-seq data, improving our understanding of TIL biology leading to improved patient stratification and prediction of treatment response.

Qualifications/Skills required:

Essential Requirements:
- PhD in Bioinformatics, Computer Science or a related discipline with significant informatics content/experience.
- Experience in the development of scalable and reproducible scientific workflows using workflow description languages (e.g. Nextflow) and software containers (e.g. Docker/Singularity)
- Experience in database and/or web application design & development
- Track record of scientific publication and dissemination of results commensurate with career stage

Desirable Requirements:
- Familiarity with core bioinformatics tools/pipelines for the analysis of NGS data (RNA-seq/scRNA-seq/WES)
- Knowledge of cancer/immune genomics
- Excellent written and oral communication skills and a well-developed ability to communicate technical concepts to non-experts.
- Excellent interpersonal, project management and people management skills.

Duties:
- Conduct a specified programme of research and scholarship under the supervision and direction of the Principal Investigator.
- Plan, co-ordinate and implement research project (this may include managing a small research team/co-ordinating other researcher activity).
- Keep up to date with research related methods and techniques, in particular, developments in the specific research area.
- Present on research progress and outcomes e.g. to bodies supervising research; conferences, steering groups; other team members, or otherwise as agreed with the PI.
- Contribute to the research project's dissemination in the form of e.g. report, papers, chapters, book.
- Where appropriate, work with the PI to register patents to protect intellectual property arising from the research.
- Mentor and assist, as appropriate and as directed, graduate students in the School, including acting as co-supervisor or member of a supervision panel.
- Engage in Education and Public Engagement (EPE) activities of the School.
- Develop and maintain Knowledge and understanding of the policy, practices and procedures, relevant to the role, which may include broader University/sector/external sponsor or funder (e.g. Commercial Awareness, Research Ethics, Knowledge Transfer, Patents, Intellectual Property Rights, Health and Safety, Equal Opportunities & Diversity, legal requirements regarding data protection and confidentiality).

Salary: €39,523 to €51,035 per annum pro rata for shorter and/or part-time contracts (public sector pay policy rules pertaining to new entrants will apply).

Start date: This position is available immediately

Continuing Professional Development/Training:
The University of Galway provides continuing professional development supports for all researchers seeking to build their own career pathways either within or beyond academia. Researchers are encouraged to engage with our Researcher Development Centre (RDC) upon commencing employment – see www.universityofgalway.ie/rdc for further information.'

Further information on research and working at University of Galway is available on Research at University of Galway

For information on moving to Ireland please see www.euraxess.ie

Further information about School of Mathematical and Statistical Sciences is available at https://www.universityofgalway.ie/science-engineering/school-of-maths/

Informal enquiries concerning the post may be made to Dr. Pilib Ó Broin (pilib.obroin@universityofgalway.ie)

NB: Gárda vetting is a requirement for this post

To Apply:
Applications (to include a cover letter, CV, and the contact details of three referees) should be sent, via e-mail (in PDF format only) to Dr. Pilib Ó Broin (pilib.obroin@universityofgalway.ie)

Please put reference number **University of Galway 270-22** in subject line of e-mail application.

Closing date for receipt of applications is 5.00 pm Nov 25th 2022

We reserve the right to re-advertise or extend the closing date for this post.

The University of Galway is an equal opportunities employer.

All positions are recruited in line with Open, Transparent, Merit (OTM) and Competency based recruitment