THE UNIVERSITY OF WESTERN AUSTRALIA

POSITION DESCRIPTION

Position Title	Research Associate (Bioinformatics)
Classification	Level A
Centre/Section	UWA Centre for Medical Research
Supervisor Title	Senior Principal Research Fellow
Supervisor Position Number	318303
Position Number	320565

Your work area

This position is based within the Systems Biology and Genomics Laboratory, led by Professor Alistair Forrest and is part of the UWA Centre for Medical Research within the Faculty of Health and Medical Sciences, based at Harry Perkins Institute of Medical Research (Perkins) in Nedlands. The Forrest lab is comprised of molecular, cellular and computational biologists, forming a multi-disciplinary team environment undertaking a diverse range of genomics and cancer single cell research. We are leading the Western Australian Cancer Single Cell initiative which is using single cell, single nuclei and spatial transcriptomic profiling to characterize hundreds of tumour samples kindly donated by patients around Perth.

Reporting structure

Reports to: Senior Principal Research Fellow
Dotted line reports to: Research Fellow

Your role

As the appointee you will, under minimal supervision, perform analyses of single cell, single nuclei and spatial transcriptomic datasets generated by the lab on cancer samples kindly donated by patients across Perth. You will run established pipeline workflows on next generation sequencing datasets, interpret the results and write manuscripts. You may also help establish new workflows incorporating the newest tools for analysis of single cell/nuclei and spatial transcriptomic datasets.

Your key responsibilities

Process raw next generation sequencing data with primary focus on single cell and spatial transcriptomics, including data back-ups, sharing, and maintaining organised records

Design and conduct a wide variety of computational analyses, making detailed observations and performing biological interpretation of the results with the help of supervisors

Work together with experimental researchers to design and troubleshoot experiments

Draft manuscripts for publication in scientific journals including generating the text and publication-quality figures

Write regular reports summarising the analyses conducted, the results obtained, your interpretation of the results and suggestions of next steps including troubleshooting

Supervise students and research assistants

Perform troubleshooting of experiments carried out by those under their direct supervision

Present summaries of the project at lab and institutional meetings and at conferences

Your specific work capabilities (selection criteria)

A PhD or equivalent in molecular biology, bioinformatics, computer science, data science, mathematics, biostatistics or a related field with an emphasis in the specific fields of bioinformatics, genomics and systems biology

Essential

Demonstrated ability to analyse next generation sequencing data, form hypotheses, test them and follow through to publications

Proficiency in R and Python (preferred) or other programming languages, with demonstrated experience in writing, reusing, and documenting the code

Proficiency with the command line and working on remote Linux servers

Ability to work independently with minimal supervision as well as to work together as part of a team

Well-developed written and verbal communication skills, organisational skills and the ability to meet deadlines

Desirable

Experience with analysis and integration of single cell or spatial transcriptomic datasets

Experience with integration and comparison of in house and published datasets including use of appropriate statistical tests for significance

Strong understanding of biology and cancer genomic data

Experience with supervised and/or unsupervised methods (machine learning, clustering, AI etc.)

Experience with image analysis including segmentation

Special requirements (selection criteria)

There are no special requirements

Compliance

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including:

The University's Code of Conduct hr.uwa.edu.au/policies/policies/conduct/code/conduct

Inclusion and Diversity web.uwa.edu.au/inclusion-diversity

Safety, health and wellbeing safety.uwa.edu.au/