

Job Description



Position Title	Senior Research Officer	Level	B
Reports to (role)	Head, Translational Genetics	Career Stream	Research
Team	Translational Genetics		
Location	The Kids Research Institute Australia, Perth Children's Hospital, 15 Hospital Ave, Nedlands		

PURPOSE OF POSITION

The position will lead the high-throughput-omics platform development in genetic and rare disease research within the Translational Genetics team. The research focus is on providing faster and more informative molecular analysis of genetic variants identified in children with rare disease in Western Australia, and across the globe. The platform utilises single base editing with CRISPR/Cas9 homology directed repair to introduce novel genetic variants in induced pluripotent stem cells, which are stimulated to form a cell type relevant to the patient phenotype. Characterisation of disease models using single cell long and short read sequencing identifies cellular changes consistent with disease and inform diagnosis. In addition, the model systems are used to screen for efficacious treatments that are patient specific. The position will develop new platforms for rapid interpretation of hundreds of novel genetic variants simultaneously and optimise drug screening assays to better support rare disease diagnosis and treatment.

KEY RESPONSIBILITIES

Key Responsibilities	Tasks required to achieve Key Responsibilities	Measures
Research Activity	- Complete research projects and deliver outcomes. - Develop a research portfolio to integrate single cell analysis, ATACseq, methylation sequencing, and incorporate the latest in molecular biology and cellular technology for the interpretation of patient disease models. - Design experimental workflows to improve assessment of patient genetic variants in induced pluripotent stem cell derived disease models. Focussed on cardiac and neural cells, but with expansion to other disease models as appropriate – kidney, bone, immune cells.	- Journal publications and clinical reporting. - Integration of NGS protocols into workflows to assist with disease interpretation. - Application and interpretation of key molecular and cellular techniques, interpretation of data, and analysis of findings in the context of patient disease. - First author and co-author publications.

	• Perform molecular and cellular methodologies including - In vitro cell culture: e.g. cell lines, induced pluripotent cells or human primary cells. - Cell biology: flow cytometry, immunohistochemistry, protein analysis, cell signalling. - Molecular analyses: e.g. CRISPR gene editing, DNA/RNA extraction. - Cell QC: Karyotyping, pluripotency - Sequencing: library preparation for genotyping, amplicon sequencing, RNA sequencing, single cell RNA sequencing, - ATAC-seq, long read sequencing. • Develop new assays for cell model derivation and their functional assessment. • Application of long-read single cell transcriptomics, isoform-resolved transcriptomic analysis, spatial transcriptomics, and integrative multi-omics approaches. • Interpret and integrate large datasets to support genetic variant analysis • Prepare and submit scientific research articles. • Develop consumer input to research.	• Completion of experimental protocols with validation of genetic variants across methodologies. • Genetic variant functional outcomes. • Develop disease models according to patient disease phenotypes, success in cardiac and neural disease modelling.
Research Management	• Write grant applications to attract research funding. • Manage staff and student reporting. • Maintain accurate experimental records. • Record keeping of workflows and practices.	• Staff and student research meetings. • Quality of grant applications. • Accurate data records. • Storage of data and experimental information.
Development & Team Membership	• Participate in consumer and community rare disease forums. • Propose research projects for Honours, Masters' or PhD students. • Develop and contribute to consumer involvement and community engagement forums. • Participate in Institute public and internal events – fundraising, media, or seminar presentations. • Train and coordinate staff in new methodologies, across the research area. • Present research findings internally at The Kids, and externally of local, national, and international scientific conferences.	• Seminar presentations at relevant scientific meetings. • Successful completion by students of their honours/masters/PhD. • Positive feedback from supervisor and team members. • Participation by consumers at personal and community level. • Completion of all GPSs as applicable for staff.
Leadership	• Monitor the allocation and direct the resources within the team to ensure the achievement of deliverables articulated within applicable Work Plans and identified projects, whilst maintaining a	• Staff understand and embrace organisational culture, directions, goals and client service ethos.

	high level of service for business-as-usual activities. • Maintain effective communication with direct reports to ensure advice provided and decisions made are well informed. • Hold direct reports accountable to their responsibilities and results. • Be a role model for effective and positive leadership which is ethical, inclusive, results driven and future-oriented. • Lead by example by demonstrating behaviours that are respectful, promote equity and inclusion for all and work towards eliminating direct or indirect forms of discrimination. • Foster a culture of transparent, effective, timely and appropriate internal and external communication. • Effectively manage change management processes, encouraging innovation, diversity and continuous improvement. • Support the professional development of staff through coaching, mentoring, training and collaboration opportunities.	• Staff are aware of their responsibilities and expectations in their roles. • Staff feel supported, engaged and safe to raise concerns.
Workplace Safety	• Take reasonable care for your own safety and health and avoid harming the safety and health of others through any act or omission at work. • Identify and assess workplace hazards and apply hazard controls. • Report every workplace injury, illness or near miss, no matter how insignificant they seem. • Abide by Institute policies and procedures.	• Responsibilities are embedded in work practices. • Hazards are effectively managed or reported. • Accidents and incidents are reported in a timely manner. • All applicable safety policies and procedures are sought, understood and implemented.

ESSENTIAL CRITERIA

Qualifications:	PhD in Molecular Biology, Genetics or related discipline.
Essential Skills, Knowledge & Experience:	• Experience in molecular biology, genetics and next generation sequencing. • Demonstrated knowledge of research and methodologies. • Experience in scientific paper preparation. • Leadership skills with the ability to mentor staff and students. • High-level interpersonal and communication (both written and verbal) skills. • Demonstrated ability to set goals, develop priorities and meet deadlines. • Excellent planning and organisational skills • Ability to manage multiple priorities and a fast-paced schedule.



DIRECT REPORTS	Research Assistants
Approved by:	Head, Translational Genetics
Date approved:	20.07.26
Reviewed by P&C:	20.07.26