



Position Description

NAME:	TBA
JOB TITLE:	Bioinformatics Research Assistant
DEPARTMENT:	Computational Biology Group
DIVISION:	Personalised Medicine
REPORTS TO (TITLE):	Computational Biology Group Leader
LAST DATE REVIEWED:	16 th April, 2019

JOB SUMMARY

Paediatric cancer takes a devastating toll on patients, their families and community, with over 750 new patients diagnosed in Australia each year. Precision cancer medicine aims to improve outcomes in cancer patients by matching patients to the optimal treatment, based on molecular tumour profiling. Bioinformatics is critical to this; however, several significant challenges remain to bridge the gap from 'omic' data into improved outcomes. Molecular tumour profiling plays a critical role in the diagnosis and prognosis of patient tumours and holds enormous research potential to further understand the biological processes underling paediatric cancer.

The newly formed Computational Biology group at the Children's Cancer Institute develops novel computational approaches to improve outcomes in patients with childhood cancer. This primarily involves the analysis of whole genome, transcriptome and methylome data, from patient tumours and their matched preclinical models. From this, we develop methods to understand the role of inherited and somatic variation in tumour initiation, progression, and to identify therapeutic vulnerabilities. Our research has a highly translational focus and is leading the genomic and bioinformatic analysis underlying the national Zero Childhood Cancer program, and the Paediatric Centre for Precision Medicine.

The role of this bioinformatics research assistant will be to support the research activities of the Computational Biology group. This research covers a broad spectrum of bioinformatic and computational biology approaches, spanning from the development of novel software and analytical approaches, pipeline development, large-scale genomic analysis on the cloud, database development. This research will have a translational component, as some of the outputs (eg novel analytical methods) may be used to inform patient care and treatment decisions. The research also has a strong underlying imperative to produce open-source tools or pipelines, and to be published in leading journals. The successful candidate will work closely with other members of the Computational Biology group to support this research.

We understand that bioinformatics and computational biology are broad disciplines and represent many different areas of expertise. We encourage talented applicants, who are technically strong in at least one aspect of computational analysis or development listed below to apply.



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PRIMARY TASKS / RESPONSIBILITIES

In fulfilling the core strategic objectives of the group, the role will be engaged in the following duties and responsibilities:

- Support the development of novel approaches to analyse and understand inherited and somatic mutations in paediatric cancer patients
- Support the development of local, and cloud-based genomic applications to analyse tumour molecular data
- Support the design and development of databases to store and query patient molecular data
- Support the implementation of web-based research platforms for data presentation
- Benchmarking of novel and emerging methodologies to analyse patient molecular data
- Support the research and grant administrative activities of the Computational Biology group
- Other duties as assigned

Key Interactions:

- Internal: Computational Biology Group Leader, researchers and students within the Computational Biology Group, Precision Medicine Program and others as required
- External: Key external collaborators where research is or will be undertaken, presentations at local and international conferences

MINIMUM REQUIREMENTS

Qualifications

- BSc or BEng in bioinformatics, molecular biology, biotechnology and biomolecular sciences, software engineering, computer science, physics, or related degrees

Experience and requirements

- Strong expertise in at least one of these areas:
 - Bioinformatics
 - Software engineering
 - Programming
- Expertise in at least one of bash, R, perl or python is essential
- Highly motivated, creative and empathetic is essential
- Experience working with a team is essential
- Expertise in at least one of genetics, genomics, next generation sequencing, cancer biology or molecular is desirable, but not essential
- Expertise in cloud-based and/or high-performance computing platforms and software containers is desirable, but not essential
- Expertise in whole genome sequencing and RNA sequencing data analysis is desirable, but not essential
- Expertise in software development is desirable, but not essential
- Expertise in bioinformatics is desirable, but not essential



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KEY SKILLS

- Strong analytical, critical thinking, and problem-solving skills
- Creativity, flexibility and empathy
- Capacity to work under minimal supervision
- Strong project management skills
- Strong interpersonal skills and ability to work cooperatively, openly, and transparently

EXPECTED OUTPUTS

- Produce bioinformatics and computational biology software or scripts, which are robust, broadly applicable, and likely cloud-based assets, which support research outcomes, including the development of novel methods, biological insights, and software.
- Support the publication of high impact methodological, and biological papers

Children's Cancer Institute policies applicable

Code of Conduct/Ethics

- Whistle-blowing
- Use of Electronic Resources
- Workplace Health & Safety
- Appropriate Workplace Behaviour
- Privacy
- Any other policies not listed here but are available on the Children's Cancer Institute Intranet Policies pages

SERVICE STANDARDS AND GENERAL EXPECTATIONS

- Respond to phone calls and emails within 48 hours
- Read internal communications within 48 hours
- Maintain up to date personal information in the HRIS (ConnX - Self Service) at all times

OUR VALUES

A is for **Accountability** and **Integrity**

C is for **Camaraderie**, **teamwork** and **Sharing**

E is for **Excellence** and **Success**

S is for **Satisfaction**. The result of living our values everyday

COMPLIANCE AND CODE OF ETHICS AND CONDUCT

Staff members are responsible for ensuring that they are familiar with and comply with their conditions of employment as stated in their individual contract, all Children's Cancer Institute Policies and Procedures and



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relevant ethical and regulatory guidelines. Staff must be aware that breaches by individuals will not be tolerated or condoned and may be subject to the Disciplinary Action Policy.

Your knowledge and awareness of Children's Cancer Institute Policies and Procedures (including the Code of Ethics and Conduct), will be monitored from time to time to ensure that our compliance program is effective. Part of compliance adherence involves the use of standardised forms, checklists, and other aids (as appropriate) to ensure that important compliance issues are not overlooked. All forms must be used in accordance with instructions and the procedures as outlined in the relevant policies and procedures to ensure that compliance to the laws and regulations occurs.

WORK HEALTH & SAFETY

- Must adhere to all WHS policies and procedures including reporting incidents within 24 hours
- Take reasonable care for their own health and safety and the health and safety of other people who may be affected by their conduct in the workplace
- Actively participating in health and safety meeting, training and induction programs
- Complying with all safe work procedures and instructions
- Use equipment in compliance with relevant procedures, without wilful interference or misuse
- Ensure that any hazardous conditions, near misses and injuries are reported immediately to the supervisor and in the WHS reporting system (Myosh)
- Must not wilfully or recklessly interfere with or misuse anything provided in the interest of environment health and safety or welfare
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REPORTING STRUCTURE

Position reports direct to: *Computational Biology Group Leader.*

Departmental Structure: *See Organisation Chart*

Note: Reporting structure may change subject to management decisions and business requirements.



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APPROVED BY

All parties below need to approve by signature and date.

Mark Cowley

Computational Biology Group
Leader

Date: 17 May 2019

Name

Date: _ _ _ _ _

It is not the intention of the position description to limit the scope or accountabilities of the position but to highlight the most important aspects of the position. The aspects mentioned above may be altered in accordance with the changing requirements of the role.