SAHMRI Infection and Immunity
Bioinformatics Research Officer
About The Institute

THE SOUTH AUSTRALIAN HEALTH AND MEDICAL RESEARCH INSTITUTE’S (SAHMRI) PURPOSE IS TO TRANSFORM HEALTH AND MEDICAL RESEARCH INTO BETTER HEALTH OUTCOMES FOR THE COMMUNITY.

SAHMRI represents an exciting new statewide concept that brings together basic and translational research, South Australia’s three universities and the health system. This has enabled us to provide statewide leadership and strengthen the collaborations and partnerships that already exist.

Our research focuses on improving the prevention, treatment and diagnosis of some of the greatest health issues that face our community, including chronic disease, obesity, cardiovascular disease, diabetes and mental health.

Our research themes were selected based on the most important health issues we currently face, but also their intersection with each other, and the research collaborations they will create. We have attracted world class leaders in their fields to lead each of the themes.

SAHMRI SIGNIFICANTLY INCREASES THE NATION’S CAPACITY FOR LEADING SCIENTIFIC RESEARCH BY:

Housing a team of more than 600 outstanding researchers, who are working together in the search for better treatments and cures for some of the world’s most challenging diseases.

Located within a world-class Health and Biomedical Precinct, the purpose-built, iconic SAHMRI facility has state of the art laboratories and equipment for use by our research teams.

Actively fostering and nurturing a new generation of the finest research minds, and undertaking extensive and interactive community engagement and education programs.
The health and medical research undertaken at SAHMRI enhances and strengthens the research underway across the state, around Australia and the world.

Our research themes are:

**Aboriginal Health** - Led by Professor Alex Brown, the Wardliparingga Aboriginal Research Unit is focused on reducing the significant gap between the health status and life opportunities available to Aboriginal people, through a focus on chronic disease and improved health.

**Cancer** - Led by Professor Tim Hughes, the theme focuses on Leukaemia Research, Myeloma Research, Stem Cell Research and Prostate and Gastrointestinal Cancers. These groups are focused on finding new ways to prevent and treat cancer.

**Healthy Mothers, Babies & Children** - Led by Professor Maria Makrides, the theme focuses on nutrition interventions for women during pregnancy and their babies, leading to improved pregnancy outcomes, optimising growth and preventing allergies in young children.

**Heart Health** - Led by Professor Steve Nicholls, the theme focuses on developing new strategies to reduce the risk of heart disease, and reduce the burden of heart attack and stroke, heart failure and electrical disorders of the heart.

**Infection & Immunity** - Led by Professor Steve Wesselingh, the theme focuses on the complex intersection between our immune system and infection, leading to interventions at a personal and community level to reduce the impact of infectious diseases.

**Mind & Brain** - Led by Professor Julio Licinio, the theme focuses on discovering new treatments for brain disorders, with a focus on mental illness, personalising existing therapies and bringing together the continuum from clinical depression to wellness. Our Wellbeing Centre fosters resilience across the life span.

**Nutrition & Metabolism** - Led by Professor Chris Proud, the theme focuses on understanding how nutrients and nutrition impact on cellular function and contribute to human diseases, including obesity, diabetes and neurological disease.
South Australian Health and Biomedical Precinct and EMBL

OVERVIEW

SAHMRI is part of the South Australian Health and Biomedical Precinct, one of the largest health precincts in the southern hemisphere, on a Greenfields site in the north west of Adelaide’s central business district. The Precinct is South Australia’s highest priority project for health, research and education infrastructure.

The Precinct will make a significant and direct contribution to the state and national economies. In addition to the stimulus provided during the construction phase, it is expected to provide employment for more than 8,000 staff and accommodate 6,000 students upon completion. Around 1,500 world-leading medical researchers will be located at the Precinct.

The Precinct will address current and future capacity constraints and surging demand in the healthcare system by improving the volume and quality of health care services; training unprecedented numbers of health care professionals and providing a focal point for research of international calibre into the most serious chronic illnesses.

EMBL

EMBL Australia: The European Molecular Biology Laboratory - is Europe’s flagship for the life sciences. The Australian government joined EMBL as an Associate Member in 2008. EMBL Australia (http://www.emblaustralia.org) was subsequently created to maximise the benefits of Australia’s associate membership of EMBL and does so via research projects, infrastructure and training programs across Australia. The Lynn Group is one of 20 research teams that are being established at institutes around Australia under the EMBL model.
THE SAHMRI FACILITY IS A TRULY ICONIC AND INSPIRING WORK PLACE FOR OUR MOST CREATIVE HEALTH AND MEDICAL RESEARCHERS.

Located on North Terrace within the new Health and Biomedical Precinct, the SAHMRI facility covers 25,000m2 and incorporates an energy efficient, environmentally friendly design thanks to its instantly recognisable architecture and unique triangulated dia-grid façade.

The research environment at SAHMRI is highly collaborative and the research is supported by excellent core facilities and services including a genomics core, small and large animal facilities, flow cytometry, microscopy, animal and human imaging, high-performance computing and a cyclotron in the basement.

The SAHMRI facility provides:

- **25,000 square metres of Gross Floor Area**
- **High level of flexibility**
- **PC2 laboratories and dedicated core facility space for specialised equipment with high infrastructure requirements**
- **Dedicated space for advanced technology facilities, including a cyclotron**
- **Bio-imaging and clinical imaging**
- **Café**
- **Public interaction and education space**
- **Seamless integration with the new Royal Adelaide Hospital**
Living in South Australia

- A population of 1.1 million means that Adelaide is a bustling place, but not too busy or hectic like some Capital City destinations
- The vibrant food and wine culture with 16 wine regions and over 200 cellar doors and the Barossa Valley and McLaren Vale wine regions within only an hour’s drive of the Adelaide CBD
- A moderate climate with averages of 16 degrees celcius in winter and 28 degrees celcius in summer
- Adelaide is surrounded by parklands and is a pollution free City where the skyline is always visible
- North Terrace’s ‘cultural boulevard’ hosts some of the world’s best museum’s the South Australian Art Gallery and Adelaide Library, as well as some beautiful, old architectural buildings, such as the Bonython Hall (the University of Adelaide), Ayers House, the Railway Station and Parliament House;
- A culturally diverse population with the Kaurna people as Adelaide’s original inhabitants, along with many other nationalities which together shape the culture of SA
- Food options in South Australia are heavily influenced by the diverse culture, meaning that the cuisine options are endless. Whatever your taste preferences, you will find somewhere to satisfy what your taste buds are looking for. Adelaide City alone boasts over 700 restaurants and pubs. Your biggest challenge will be choosing which one!
- South Australia is home to many exceptional beaches, which are less than an hour away from the city centre
- South Australia is best known for its local produce, including its wines. Visit a local market or one of the wine regions.
- More information about living in South Australia can be found on the SAHMRI website - [https://www.sahmri.com/human-resources/living-in-south-australia]
The Role

JOB TITLE
Bioinformatics Research Officer

LOCATION
North Terrace, Adelaide, South Australia

REPORTS TO
Associate Prof. David Lynn, EMBL Australia Group Leader

DEPARTMENT
Infection and Immunity and Cancer Themes

KEY INTERNAL RELATIONSHIPS
Reporting to Associate Prof. David Lynn, the position will also work closely with researchers in Associate Prof. Lisa Butler’s Prostate Cancer Group.

PURPOSE
The South Australian Health and Medical Research Institute (SAHMRI) in Adelaide, Australia is now seeking applications for a bioinformatics/computational biology researcher to work on collaborative projects between the SAHMRI Infection and Immunity Theme and the Cancer Theme. Prior experience in at least some of the following areas is essential: analysis of next generation sequencing (NGS) data; network and pathway biology; cancer systems biology; machine learning methods and experience in biomarker discovery and validation. The successful candidate will work as part of a team that includes both computational biologists and wet-lab scientists investigating the immune system and cancer from a systems biology perspective. Active collaboration and the ability to manage multiple difference projects simultaneously is essential. An initial 2 year full-time contract is available, potentially renewable.
Key Responsibilities

KEY RESPONSIBILITIES

- Implement and develop efficient pipelines for the analysis of a wide range of NGS based data and where necessary develop new custom bioinformatics methods and/or pipelines.
- Implement machine learning based approaches to identify novel biomarkers of disease based on NGS data.
- Provide collaborative support to others in the group/theme with bioinformatics components of their projects.
- Lead or assist with drafting publications relating to the projects.
- Assist in the smooth running of projects and the wider group (e.g. some light sys admin work).
- Contribute to development of competitive funding applications.
- Participate in special projects to continuously improve processes, tools, systems and organisation.
- Take reasonable care to protect his / her own health, safety and welfare at work and avoid affecting the health and safety of any other person at work.
- Ensure that duties are performed in keeping with the principles outlined in SAHMRI’s Vision, Mission and Values and the Code of Conduct.

SPECIAL REQUIREMENTS

- National and international travel may be required for this position.
Person Specification

QUALIFICATIONS
- MSc or PhD in Bioinformatics, Computer Science, Physics, Statistics or other relevant discipline

EXPERIENCE AND KNOWLEDGE
- A strong track record in bioinformatics as evidenced by prior publications in high impact journals in the field
- Advanced programming skills in several of the following: Python, R, C++, Perl, SQL, Java.
- Prior experience working in genomics/NGS bioinformatics
- Demonstrated experience in the downstream integrative analysis of omics data (e.g. pathway, network analyses)
- Prior experience working in a high performance computing environment

SKILLS AND ABILITIES
- Demonstrated problem solving and communication skills
- Must be highly collaborative, be a strong team player and be able to manage multiple ongoing projects

ATTITUDE AND VALUES
- Able to demonstrate the following SAHMRI Values:
  - Excellence – be the best you can be
  - Imagination – challenge conventional thinking and pursue novel, ground-breaking ideas
  - Integrity – act fairly, ethically and respectfully
  - Courage – take initiative, be adventurous, creative and bold
  - Teamwork – collaborate openly and inclusively
  - Equity and Diversity - embrace equity, diversity and reconciliation
Terms and How to Apply

TERMS
To discuss salary parameters please contact Associate Professor David Lynn at david.lynn@sahmri.com

Benefits include:

- Salary packaging with significant tax benefits
- Relocation assistance packages
- Annual Leave – 20 days per annum with the option to purchase additional leave

For further information on SAHMRI’s staff benefits visit: https://www.sahmri.com/human-resources/employee-benefits

HOW TO APPLY
Please visit: https://www.sahmri.com/human-resources/careers

Applications should include:

- A comprehensive curriculum vitae giving details of relevant achievements in recent posts as well as your education and professional qualifications.
- A covering letter that summarises your interest in this position.
- A document providing evidence of your ability to match the criteria outlines in the Person Specification.
- Details of your latest salary, notice period and names of 2 referees, together with a brief statement of the capacity in which they have known you and an indication of when in the process they can be contacted (please note we will not contact your referees without your express permission).
- Telephone contact numbers (preferably daytime and evening/mobile) which will be used with discretion.