

Position Description

POSITION TITLE:	Photon-Counting Computed Tomography Scientist
LOCATION:	SAHMRI, North Terrace
REPORTS TO:	Research Imaging Program Manager, Clinical and Research Imaging Centre (CRIC)
DEPARTMENT:	Clinical and Research Imaging Centre (CRIC), SAHMRI

PURPOSE AND SCOPE OF THE POSITION

At the South Australian Health and Medical Research Institute (SAHMRI), we are committed to achieving innovative, ground-breaking health and medical research that fundamentally improves the quality of life for all people.

The Clinical and Research Imaging Centre (CRIC) at SAHMRI is one of Australia's most advanced imaging research facilities including the Australian Centre for Photon-Counting CT, equipped with both Siemens Naeotom Alpha clinical PCCT and a TESCAN preclinical microCT with photon-counting spectral detection system to be installed in late 2026. The centre also operates one of the first ultra-high 200mT/m clinical research MRI systems in the world. The centre has a collaboration with Jones Radiology, master research agreement with Siemens Healthineers, spectral CT research partnership with TESCAN and is supported by the National Imaging Facility (NIF).

The Photon-Counting Computed Tomography Scientist is part of an innovative team providing access to imaging and expertise that supports a vibrant biomedical research community. You will provide expertise to academic, health and industrial users of PCCT equipment at all stages of project development involving the development of protocols, delivery of imaging, support of data management, processing and development of analysis methods for both preclinical research and clinical research. The position has a specific focus on comparative methods and the development of new spectral applications.

This is a national role and there is a strong expectation to engage in national activities across a range of internal and external stakeholders including researchers, industry, clinicians, technical staff and regulators to optimise the uptake and use of PCCT as an imaging modality. With the anticipated rollout of additional PCCT infrastructure across the South Australian public health system, there may be opportunities to explore engagement and knowledge-sharing around clinical PCCT applications.

The research position is full-time, but a part-time position will be considered.

KEY RESPONSIBILITIES

The specific duties include:

- Provide expert knowledge in PCCT physics and imaging technologies to researchers throughout Australia
- Support user collaborations and projects with impact through scientific publication or changes in practice
- Develop new post-processing pipelines for research data, experiment analysis and report development
- Lead research into new acquisition and analysis methods in conjunction with Siemens and TESCAN



- Assist with PCCT imaging facility management
- Report to project managers and scientific committees
- Maintain relationships with academic, health and industry partners including the Siemens scientific team
- Manage quality assurance program and other projects to improve processes, tools and systems.
- Contribute to leadership of site in conjunction with other imaging staff
- Contribute to competitive funding applications, scientific publications and reporting of research activity
- Represent the SA node of the National Imaging Facility (NIF) locally and nationally
- Take reasonable care to protect own health, safety and welfare at work and avoid affecting the health and safety of any other person at work.
- Participate in the implementation of the Institute's Work, Health and Safety Management System and related laws, regulations and guidelines.
- Ensure that duties are performed in keeping with the principles outlined in SAHMRI's Vision, Mission and Values and the Code of Conduct Policy.

SPECIAL REQUIREMENTS

- Some out of hours work may be required.
- Irregular interstate and international travel will be required.
- Part-time applicants will be considered.
- DCSI Employment Screening and Police Checks may be required.
- SAHMRI is required to implement the Addressing vaccine preventable disease: Occupational assessment, screening and vaccination policy for SAHMRI employees carrying out work in any SA Health Facility.
    - Immunisation Risk for this position is Category C (minimal patient contact)



Person Specification

QUALIFICATIONS

- Eligibility to work in South Australia
- PhD in Medical Physics, Electrical or Biomedical Engineering, Computer Science or similar field with focus on computed tomography methods, or equivalent experience

EXPERIENCE, KNOWLEDGE AND SKILLS

- At least two years working predominantly in the field of CT.
- Strong mathematical and computational skills, with demonstrated expertise in medical imaging
- Strong understanding of x-ray CT physics, reconstruction, and experimentation
- Proficient in image processing, manipulation, and analysis tools (Python and/or Matlab)
- Track record of undertaking or supporting productive research and publications
- Strong analytical and problem-solving skills.
- Excellent communication, engagement and presentation skills.
- Ability to work independently under project pressure with timeframes and budget.
- Skills in report writing, grant writing and presentations.
- Project management skills including timely delivery of outputs, monitoring and resolving issues.
- Desire to contribute to a common purpose with willingness to learn new skills and take on new challenges.
- Demonstrated ability to work independently and be self-motivated.
- At least a basic knowledge of machine learning software frameworks will be advantageous.
- Previous experience with clinical or pre-clinical photon counting CT will be advantageous.
- Support SAHMRI's commitment to reconciliation and acknowledge the importance of working in partnership with Aboriginal and Torres Strait Islander People
- Able to demonstrate the following SAHMRI Values and Culture:
  - **Excellence** – Bold, Driven, Dynamic
  - **Innovation** – Persistent and Focused
  - **Courage** – Collaborative and Enabling
  - **Integrity** – Embrace Diversity, Demand Equity
  - **Teamwork** – Friendly, Fast, Flexible, Fun