



## Programmer/Translation Scientist

Translational Research Institute, Brisbane

### 1. Background

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The Translational Research Institute (TRI), based in Brisbane, is a leading Australian innovative medical research, development and translation facility. It is home to a range of cutting edge technology developments including interventions to prevent and treat human disease and provide diagnosis of early treatable disease.

Situated on the Princess Alexandra Hospital Campus, TRI combines the research, intellect and capability of the Queensland Government, Queensland University of Technology, The University of Queensland and The Mater Medical Research Institute. TRI houses over 900 leading researchers who interface with clinicians on the hospital campus and at other Brisbane based hospitals. Patheon Biologics, an international pharmaceutical company, leases TRI's biopharmaceutical manufacturing facility, located adjacent to TRI's wet lab facility.

TRI is one of a few places in the world where new biopharmaceuticals and treatments can be discovered, produced, clinically tested and manufactured in one location. TRI is charged with interfacing scientific development with the commercial sector ensuring that scientific innovation moves rapidly to improve patient outcomes. To this end, TRI is at the interface of science, medicine and industry.

### 2. TRI Vision and Values

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TRI's vision is to "create a world with better health outcomes achieved through translational research." TRI will be recognised as a global leader in translational health research and commercialisation resulting in improved health and workforce readiness. The TRI vision is achieved through a corporate culture focused on collaboration to achieve excellence. TRI's 6 values drive the expectations and standards of behaviour TRI stands for:

Integrity	Respect	Commitment	Diligence	Efficiency	Accountability
Everyone Everywhere Everyday	Listen Understand Respond	Activate Collaborate Accelerate	Initiate Create Inspire	Define it Create it Deliver it	See it Own it Solve it

### 3. Position Purpose

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In 2016 an Innovation and Translation Centre was created with Siemens Healthcare, funded by the Advance Queensland initiative. The Programmer/Translation Scientist position is part of this initiative.

This initiative has now progressed to the product development phase. The new products include the identification of pre-cancerous deregulation in breasts of women carrying the BRCA gene mutations and those a familial high risk; and neurochemical deregulation in those suffering from PTSD, blast exposure and chronic pain. None of these conditions are currently discernible by conventional imaging techniques. There are new capabilities in the future to include preoperative diagnosis of the pathology of lesions not apparent by conventional MRI.

The **primary purpose** of the Programmer/Translation Scientist position is to act as the interface between TRI scientists and hospital based clinicians and the engineers and scientists from Siemens Healthcare to create code for processing of medical imaging data and presentation of results integrated with the Siemens image viewing and post-processing platform to enable translation of research into clinical products and commercial success.

### 4. Key Accountabilities

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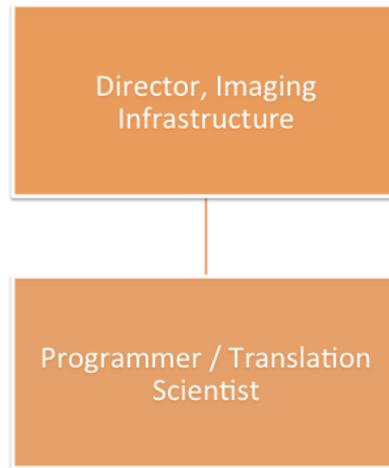
Primary accountabilities include, but are not limited to:

- Develop, build and maintain strong working relationships with scientists, clinicians and engineers to enhance the efficacy of targeted code development and integration with the Siemens platform to lay the foundation for product development and commercial success.
- Integrate new models, including data acquisition, data preparation and comparison with data classifiers together with visualisation pipelines within existing Siemens prototype products.
- Work cohesively with TRI scientists and hospital based clinicians and Siemens engineers to develop code for clinical utilisation of MR Spectroscopy data including analysis and reading for clinician assisted diagnostic paradigms.
- Deploy workflows in the Siemens prototyping environment, the SyngoVia Frontier, to support product development.
- Train higher degree students in the processes of translation analysis and visualisation pipelines to build capacity, engagement and understanding of translation techniques.
- Work collaboratively with clinicians to develop format of output from the classifiers for each condition

### 5. Reporting Relationships

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The Programmer/Translation Scientist position reports to the Director, Imaging Technology.



## 6. Experience, Knowledge, Skills and Qualifications

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### Experience

- A minimum of 3 years' professional experience in data or image analysis workflows, involving disparate data types
- Proven ability in structured, well documented computer programming
- Demonstrated experience in data visualisation
- Proven ability to manage and respect commercial confidentiality with regards to intellectual property and de-identified clinical information
- Experience in Mevis prototyping environment

### Knowledge, Skills and Abilities

- Demonstrated proficiency in C or C++ programming and Python programming
- Demonstrated knowledge and understanding of multivariate informatics and data mining
- Proven track record of strong attention to detail and product delivery and capacity to manage competing demands/expectations and work within deadlines
- Excellent interpersonal, relationship building and verbal communication skills with ability to work within and across multidisciplinary teams and specialist areas
- Ability to clearly articulate and introduce methods of translation to build capability and understanding for others not experienced in this field
- Knowledge of OpenGL or similar visualisation libraries would be an advantage

### Qualifications

- A postgraduate degree in Information Technology or related area or a degree qualified with equivalent and relevant academic or industry experience of working with experimental prototyping environments.