# Position Description

## Research Scientist/Engineer – CSOF5

The following information is for applicants

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| Advertised Job Title**:** | Research Scientist – Clinical Applications |
| Job Reference: | 61065 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | Australian Citizens Only  Australian/New Zealand Citizens and Australian Permanent Residents Only   * All Candidates |
| Percentage of Client Focus - Internal: | 50% |
| Percentage of Client Focus - External: | 50% |
| Reports to the: | Team Leader – Medical Image Analysis |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries | Dr Jason Dowling via email Jason.dowling@csiro.au |
| Contact Details For Applying | Call 1300 984 220 or email [careers.online@csiro.au](mailto:careers.online@csiro.au). |
| How to Apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon |

## Role Overview:

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

The role of this Research Scientist is to lead research into the detection and management of brain injuries using MR imaging. The Research Scientist – Clinical Applications, will be expected to take a leading role in multiple existing projects in this area, which includes managing and growing existing inter-institutional collaborations with clinicians and external scientists in addition to overcoming the significant technical challenges in the area. From a technical perspective, the role will involve devising techniques to analyse MR images and performing cross population analyses to detect subtle differences in brain white-matter structure and how these change as a result of therapy. There will be a strong focus on processing data from neonates and dealing with the technical problems typical to this data.

The successful candidate will join a multidisciplinary team working within the Australian e-Health Research Centre (AEHRC), part of the CSIRO Health and Biosecurity, and Queensland Hospital and Health services. The successful applicant will work as part of the Medical Image Analysis team within the Biomedical Informatics group.

## Duties and Key Result Areas:

* Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific and clinical outcomes.
* Provide project management and expert advice on planned research, including the development of study protocols and ethics submissions.
* Development of innovative concepts and ideas for assessing MR images that utilise diffusion and structural imaging, including the contribution to research grants.
* Support the supervision of PhD students and vacation work students.
* Design and conduct the research study, including data collection and analysis of existing and new data.
* Communication of the results in high quality journals, client reports. Supporting the drafting of patents to protect IP as needed
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## Competencies:

1. **Teamwork and Collaboration: Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.**
2. **Influence and Communication: Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others reactions.**
3. **Resource Management/Leadership: Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.**
4. **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
5. **Independence: Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.**
6. **Adaptability:** Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of changes.

## Selection Criteria:

*Under CSIRO policy only those who meet all selection criteria can be appointed.*

1. A doctorate in the area of medical image analysis with a background in a numerate discipline such as engineering, computer science or mathematics.
2. Knowledge and experience of the use of structural and diffusion MRI for 3D MR images of the brain.
3. Experience in programming with Python, C++ and/or Matlab to customise important aspects of processing pipelines.
4. Experience in project managing multi-institutional clinical studies and resolving the issues associated with large studies in a complex environment.
5. Demonstrable research experience in the area of statistical analysis of MR images and a demonstrated ability to articulate new clinically relevant insights the analyses reveal.
6. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out independent individual research, to achieve organisational goals.
7. A record of science innovation and creativity plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## Desirable Criteria:

1. Experience working with clinicians and patients/community participants
2. Demonstrable knowledge of neuro-anatomy
3. An understanding of the practical advantages and drawbacks of the MRtrix, FSL and free-surfer processing suites
4. Experience with drafting ethics applications and developing study protocols

## Special Requirements:

N/A

## About CSIRO:

We imagine. We collaborate. We innovate. To find out more visit us [online](http://www.csiro.au/)!

Find out more about CSIRO [Health and Biosecurity](https://www.csiro.au/en/Research/BF)