Position Details

Research Projects - CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Mechanical Engineer |
| Job Reference | 67347 |
| Tenure | Specified term of 2 years  Full-time |
| Salary Range | AU $98,735 to AU $106,848 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Pullenvale, QLD |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Position reports to the | Research Team Leader |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 1 |
| Enquire about this job | Leslie Overs, [leslie.overs@data61.csiro.au](mailto:leslie.overs@data61.csiro.au) |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Role Overview**

A critical role of Mechanical Engineer for the mechanical system design of robotic, automated, and sensor systems is required within the Cyber Physical Systems program at CSIRO Data61. The successful applicant will fill a critical role within the multi-skilled and highly motivated Robotics and Autonomous Systems group. The role will be highly rewarding working with research scientists and engineers on world leading research in the areas of robotics and automation.

The successful engineer will be mission critical in a number of projects within the Cyber Physical Systems program including the DARPA SubT Challenge project. CSIRO and partners were honoured to be the only primary team outside of the US to be selected to compete in the DARPA SubT challenge this $13.5M project is a major acknowledgment from DARPA in the high standard of robotics research and engineering at CSIRO. In the challenge our competitors include the Jet Propulsion Laboratory, Carnegie Mellon University, California Institute of Technology, Massachusetts Institute of Technology and ETH Zurich.

Data61 is the largest data innovation group in Australia. Bringing together CSIRO's Productivity team and National ICT Australia (NICTA), we are unrivalled in our intellectual capital and our network with the global technology marketplace. The combined group will bring together approximately 600 research staff working in digital technologies to create benefit for Australia.

**Duties and Key Result Areas:**

* Provide mechanical engineering design for embedded systems including robotic, autonomous and sensor systems for complete mechanical, electronic and embedded system design of robotic, automated and sensor systems.
* Research, analyse and recommend mechanical designs for the Robotics group’s projects. Provide specifications and costing for resources as required.
* Support 3D FDM and Poly Jet Printers including managing the scheduling of jobs, load sharing and managing the maintenance.
* Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work as part of a multi-disciplinary, often regionally dispersed research team, to carry out tasks under limited direction in support of scientific research.
* Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives.
* Provide instruction on activities pertaining to the immediate work area and responsibilities, as required.
* Adapt and/or develop original experimental methods/equipment/concepts/ ideas in support of existing and further research.
* Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

**Required Competencies:**

* **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.
* **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.
* **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.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
* **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.
* **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 essential criteria can be appointed*

***Essential Criteria:***

1. A Bachelors/master’s in Mechanical/Mechatronic Engineering or related field.
2. Demonstrated experience and high-level skills in mechanical design using multiple lightweight materials, 3D printing, composites, and machining materials.
3. Demonstrated proficiency with 3D modelling in CAD packages such as Solidworks or equivalents.
4. Knowledge and demonstrated skills in integrating electrical, electronic and embedded systems into mechanical designs.
5. Demonstrated knowledge of the manufacturing and fabrication environment.
6. Demonstrated practical experience and solid understanding of the machining process including 3 and 5 axis CNC machine tools, and other fabrication methods.
7. Demonstrated experience in liaising with fabricators and workshops to enable the timely and efficient manufacture within specifications for the mechanical designs
8. Understanding of workplace health and safety guidelines and procedures.

**Desirable Criteria:**

1. Demonstrated experience in lightweight robotic design including legged robotics.
2. Demonstrated experience in high reliability design in a harsh environment for example the racing car industry, aviation, aerospace.
3. Knowledge and understanding of programming CNC machine tools
4. Knowledge of electronics and/or embedded system design.
5. Skills and experience in engineering project management is highly regarded.

**Special Requirements**

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.

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We solve the greatest challenges through innovative science and technology. To find out more visit us [online](http://www.csiro.au/)!