# Position Description

## Research Projects – CSOF4

The following information is for applicants

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| Advertised Job Title**:** | Research Projects Officer |
| Job Reference: | 59887 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Percentage of Client Focus - Internal: | 50% |
| Percentage of Client Focus - External: | 50% |
| Reports to the: | Team Leader – Gas Separation Process Fundamentals |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries | Graeme Puxty via email Graeme.Puxty@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:

Research Projects staff in CSIRO collaborates in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work. Research Projects staff may be involved in providing consulting services, science management and/or industry liaison.

A major focus of the work at CSIRO Energy is the understanding and control of atmospheric emissions that contribute to global warming or localised pollution. This position will encompass the assessment of materials and processes for CO2 capture and utilisation and atmospheric emissions studies. This will contribute to new technologies for the mitigation of CO2 emissions and their conversion to useful materials and also the understanding of atmospheric emissions and their impacts.

## Duties and Key Result Areas:

* Determination of the chemical and physical properties of CO2 absorbents and CO2 conversion reactions via techniques such as stopped-flow spectroscopy, potentiometric titration and NMR spectroscopy.
* Determine of gas-liquid mass transfer rates using a wetted-wall reactor and gas-liquid equilibria using batch reactors and gas chromatography.
* The ongoing maintenance and operation of GCMS and LCMS equipment for analysis of gas and liquid samples.
* Testing and operation of a novel gas-liquid contacting apparatus.
* Make significant contributions to the interpretation and communication of research or technological results and may collaborate on drafting presentations to, and/or detailed written reports for, clients and the scientific and/or technology community.
* Under general direction participate in planning projects and accept responsibility for the scheduling and completion of major parts of projects, including allocating and directing tasks where appropriate.
* Provide coaching, on-the-job training and instruction to colleagues, on activities pertaining to the immediate work area and responsibilities, allocate activities, direct tasks and manage resources to meet objectives, as required.
* Adapt and/or develop original experimental methods/equipment/software/concepts/ ideas in support of existing and further research, promptly addressing where methods may not be defined and initiative is required in seeking new approaches to meet experimental and/or technological needs.
* 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: DO NOT DELETE OR EDIT

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: Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).**
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. Relevant bachelor’s degree in chemistry or chemical engineering.
2. Familiarity with CO2-amine chemistry for gas separation processes.
3. Familiarity with gas separation processes, gas-liquid contactors and gas mass transfer.
4. Experience determining the chemical and physical properties of solutions and chemical reactions using techniques such as stopped-flow spectroscopy, NMR spectroscopy and viscometry
5. Experience working with asphyxiant and toxic gases such as CO2 and NH3.
6. Ability to work safely in both a chemical laboratory environment and a process environment.
7. Familiarity with the principles of gas and liquid chromatography and mass spectrometry.

## Desirable Criteria:

1. Experience maintaining gas and liquid chromatography and mass spectrometry equipment.

## About CSIRO:

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Find out more about CSIRO [Energy](https://www.csiro.au/en/Research/EF)