# Position Description

*Research Scientist – Atmospheric Photochemistry*

## Research Scientist – CSOF5

The following information is for applicants

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| Advertised Job Title**:** | Research Scientist - Atmospheric & Emissions Chemistry |
| Job Reference: | 61393 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | All Candidates |
| Percentage of Client Focus - Internal: | 80% |
| Percentage of Client Focus - External: | 20% |
| Reports to the: | Team Leader – Atmospheric & Emissions Chemistry |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries | Dr Brendan Halliburton  Phone: 02 4960 6060  Email: [Brendan.Halliburton@csiro.au](mailto:Brendan.Halliburton@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  Please do not email your application directly to Dr Halliburton.   Applications received via this method will not be considered by the selection panel. |

## Role Overview:

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific publications that are aligned with CSIRO’s strategies. You will be engaged in scientific activity ranging from fundamental strategic research into atmospheric photochemistry to more applied investigations of specific industry or community problems associated with emissions from new and evolving energy cycles. You will have the opportunity to build and maintain complex scientific facilities and systems, play a lead role in securing project funds, provide scientific leadership to new researchers, and pursue new ideas and approaches to create new scientific outcomes.

The position requires a dynamic candidate who will extend our strengths in developing predictive tools to anticipate and prepare Australian society for future environmental challenges arising from new energy technologies. We invite innovative and creative scientists with solid expertise in atmospheric chemistry, aerosol science, air quality control/management systems and atmospheric modelling to join our competitive research program. The successful candidate will be responsible for preparing and conducting photochemical chamber experiments to create advance theoretical knowledge and develop new modelling approaches to predict environmental consequences associated with new and evolving energy cycles. Participation in wider ranging laboratory and field campaigns with also be necessary and these may involve extended periods of travel, and time away from home, when required.

## Duties and Key Result Areas:

* Assist in the planning, preparation and execution of longer term atmospheric research strategies aligned with the Energy Business Unit goals. Such strategies will primarily focus towards conceiving new experimental and theoretical approaches to better understand the types, sources, fates and impacts of emissions from new and evolving energy sources that may negatively affect human health and the environment.
* Using the CSIRO atmospheric simulation chamber, design, plan and carry out experiments to progress the fundamental understanding of atmospheric chemistry associated with emissions from emerging energy technologies. This will include elucidating new and emerging atmospheric chemical pollutants and their formation pathways from experimental data sets. These data will ultimately be integrated into advanced mechanistic, air quality, climate and weather models. Such research will require originality, creativity and innovation.
* Undertake supervision and/or training of others to ensure experiments are established in accordance with business unit strategies, research design, or as required.
* Work collaboratively as part of a multi-disciplinary, often regionally dispersed, research team to carry out tasks in support of CSIRO’s scientific objectives.
* A strong emphasis is placed on presenting results in a meaningful format, preparing reports for clients and writing high quality scientific papers for publication and presentation at national and international conferences.
* Liaise with clients to determine their needs and take responsibility for client satisfaction.
* Draw on professional expertise, knowledge of other disciplines and research experience, recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues
* 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.
* 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 or equivalent research experience in chemistry, physics or atmospheric science and with a very strong capability in physical chemistry.
2. Demonstrated experience in air pollutant science and mitigation techniques.
3. Demonstrated experience in mechanistic or numerical modelling
4. Demonstrated experience developing and leading successful research proposals and interactions with clients.
5. Demonstrated experience in operating/managing complex scientific equipment and/ scientific systems.

## Desirable Criteria:

1. A strong fundamental and practical understanding of scientific instrumentation used in atmospheric research including experience maintaining and fault-finding.
2. Programming expertise such as Fortran/C, Matlab, Labview etc.
3. Experience with atmospheric photochemistry simulators or smog chambers will be highly regarded
4. Experience in aerosol genesis, evolution and partitioning within multiphase systems.
5. Experience developing experimental techniques for acquiring and characterising emissions from energy sources
6. Higher degree level understanding/experience of atmospheric photochemistry and aerosol science.

## Special Requirements:

Appointment to this role may be subject to conditions including security/national police/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- <https://ielts.com.au/>

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

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