# Position Details

## CSIRO Early Research Career (CERC) Postdoctoral Fellowship– CSOF4

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| The following information is for applicants | |
| Advertised Job Title | CSIRO Postdoctoral Fellowship in high temperature solid oxide electrolyte technology |
| Job Reference | 81450 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$ 89,926 to AU$ 98,504 pa + up to 15.4% superannuation provided the candidate has PhD conferred, in-case of PhD submitted, the starting salary will be $87,068 |
| Location(s) | Clayton, Victoria, 3168, Australia |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All candidates |
| Position reports to the | Team Leader - Electrochemical Energy Systems |
| Client Focus – Internal | 100% |
| Client Focus – External | 0 |
| Number of Direct Reports | 0 |
| Enquire about this job | Dr Nawshad Haque  Contact: [nawshad.haque@csiro.au](mailto:nawshad.haque@csiro.au) +61 3 9545 8931 |
| 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. |

### Acknowledgement of Country

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the area that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### Role Overview

**CSIRO Early Research Career (CERC) Postdoctoral Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant postdoctoral work experience. Successful applicants will work with leaders in the field of science and receive personal development and learning opportunities. These fellowships aim to develop the next generation of future leaders of the innovation system through:

* A differentiated career development program to deliver capability excellence and breadth across all facets of the national innovation system.
* Research training via strategic research and development projects with a clear focus that will deliver real impact through science and engineering excellence.
* An innovative culture supporting the development and demonstration of original thinking and expertise leading to peer-recognition; and
* Opportunities to develop skills and experience in collaborative research teams to effectively work within national and global multi/transdisciplinary and multi-stakeholder environments.

CERC Postdoctoral Fellows **are appointed for three years.**

As part of our effort on low emission carbon technologies, we seek an enthusiastic and motivated scientist with a PhD degree in Electrochemistry, Materials Science, or Chemical Engineering for a three-year Postdoctoral Fellowship. The Postdoctoral Fellow is sought to work with a dedicated and experienced electrochemical energy system Team, to research and develop efficient next generation solid oxide electrochemical cells. The Postdoctoral Fellow will take a role to research, evaluate and develop materials of ceramic based solid oxide cells.

### Duties/Key Result Areas:

Under the direction of senior research scientists and engineers, the CERC Postdoctoral Fellow will:

* + Develop materials and cell designs to achieve high current densities and lifetime for the solid oxide electrolyte cells and deliver on new strategic research projects for the capability development in this area and generate IP and publications.
  + Undertake materials characterisation (XRD, SEM, TEM, DTA/TGA, surface area, etc.) for phase identification, surface, and microstructural analysis.
  + Undertake the selection of suitable materials and coating methods for scalable cells.
  + Contribute to the effective functioning of a research team and help deliver upon team’s objectives.
  + Communicate research outcomes in both oral and written form including presentations to a variety of audiences, reports and peer reviewed scientific publications.
  + Adhere to CSIRO requirements for information security, HS&E and EEO in accordance with the CSIRO Code of Conduct.
  + Work with other team members and provide support and/or supervision of junior staff or students, etc.
  + Produce high quality scientific and technical outputs including journal articles, conference papers and presentations, patents and technical reports.
  + Regularly review relevant literature and patents.
  + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
  + Recognise and exploit opportunities for innovation and the generation of new theoretical perspectives, and progress opportunities for the further development or creation of new lines of research.
  + Utilise design thinking methodology to plan and prepare research proposals, and apply non-academic impact methodology to research projects.
  + Carry out research investigations requiring originality, creativity and innovation.
  + Record, manage, and analyse data/information using relevant domain data science techniques.
  + Proactively undertake development to grow effective researcher capabilities to support career goals.
  + Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

[**The CERC Postdoctoral Fellow learning and development program**](http://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships)is developed between the CERC Postdoctoral Fellow and their CSIRO supervisor. The program will focus on enhancing the Fellows’ capabilities to the level expected of an independent researcher and will include on-the-job and course-based development encompassing:

* Discipline-specific techniques and protocols
* Professional growth
* Project management
* Communication and influencing skills
* Working and collaborating with others

## **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:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **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**

#### Essential

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

1. A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as electrochemistry, material science, chemical engineering with strong background in electrochemistry.

Please note: To be eligible for this role you must have **no more than 3 years** (full-time equivalent) of postdoctoral research experience.

1. Demonstrated experience in high temperature solid state fuel cells or electrolysers.
2. Demonstrated experience of fabrication and testing of solid oxide electrochemical cells.
3. Sound working knowledge of electrochemical instrumentation and various electrochemical and physical characterisation techniques.
4. Track record of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
5. High level written and verbal communication skills, including the ability to represent the research team effectively internally and externally, including at national and international conferences.
6. Proven understanding of chemical and laboratory equipment handling requirements particularly with respect to Health, Safety and Environment compliance – specifically within the hydrogen space.

## **Desirable:**

1. Knowledge and experience in fabrication of electrode/metal supported solid oxide electrolyte cells.
2. Knowledge and experience of using electrochemical impedance spectroscopy and associated analysis software on electrochemical cells.
3. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.
4. Knowledge and experience working with hydrogen within hydrogen energy applications.

To be appointed as a CERC Postdoctoral Fellow within CSIRO, candidates are required to have **submitted** their PhD at the time of commencement, as a minimum requirement, if PhD conferment has not been obtained. If a candidate has submitted, but their PhD has not yet been formally attained, the starting salary will be CSOF4-1 ($87,068). Upon CSIRO receiving written confirmation that the PhD has been awarded (within a six month period from commencement date), the salary will be increased to the negotiated level and the difference will be back-paid to the Officer’s start date.

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.

Include if relevant:

* 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.
* If the successful candidate is not an Australian Citizen or Permanent Resident, they 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/

**Our value proposition**

We want CERC Postdoc Fellows to join our world class science, engineering and digital teams to solve big, complex problems that make a real difference to the future of Australia and the world.

You'll get to work with some of the most talented minds in their fields, not just in Australia, but in the world. At CSIRO, we spark off each other, learn from each other, trust each other and collaborate closely to achieve more than we could individually.

CSIRO Early Research Career (CERC) Postdoctoral Fellow Experience Employee Value Proposition (EVP). Find out more [here](https://www.csiro.au/en/careers/postdoctoral-fellowships)!

## **About CSIRO:**

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

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