Research Scientist/Engineer – CSOF5

Role summary for potential applicants

Advertised Job Title:	Research Scientist/Engineer – Hydraulic Fracturing
Reference Number:	52245
Classification:	CSOF5
Salary Range:	AU $95,369 to AU $103,205 plus up to 15.4% superannuation
Location:	Clayton, VIC
Tenure:	Indefinite
Relocation assistance:	Will be provided to the successful candidate if required.
Applications are open to:	All Candidates
Functional Area:	Research Scientist / Engineer
% Client Focus - Internal:	25%
% Client Focus - External:	75%
Reports to the:	Research Team Leader
Number of Direct Reports:	0

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 will undertake a range of investigative approaches including laboratory and field experimentation, numerical modelling, and analytical methods in order to improve the effectiveness and sustainability of hydraulic fracturing with an emphasis on applications in coal seam and shale gas stimulation, enhanced geothermal systems, and novel mining methods.

The role will offer the opportunity to enhance technical, leadership and management skills, with opportunities to develop novel research and technologies in support of Australian industries, community and environment.

Duties and Key Result Areas:

- Incorporate novel approaches to scientific investigations by adapting and/or developing original concepts and ideas for new, existing and further research.
- Apply laboratory and field experimentation, to produce rigorous and useful research and technology development outcomes.
- Collaboration with both external and internal partners to deploy CSIRO technology and secure ongoing research funding.
- Communicate the value and findings of CSIRO's research though leading the authorship of presentations and client reports, and contributing to peer-reviewed journal and conference papers.
- Lead research projects including the coordination, allocation and management of resources (people, equipment, facilities, and funds).
- Maintain active national and/ or international research collaborations in order to access/share leading edge concepts and technology to advance projects. Identify trends in research and development and influence research directions.
- Develop proposals to engage external partners in industrial research projects to the benefit of Australian industry.
- Communicate effectively and respectfully in the interests of good business practice, collaboration and enhancement of CSIRO's reputation.
- Produce high quality scientific and/or engineering papers suitable for publication in quality journals and for presentation at national and international conferences.
- Work effectively as part of a multi-disciplinary, often regionally dispersed research team, to undertake independent scientific investigations and carry out associated tasks under the guidance of more senior Research Scientists/Engineers.
- Under the guidance of Senior Research Scientists/ Engineers, work collaboratively and honestly with internal and external colleagues, clients and partners to help define and satisfy objectives for small to medium research projects.
- Assist in leading small research projects, including the negotiation of resource requirements.
- Provide coaching and on-the-job training to technical staff and students to ensure experiments are established in accordance with research design.
- Adhere to the spirit and practice of CSIRO's Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
- Any other duties within the scope of this position that may arise from time-to-time, for which the incumbent holds the skills and abilities to perform.

Selection Criteria:

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

Pre-Requisites:

1. **Education/Qualifications:** A doctorate or equivalent research experience in a relevant discipline area, such as hydraulic fracturing or geomechanics
2. **Education/Qualifications:** A PhD in Civil/Mechanical/Petroleum Engineering or Mining with relevant research experience in the area of Hydraulic fracturing and/or Geomechanic.
3. **Communication:** Strong written and oral communication skills including the ability to publish research results, prepare reports and present the results of scientific investigations at national and

international conferences and stakeholder meetings.

4. **Publications:** A solid record of publication in quality, peer reviewed journals.
5. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.

Essential Criteria:

1. Research experience in hydraulic fracturing, with expertise in at least one of analytical, numerical, fieldwork and/or experimental investigations as evidenced by academic publications
2. Communication abilities of a high order as evidenced by publication of papers and reports and an outstanding capacity to express scientific ideas and findings in plain English.
3. Proven academic or industrial hydraulic fracturing research track record as evidenced by a combination of:
    a. a project history of undertaking applied research in an industry or academic setting
    b. awareness of environmental, social and industrial issues around unconventional gas development
4. 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.
5. A record of science innovation and creativity plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

Desirable Criteria:

1. experience in solving wellbore and reservoir geomechanics problems
2. Professional network within petroleum, mining, and/or geothermal industries, or productive existing collaborations with academic and/or research institutions

As Australia's Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to:

- Excellent science
- Inclusion, trust & respect
- Health, safety & environment
- Delivery on commitments.

In your application and at interview you will need to demonstrate alignment with these behaviours.

Other special requirements:

Appointment to this role may be subject to conditions including security/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearance processes; which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- http://www.ielts.org/default.aspx

Other Information:

How to Apply

Please apply for this position online at https://jobs.csiro.au/ and enter requisition number **52245**. Internal applicants please apply via 'Jobs Central' in SAP (click 'Recruitment')

Your CV should be concise and not exceed 3 pages. Please address the essential selection criteria on a separate page (max. 2 pages). Applications that don't address the selection criteria will not be considered.

Please upload your CV combined with the selection criteria (Maximum 3pages). You may also be

required to respond to some screening questions.

If you experience difficulties applying online call 1300 984 220 for assistance. Outside Australian business hours please email: csiro-careers@csiro.au.

Referees: Please provide contact details of two previous supervisor or academic/professional referees in your resume/CV. We will ask your permission before making contact.

Contact: If after reading the position details above you require more information please contact:

Mr James Kear via email: james.kear@csiro.au

Please do not email your application directly to Mr Kear. Applications received via this method may not be considered by the selection panel.

About CSIRO

Australia is founding its future on science and innovation. Its national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.

Find out more! www.csiro.au.

We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you.

Find out more! CSIRO Balance

CSIRO Energy

We are pioneering low-emission technologies that create value for industry and households and provide the knowledge which will help guide Australia towards a smart, secure energy future.

Find out more! http://www.csiro.au/en/Research/EF