# Position Details

## Research Scientist/Engineer- CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Senior Research Scientist – Coastal Modeller |
| Job Reference | 78846 |
| Tenure | Indefinite, Full-time |
| Salary Range | AU $115,605 to AU $$135,467 plus up to 15.4% superannuation per annum (pro-rata for part-time) |
| Location(s) | Perth, WA |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian and New Zealand Citizens and Australian Permanent Residents |
| Position reports to the | Research Team Leader |
| Client Focus – Internal | 40% |
| Client Focus – External | 60% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Chaojiao Sunvia email: [Chaojiao.Sun@csiro.au](mailto:Chaojiao.Sun@csiro.au) or phone: +61 8 9333 6583 |
| 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

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. You may be involved in leading research projects or undertaking work that has impact on the development of scientific or technical knowledge.

The role of the Senior Research Scientist – Coastal Modeller is to lead and develop numerical modelling and data analytics approaches to improve predictions of coastal processes across different spatial and temporal scales, and develop and conduct innovative research aligned with the strategic growth area of the ecological restoration, coastal dynamics (in particular, littoral zone dynamics), and climate services. The position will require a candidate with several years of research experience beyond PhD, with strong coastal modelling capacity with skills in hydrodynamic modelling, sediment transport modelling, remote sensing and data analytics. A particular focus is on developing novel numerical methods and analysis workflows to characterise and predict the synergistic interaction of coastal morphology and ecosystems with waves, currents and water levels in the littoral zone. This will require collaboration across several CSIRO business units and with universities undertaking fundamental research activities into littoral dynamics and observations as well as on restoration and nature-based solutions.

### In this role, the successful candidate will be required to extend existing professional networks and build new ones, work with senior scientists to secure project funds, provide scientific leadership, such as leading certain research activities within large multi-project portfolios, and pursue new ideas and approaches. Specific areas of research that would match the current needs and opportunities include integration of numerical modelling and remote sensing analyses of coastal processes to support innovative solutions towards a low-carbon economy, high-resolution prediction of surf-zone dynamics and related decision-making tools for littoral (e.g. Defence) operations, and coastal hazard estimation and mitigation.

### 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.
* Undertake scientific research and associated tasks under broad guidance from Research Director and Group Leader, including leading designated research activities within large multi-project portfolios.
* Work effectively as an integral member and/or leader of multi-disciplinary, often geographically dispersed research teams to carry out tasks in support of CSIRO’s scientific objectives.
* Act as a trusted advisor, utilising knowledge of client’s business and understanding of their underlying needs.
* Anticipate industry and/or community needs and market direction through client liaison/networking and identify and adapt quickly to changes.
* Communicate openly, 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.
* Lead, coach and supervise staff to ensure experiments are established in accordance with research design, within agreed timelines and budget.
* Work collaboratively and honestly with internal and external colleagues, clients and partners to develop and progress challenging but realistic research plans for a range of research projects.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. A doctorate or equivalent research experience in a relevant applied research area with several years of research experience beyond PhD on coastal modelling.
2. Significant experience in leading and developing numerical modelling and data analytics approaches to improve coastal processes understanding.
3. Experience in innovative research encompassing the interactions between ecological restoration and coastal dynamics (in particular, littoral zone dynamics).
4. Experience developing cloud- and high-performance computing solutions for the analysis and prediction of coastal and ocean dynamics.
5. Significant experience applying a variety of software frameworks and languages to analyse in situ and satellite-derived data in applications to coastal hydrodynamics.
6. Experience in applying image analysis techniques to study hydrodynamics at laboratory and field scales.
7. Experience training/assisting project stakeholders in the interpretation and utilisation of complex scientific tools and data.

## **Desirable**

1. Experience in executing and supervising laboratory scale experiments of geophysical fluid mechanics.
2. Experience supervising higher degree research Masters and PhD students.
3. A strong professional network that spans industry, government, and academia.

## **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:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to, and manages, the increasing rate of organisational change by adjusting strategies, goal and priorities.

Special Requirements

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

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted