# Research Scientist/Engineer – CSOF6

Role summary for potential applicants

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| Advertised Job Title**:** | Coastal Systems Modeller |
| Reference Number**:** | 56039 |
| Classification**:** | CSOF6 |
| Salary Range: | AU $109,474 to AU $128,282 plus up to 15.4% superannuation |
| Location**:** | St. Lucia, Brisbane QLD |
| 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: | 30% |
| % Client Focus - External: | 70% |
| Reports to the: | Research Group Leader Coastal Development and Management Program |
| Number of Direct Reports: | 1 |

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| **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 Coastal Systems Modeller is to work in transdisciplinary teams conducting research into ecosystem-based management of the land-coastal-marine interfaces of Australia, the region and world-wide; in relation to activities such as, natural resource uses (fishing, energy, mining, water uses, etc.) tourism, environmental conservation, and urban and rural development. The approach is based on a scientific understanding of the functioning and dynamics of socio-ecological systems and the interactions of multiple human activities within them. The work will include: * Design and scoping of complex and interconnected natural and human-dominated systems, collation and analysis of spatial and temporal data;
* Modelling of ecological and socioecological processes; and
* Development and implementation of complex marine ecosystem models.

This position plays a key role in the development of a strong program of research within a multi-disciplinary group of about 30 scientists in this vital area of Australia's coastal-marine research. The successful applicant will be responsible for the development and leadership of projects including interactions with clients and relevant policy makers in the climate and natural resource management sectors. |

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| **Duties and Key Result Areas:** |
| * Incorporate novel transdisciplinary approaches to scientific investigations by adapting and/or developing original concepts and ideas for new, existing and further research.
* Assist in the application of the socioecological eco-system modelling frameworks, as well as multispecies/ecosystem models of intermediate complexity (MICE), so as to understand and predict the responses of marine and coastal systems to natural and anthropogenic changes.
* Analyse and collate socio-economics, biophysical, geochemical data to improve system models and the understanding of land-sea connectivity
* Develop and implement methods for integrating available time series (e.g. Integrate biological data on animal diversity, resource use, size-age spectra structure, abundance and movement, bioacoustics, and remotely sensed information) into ecosystem models and ecosystem assessments using data assimilation and agent-based approaches (or other new computational methods).
* 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-&-trans 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.
* Other duties as directed.
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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed****Pre-Requisites:***1. **Education/Qualifications:**  Doctorate with postdoctoral or substantial research experience in natural & human systems modelling (preferably socioecological systems with a natural resource management focus).
2. **Communication: Excellent written and oral communication skills, evidenced by high-level reporting, presentation and negotiation abilities, and the capacity to identify and influence critical stakeholders to gain support for contentious proposals/ideas.**
3. **Publications: A significant record of quality publications as primary author in high impact, peer reviewed journals.**
4. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.

***Essential Criteria:***1. Research experience in systems modelling in aquatic or coastal ecosystem or equivalent research experience in a relevant discipline area (including model development but also interaction with system users, resource managers and others who use the tools or the output from them)
2. A demonstrated capacity to develop analytical and quantitative tools that help with the implementation of natural resource management (e.g. development of models, including the construction of the models and R tools for developing input files or output visualisation tools)
3. Experience in the initiation of original research work and development of innovative approaches to research problems.
4. **The ability to work effectively as a member or leader of a multi-disciplinary, regionally dispersed research team, and carry out independent individual research, to achieve organisational goals.**
5. A significant record of science innovation and creativity plus the ability to apply well developed research skills to scientific investigations.

**Desirable Criteria:**1. Experience with ecological modelling platforms such as Ecopath with Ecosim, models of intermediate complexity (MICE), Atlantis, Netlogo, Mason, Vensim, Stella etc.
2. An appreciation of the principles of ecosystem-based management and knowledge of marine and estuarine ecosystems – and the kinds of science required to support it.

**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.*****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> |

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| **Other Information:** |
| **How to Apply**Please apply for this position online at <https://jobs.csiro.au/> and enter requisition number **56039**. Internal applicants please apply via ‘Jobs Central’ in SAP (click ‘Recruitment’) Please load your CV (Maximum 2MB). 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: **Dr Rodrigo Bustamante**via email: rodrigo.bustamante@csiro.au or phone: **+61408195273**Please do not email your application directly to Dr Bustamante. 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](http://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](https://www.csiro.au/en/Careers/A-great-place-to-work/Work-life-balance) **Oceans and Atmosphere provides the knowledge to manage Australia's marine estate and atmospheric environment, plan for and respond to weather and climate related natural hazards and ensure sustainable coastal development and growth of marine industries.** |