# Research Scientist/Engineer – CSOF5

Role summary for potential applicants

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| Advertised Job Title**:** | Ecosystem Modeller |
| Reference Number**:** |  |
| Classification**:** | CSOF5 |
| Salary Range: | AU $ 95K to AU $103K plus up to 15.4% superannuation |
| Location**:** | Hobart, TAS |
| Tenure: | Indefinite |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | [ ]  Australian Citizens Only[ ]  Australian Citizens and Permanent Residents Only* [x]  All Candidates
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| Functional Area**:** | Research Scientist / Engineer |
| % Client Focus - Internal: | 10% |
| % Client Focus - External: | 90% |
| Reports to the: | Ecological Modelling Team Leader |
| Number of Direct Reports: | 0 |

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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.This position will provide the successful applicant with opportunities to play a role in the development of a strong program of research within a multi-disciplinary group of more than 30 scientists working to support the sustainable use of Australia's marine resources. The role of this position is to help execute a research portfolio in the area of risk assessment and ecosystem modelling, working with a group conducting research into ecosystem-based management of the coastal and offshore waters of Australia in relation to activities such as fishing, energy, mining, tourism, environmental conservation, and urban and rural development. The research approach is based on a scientific understanding of the functioning and dynamics of socioecological systems, including the interactions of natural and multiple human activities. This work requires an understanding of marine ecological modelling, model uncertainty and modern approaches to the science-management interface – in particular Atlantis, DEB and potentially other model types such as Ecopath with Ecosim. The work will include: collation and analysis of biochemical tracers, marine species diet contents, spatial and temporal data (biological, economic and social); assisting with modelling of ecological and socioecological processes; assist with multicomponent marine risk assessments; and development and refinement of methods for incorporating acoustic, trophic and biochemical indicator information into multispecies and ecosystem models. This position will provide the successful applicant with opportunities to play a role in the development of a strong program of research within a multi-disciplinary group of more than 30 scientists working to support the sustainable use of Australia's marine resources. The successful applicant will need to be willing to travel, teach/supervise students and be responsible for the development and leadership of projects developing expertise and skill in biochemical tracer techniques in international collaborations. |

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| **Duties and Key Result Areas:** |
| * Assist in the application of the Atlantis and Ecopath with Ecosim ecosystem modelling frameworks, as well as dynamic energy budget (DEB) and 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 biochemical tracer data to improve ecosystem models and the understanding of marine connectivity.
* Interact with CSIRO researchers and the broader research and resource management communities to identify research priorities and develop new project proposals.
* Participate in communication processes within CSIRO and with stakeholders and researchers from outside CSIRO.
* 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.
* 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:** A doctorate and or equivalent research experience in a relevant discipline area, such as quantitative marine or fisheries ecology.
2. **Communication:** Strong written and oral communication skills including the ability to interact with a broad range of audience types (form lay people, to regulators, policy makers and scientific audiences), publish research results, prepare reports and present the results of scientific investigations at national and international conferences and stakeholder meetings.
3. **Publications: A solid record of publication in quality, peer reviewed journals.**
4. **Behaviours: A history of professional and respectful behaviours and attitudes in a collaborative environment.**

***Essential Criteria:***1. Direct experience in the development, calibration and delivery of Atlantis marine ecosystem models.
2. Demonstrated experience with dynamic energy budget (DEB) models.
3. Demonstrated experience in the field of biochemical tracers, awareness of the latest advances in the field and its application in ecosystem understanding and how these data streams may be used to inform ecosystem modelling.
4. Experience in the initiation of original research work and development of innovative approaches to research problems.
5. **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.**
6. A record of science innovation and creativity plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

**Desirable Criteria:**1. An appreciation of Ecopath with Ecosim modelling principles
2. An appreciation of the principles of ecosystem-based management and knowledge of Australia’s marine and estuarine ecosystems.

**CSIRO is a values based organisation. You will need to demonstrate behaviours aligned to our values of:**1. Integrity of Excellent Science
2. Trust & Respect
3. Creative Spirit
4. Delivering on Commitments
5. Health, Safety & Sustainability

***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*](http://www.ielts.org/default.aspx) |