# Research Scientist/Engineer – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | Ecosystem Model Workflow Developer |
| Reference Number**:** |  |
| Classification**:** | CSOF4 |
| Salary Range: | AU $80,833 to AU $91,451 plus up to 15.4% superannuation |
| Location**:** | Hobart, TAS |
| Tenure: | Specified Term of 3 years |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | Australian Citizens Only  Australian Citizens and Permanent Residents Only   * All Candidates |
| Functional Area**:** | Research Projects |
| % Client Focus - Internal: | 30% |
| % Client Focus - External: | 70% |
| 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 Ecosystem Model Workflow Developer will work in a team 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 approach is based on a scientific understanding of the functioning and dynamics of ecological systems and the interactions of multiple human activities within them. It requires an understanding of marine ecological modelling, model uncertainty and modern approaches to the science-management interface.  The work will include: development of tools to support (and ease) the creation and delivery of integrated marine ecosystem models. These tools will include: input and forcing file (e.g. hydrodynamic) creation; parameter file reshaping; and workflows for visualisation of output. The position will also provide help to develop new modules for the modelling software and upgrades to existing model components. There is also an expectation that the position may be called upon to assist in model implementation and fitting.  The successful applicant will need to be willing to travel, teach/supervise students and to support the development and delivery of projects developing expertise and skill in integrated ecosystem models used for sector specific and cumulative effects projections and evaluations. |

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| **Duties and Key Result Areas:** |
| * Incorporate novel approaches to scientific investigations by adapting and/or developing new tools that will ease the delivery of ecosystem models or extend their capabilities. * Develop new model components to improve existing formulations or extend the capabilities of ecosystem modelling frameworks used by the CSIRO. * Assist in the application of the Atlantis and Ecopath with Ecosim ecosystem modelling frameworks, as well as dynamic energy budget 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. * 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. * 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 *marine ecosystem modelling* 2. **Communication & Publications:** 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. 3. **Behaviours: A history of professional and respectful behaviours and attitudes in a collaborative environment.**   ***Essential Criteria:***   1. Research experience in ecological modelling in aquatic ecosystems with the Atlantis modelling software and demonstrated capacity to develop tools that help with the implementation of ecosystem models (e.g. R tools for developing input files or output visualisation tools) 2. Experience in the initiation of original research work and development of innovative approaches to research problems. 3. **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.** 4. A record of science innovation and creativity plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Experience with other ecological modelling platforms such as Ecopath with Ecosim and MICE. 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.   **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) |