



Australian Government

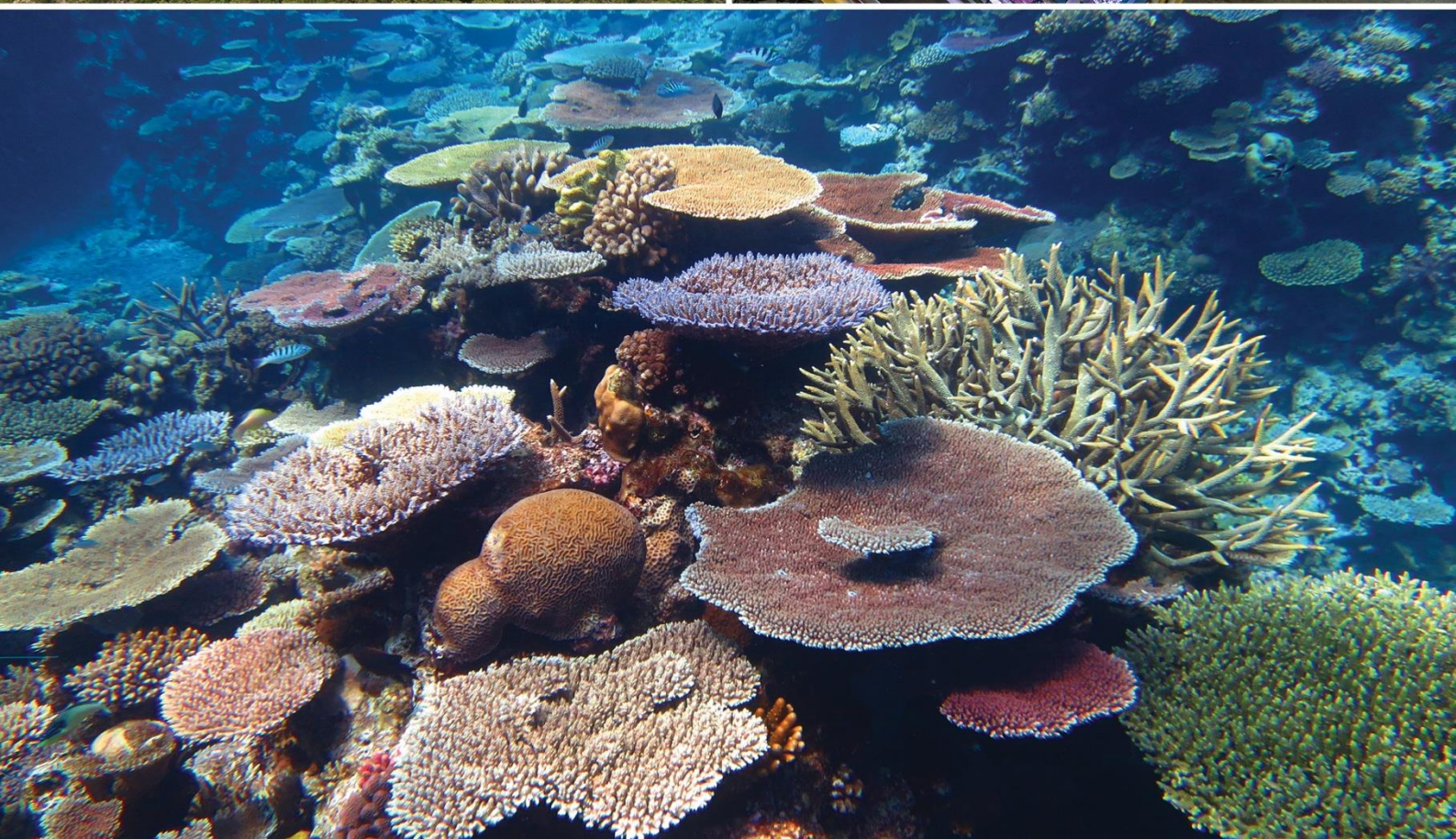


AUSTRALIAN INSTITUTE
OF MARINE SCIENCE

Reef Restoration and Adaptation Program
Opportunities:

Postdoctoral Fellowships

CANDIDATE INFORMATION PACK



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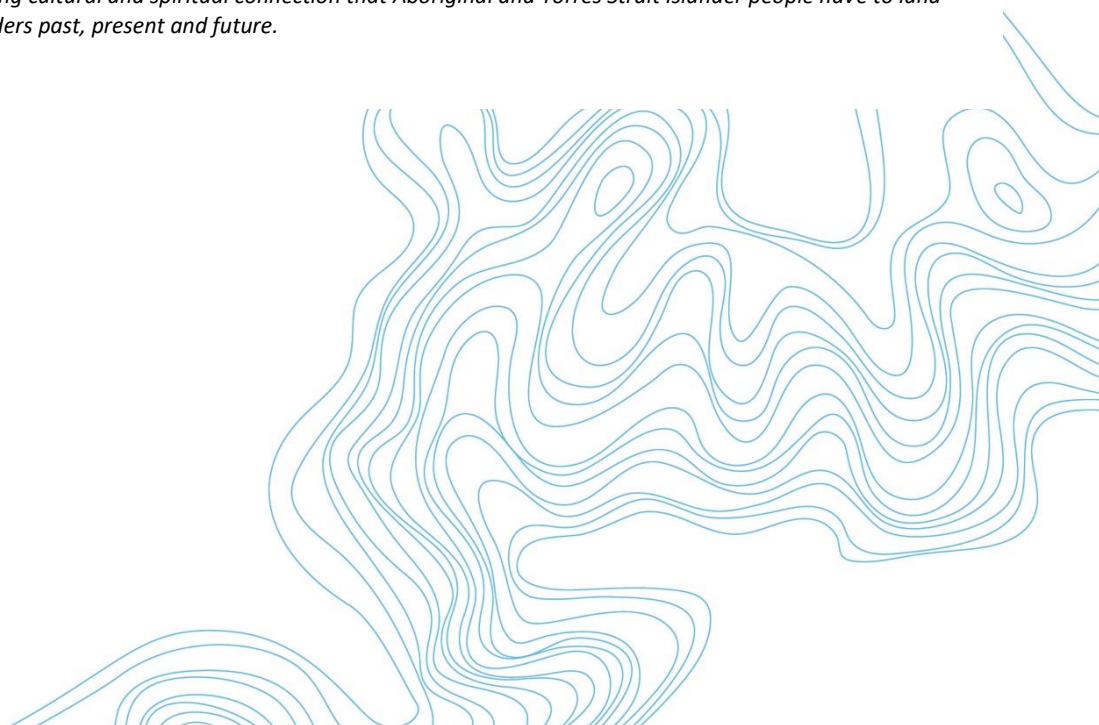
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The Australian Institute of Marine Science acknowledges the Traditional Owners of the land and sea on which we work. We recognise the unique relationships and enduring cultural and spiritual connection that Aboriginal and Torres Strait Islander people have to land and sea, and pay our respects to Elders past, present and future.

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Shaun Hahn, Joe Gioffre,
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About AIMS

The Australian Institute of Marine Science is a corporate Commonwealth entity established under the Australian Institute of Marine Science Act 1972 (AIMS Act). As Australia's tropical marine research agency, it is our mission to provide the research and knowledge of Australia's tropical marine estate required to support growth in its sustainable use, effective environmental management and protection of its unique ecosystems.

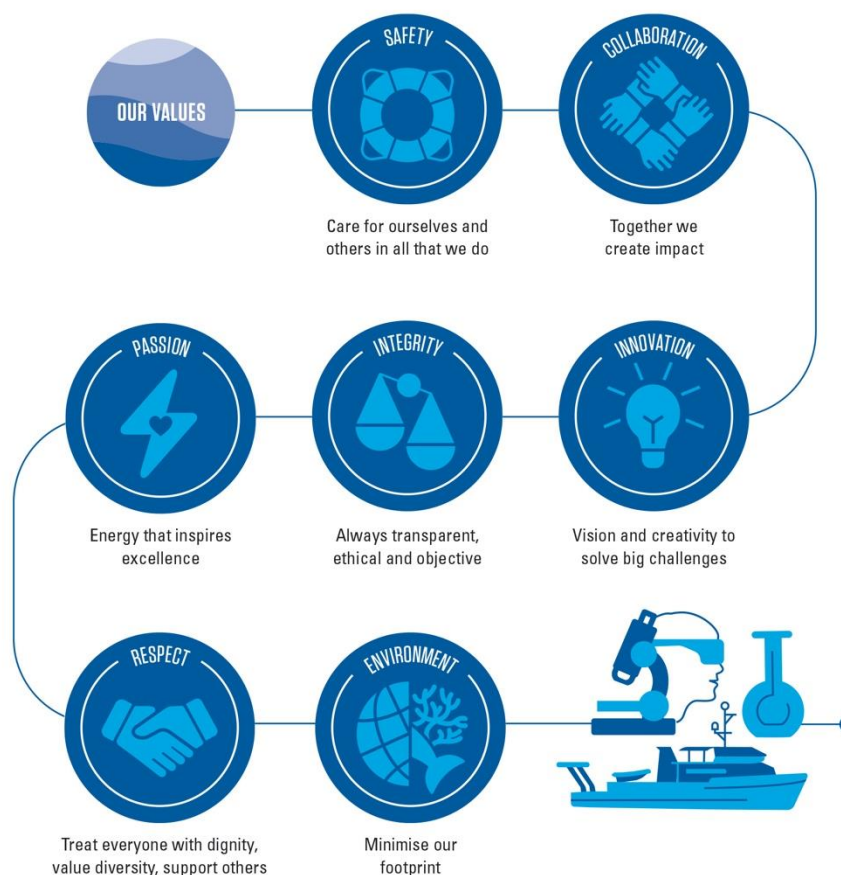
To accomplish our mission, AIMS delivers independent science to help realise three key long-term impacts for the nation:

- Improve the health and resilience of marine and coastal ecosystems across northern Australia.
- Create economic, social and environmental net benefits for marine industries and coastal communities.
- Protect coral reefs and other tropical marine environments from the effects of climate change.

Our research is focused on the priorities of our stakeholders, including Commonwealth, state and territory governments, industry and Traditional Owners. Our research continues to:

- Underpin Australia's environmental management of the Great Barrier Reef (GBR) to ensure that this World Heritage Area remains healthy and resilient.
- Support the sustainable development of coastal industries and ports across northern Australia.
- Provide the environmental baselines and condition and risk assessments required for current and future resource and industrial developments in Northern Australia.

THE WAY WE WORK



Our Research Program

The Great Barrier Reef program conducts interdisciplinary research to provide managers and policymakers with a better understanding of the Reef's vulnerability to climate change and ocean acidification, and its interactions with local and regional environmental stressors.

Reef Restoration and Adaptation Program (RRAP)

RRAP is the largest, most comprehensive program of its type in the world; a collaboration of leading experts in reef ecology, water and land management, engineering, innovation and social sciences, drawing on the full breadth of Australian expertise and that from around the world. It aims to strike a balance between minimising risk and maximising opportunity to save Reef species and values.

After completing the world's most rigorous and comprehensive investigation into medium and large-scale reef intervention in 2019, RRAP is now embarking on a long-term R&D program to develop, test and risk-assess novel interventions to help keep the Reef resilient and sustain critical functions and values.

The goal is to provide reef managers and decision-makers with an innovative suite of safe, acceptable, and cost-effective interventions to help protect the Reef from the impacts of climate change, in conjunction with best-practice reef management and reducing carbon emissions. RRAP will be in a race against time to produce solutions and will require our best minds to work in partnership across many organisations and fields of expertise.

While RRAP is initially focused on developing technology and solutions to help the Great Barrier Reef, these solutions could also be applied to other reefs in Australia and around the world.

The first four years of the RRAP R&D Program, beginning in 2020, is funded through the \$100M allocated for reef restoration and adaptation science as part of the \$443.3M partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation. This is to be supplemented with \$100M each from philanthropy and research providers.

Australia's tropical marine research agency, The Australian Institute of Marine Science (AIMS) is the managing entity for the RRAP R&D Program. Other partners include CSIRO, Queensland University of Technology, James Cook University, The University of Queensland, Southern Cross University and the Great Barrier Reef Foundation. The R&D proposed within AIMS for which we are currently recruiting falls within three sub-programs: Eco RRAP, Coral Aquaculture and Deployment, and Enhanced Corals and Treatments.



How to Apply

Your application for a Postdoctoral Fellowship opportunity must include the following documentation:

- Current Resume (including two current references) – up to a maximum of 5 pages preferred;
- Document addressing the key selection criteria and additional essential selection criteria for the Postdoctoral Fellowship position/s you are applying for (please refer to page 6 for the selection criteria to be addressed for these positions); and
- A short cover letter.

You will only need to submit one application via our website for one or multiple Postdoctoral Fellowship position/s that you are interested in. Please complete your application form via the AIMS website for the position/s you are interested in by order of preference.

Shortlisted applicants may be asked to complete a Personal Outlook Analysis Questionnaire using the Birkman Method.

How to Apply: Please submit your application via our [website](#).

Further information on the application process and tips for addressing the Selection Criteria are available in our [Recruitment Application Guide](#)

Closing Date: Sunday 11 October 2020.

Recruitment Contact: Position enquiries can be directed to recruitment@aims.gov.au.

Key Selection Criteria and Additional Essential Criteria

Your application submission should address the following Key Selection Criteria, and the applicable Additional Essential Criteria for the Postdoctoral Fellowship position/s you are interested in applying for. Please address each Key Selection Criteria and the applicable Additional Essential Selection criteria in a separate paragraph (max 250 words per criteria) and in a single document. The selection criteria and your CV are the documents against which we assess your suitability for the position.

Please refer to our [Recruitment Application Guide](#) for tips on how to address selection criteria in your application.

Please note: if you are applying for more than one Postdoctoral Fellowship opportunity in your application, please address all Key Selection Criteria listed below once, and the Additional Essential Criteria listed below for the relevant Postdoctoral Fellowship positions you are applying for.

Key Selection Criteria

Essential:

- PhD in a relevant discipline, preferably in marine biology, ecology, evolution, or genetics.
- High level (relevant to opportunity and career stage) of academic achievement, including publications and presentations.
- High level of competence with molecular, physiological, ecological, and/or statistical analyses, experiments and/or field studies preferably with coral reef organisms.
- High level of competence with data analysis including open source environments.
- Demonstrated record of successful collaboration.
- Experience in engagement with stakeholders of diverse backgrounds.
- A commitment to and evidence of communication in discussion groups, communication, and outreach, social or traditional media and/or education.

Desirable:

- Demonstrated experience in supervising students.
- Current C Class Drivers Licence (Queensland) or ability to obtain.
- Coxswain grade 1 NC boat driving credentials, or ability to obtain.

Additional Essential Criteria

21415 Postdoctoral Fellowship – Assisted Evolution via Hybridisation:

- Ability to meet AIMS' field work requirements to restricted or scientific diver level including boating in remote locations (see AIMS Fieldwork Requirements as detailed on Page 7).

21416 Postdoctoral Fellowship – Assisted Evolution of Coral Algal Symbionts:

- Demonstrable experience in the culturing and handling of microalgae.

21420 Postdoctoral Fellowship – Adaptation Genomics of Corals:

- A strong background in experimental design and the quantitative and statistical analysis of environmental, ecological, and genomic data with an advanced proficiency in R.
- Ability to meet AIMS' field work requirements to restricted or scientific diver level including boating in remote locations (see AIMS Fieldwork Requirements as detailed on Page 7).

21421 Postdoctoral Fellowship – Coral Reproductive Ecology:

- A strong background in experimental design and the quantitative and statistical analysis of environmental and ecological data with an advanced proficiency in R.
- Ability to meet AIMS' field work requirements to restricted or scientific diver level including boating in remote locations (see AIMS Fieldwork Requirements as detailed on Page 7).

AIMS Fieldwork Requirements**

Diving and boating requirements	Qualification	Dive Hours	First Aid and Medical (can be acquired upon commencement with AIMS support)	Tasks
Restricted Scientific Diver	Rescue Diver qualification (or equivalent- CMAS 2 star)	30hrs	<ul style="list-style-type: none"> • Dive Medical -2299 • Current First AID (3 yrs.) • Current Advanced Resus (1yr) 	<ul style="list-style-type: none"> • Act as dive buddy • Tasks as approved by ADO • 15m depth limit
Scientific Diver	Min ADAS Restricted- 2815.6	60hrs	<ul style="list-style-type: none"> • Dive Medical -2299 • Current First AID (3 yrs.) • Current Advanced Resus (1yr) 	<ul style="list-style-type: none"> • Dive Leader, SCUBA operations • Scientific SCUBA diving • Night diving • Low visibility diving
Dive Coordinator	Min ADAS Restricted- 2815.6	100hrs	<ul style="list-style-type: none"> • Dive Medical -2299 • Current First AID (3 yrs.) • Current Advanced Resus (1yr) 	<ul style="list-style-type: none"> • Dive supervision, SCUBA operations • Dive planning and record keeping • Dive Leading • Scientific diving • Night diving • Low visibility diving
Boat Operator (tender vessels)	<ul style="list-style-type: none"> • QLD Recreational Marine Driver's License • Short Range Radio Operator certificate (or equivalent) 		<ul style="list-style-type: none"> • Current First AID (3 yrs.) • Current Advanced Resus (1yr) 	

Table 1: AIMS Fieldwork Requirements for undertaking boating and diving field work.



Postdoctoral Fellowships

We currently have four Postdoctoral Fellowship opportunities vacant to lead and conduct research in the Reef Restoration and Adaptation Program. Depending on the position, the Postdoctoral Fellows will use aquarium and field experiments, and ecological data, to examine how structural, biochemical and/or ecological factors influence the capacity of reefs to recover from disturbances at multiple life stages, and examine the scope for adaptation in holobiont partners.

These positions are full-time opportunities (specific position terms are listed below) and will be remunerated at AIMS AOF Level 4 (\$87,189 to \$95,915 per annum).

The research projects for these Postdoctoral Fellowship positions are as follows:

21415 – Assisted Evolution via Hybridisation (Interspecific hybridisation as a tool to enhance coral climate resilience)

Full-time, 3-year opportunity to commence October 2020

In this position, the fitness and thermal tolerance of interspecific coral hybrids will be examined in the lab and the field, and across multiple generations. The coral-associated microbiomes of hybrids and purebreds will also be characterized.

21416 – Assisted Evolution of Coral Algal Symbionts (Enhancement of coral thermal bleaching tolerance via experimental evolution of algal symbionts)

Full-time, 2-year opportunity to commence October 2020 (potential for employment term to be extended)

This position will thermally select the coral's microalgal symbionts *in vitro*, reintroduce the heat-evolved symbionts into coral and explore the holobiont phenotypic consequences in the lab and field. Symbiosis stability and genomic/metabolomic adaptations will also be examined.

21420 – Adaptation Genomics of Corals (Physiological and genomic markers of heat and bleaching tolerance)

Full-time, 3-year opportunity to commence January 2021

This position will study natural variation in heat tolerance of corals across environmental gradients on the Great Barrier Reef. The Postdoctoral fellow will bring excellence and interests in physiological and genomic analyses to support the development of markers of heat and bleaching tolerance for corals.

21421 – Coral Reproductive Ecology (Identifying environmental and biological drivers of post-deployment coral survival)

Full-time, 2-year opportunity to commence October 2020 (potential for employment term to be extended)

The Postdoctoral Fellow will lead research in both the laboratory and the field to understand the drivers of post-settlement mortality across habitats, environmental gradients, and species, and to test methods that can be applied in a restoration setting to improve survival.

Postdoctoral Fellowships Position Description

POSITION DESCRIPTION	
Position Title:	<p>Postdoctoral Fellowship (four positions):</p> <p>21415 – Assisted Evolution via Hybridisation (Interspecific hybridisation as a tool to enhance coral climate resilience)</p> <p>21416 – Assisted Evolution of Coral Algal Symbionts (Enhancement of coral thermal bleaching tolerance via experimental evolution of algal symbionts)</p> <p>21420 – Adaptation Genomics of Corals (Physiological and genomic markers of heat and bleaching tolerance)</p> <p>21421 – Coral Reproductive Ecology (Identifying environmental and biological drivers of post-deployment coral survival)</p> <p>Please review specific position project information and nominate the position for which you would like to be primarily considered and any secondary choices.</p>
Team Membership:	<p>Program 1 – A Healthy and Resilient Great Barrier Reef</p> <p>Team 1.2 – Reef Recovery, Adaptation and Restoration</p>
Primary Location:	Townsville, Queensland
Direct Supervisors:	<p>Madeleine van Oppen (Research Scientist – Geneticist 21047) for positions 21415 and 21416</p> <p>Line Bay (Climate Change Scientist – Corals 21121) for position 21420</p> <p>Carly Randall (Research Scientist - Benthic and Restoration Ecology 21341) for position 21421</p>
Position Classification:	AIMS AOF Level 4
Functional Area:	Research Scientist
Position Summary:	<p>Each Postdoctoral Fellow will lead and conduct research in the Reef Restoration and Adaptation Program. Several positions are available across key research areas that span the ecology and evolution of coral holobiont partners. Each Postdoctoral Fellow will have a high level of independence but will work as part of a team and contribute to ongoing projects through collaboration and student supervision.</p> <p>Depending on the position, the Postdoctoral Fellow will use aquarium and field experiments, and ecological data, to examine how structural, biochemical and/or ecological factors influence the capacity of reefs to recover from disturbances at multiple life stages, and examine the scope for adaptation in holobiont partners.</p> <p>Four positions are available:</p> <p>21415: In this position, the fitness and thermal tolerance of interspecific coral hybrids will be examined in the lab and the field, and across multiple generations. The coral-associated microbiomes of hybrids and purebreds will also be characterized.</p> <p>(Contact: Madeleine van Oppen: m.vanoppen@aims.gov.au)</p>

	<p>21416: This position will thermally select the coral's microalgal symbionts <i>in vitro</i>, reintroduce the heat-evolved symbionts into coral and explore the holobiont phenotypic consequences in the lab and field. Symbiosis stability and genomic/metabolomic adaptations will also be examined. (Contact: Madeleine van Oppen: m.vanoppen@aims.gov.au)</p> <p>21420: This position will study natural variation in heat tolerance of corals across environmental gradients on the Great Barrier Reef. The Postdoctoral fellow will bring excellence and interests in physiological and genomic analyses to support the development of markers of heat and bleaching tolerance for corals. (Contact Line Bay: l.bay@aims.gov.au)</p> <p>21421: The Postdoctoral Fellow will lead research in both the laboratory and the field to understand the drivers of post-settlement mortality across habitats, environmental gradients, and species, and to test methods that can be applied in a restoration setting to improve survival. (Contact Carly Randall: c.randall@aims.gov.au)</p>
Position Responsibilities:	<p>Working under limited direction, this position will:</p> <ul style="list-style-type: none"> • Significantly contribute to the design and delivery of high-impact research in the Reef Restoration and Adaptation Program and related projects. • Lead and collaborate on quality scientific papers, technical reports, and oral presentations on key research. • Lead and collaborate to deliver experiments and collaborate widely on new and existing projects. • Co-supervise research students and interns. • Take a leading role in communication internally, and support external activities as required. • Significantly contribute to reporting of the project. • Contribute to financial management of the project. • Comply with AIMS' workplace safety policies and procedures to ensure a safe workplace. • Comply with AIMS' Intellectual Property policies and procedures to ensure AIMS' intellectual assets and property are protected. • Comply with AIMS' Code of Conduct ensuring the standards of conduct required of an AIMS staff member are upheld. • Adhere to, uphold, and demonstrate the AIMS values.
Key Responsibilities and Performance Standards	
Science Outputs:	<p>Milestones: Ensure the successful completion of specific experiments as outlined within the project research plan.</p> <p>Publications: Produce scientific papers for high-impact international refereed scientific journals.</p> <p>Presentations: Present progress and results to AIMS and collaborators and the scientific community as required, via meetings, forums, and other</p>

	<p>relevant events.</p> <p>Reports: Complete reports for timely submission to funding bodies as required.</p>
Occupational Health & Safety:	<p>In line with AIMS's workplace safety policies and procedures, participate in Manual Task (Functional) Assessments and Fit for Work medical assessments.</p> <p>Identify workplace hazards and with your supervisor's guidance take corrective action.</p> <p>Immediately report any work-related accident, injury or near accident to your direct supervisor.</p> <p>Ensure visitors under your supervision have completed the necessary safety and related inductions and that they operate under AIMS's workplace safety policies and procedures to ensure a safe workplace.</p>
Intellectual Assets:	<p>Ensure compliance with AIMS' Intellectual Property policies procedures and guidelines to ensure AIMS' intellectual assets are appropriately protected and managed.</p>
Delegations:	<p>Financial: \$5,000</p> <p>Performance Management: Ensure timely and accurate completion of required tasks. Actively participate in own personal performance planning and evaluation.</p>
Teamwork/supervisory:	<p>Direct Reports: up to 2 people</p> <p>Assist other team members to collect and analyse data.</p> <p>Work as a member of a multi-disciplinary team that values inclusion and diversity while ensuring the achievement of AIMS's goals and objectives.</p> <p>Supervise post-graduate students, technicians, interns and/or volunteers if and when appropriate.</p>
External Customer, Partner, Collaborator and Stakeholder Requirements:	<p>Liaise with collaborators, international project partners and funders as appropriate, to meet objectives.</p>
Internal Organisational relationships:	<p>Develop positive work relationships with other science and service staff and provide leadership, guidance, and assistance in the laboratory and on field trips to staff and visitors.</p> <p>Communicate on a regular basis with supervisor and provide information on progression and achievement of milestones.</p>
Financial responsibilities and accountabilities:	<p>Comply with AIMS' Fraud Prevention Plan ensuring the standards of conduct and ethical behaviour required of an AIMS staff member are upheld and that suspected fraudulent activity is prevented and/or reported.</p>
Innovation, problem solving and continuous improvement responsibilities:	<p>Assist in the improvement of daily operations, systems and processes associated with AIMS research.</p> <p>Continually consider ways to improve project design or outputs to improve the research program.</p>

Planning responsibilities:	<p>Plan work activities, data analysis and production of reports and publications to ensure the achievement of timelines.</p> <p>Contribute positional requirements to operational planning.</p>
Communication responsibilities:	<p>Apply excellent verbal communication skills to influence, interpret, liaise, advise, report and counsel.</p> <p>Interact with other team members to facilitate the achievement of group and project goals.</p> <p>Communicate scientific findings to range of audiences, including scientists, managers, industry, and the public.</p> <p>Apply excellent written communication skills to compile reports of recorded data for supervisor and resulting Publication Plan.</p>
Skills and Knowledge	
Essential Skills and Knowledge:	<p>A strong theoretical and experimental background with a focus on the ecology, biology, and evolution of reef building corals.</p> <p>A strong background in experimental design and the quantitative and statistical analysis of complex data from multiple sources.</p> <p>Excellent interpersonal skills and demonstrated experience with student and/or staff supervision.</p> <p>Ability to work independently and complete assigned tasks to meet deadlines.</p> <p>Strong ability to collaborate in interdisciplinary groups.</p> <p>Excellent communication skills across platforms and audiences.</p> <p>A high level of computational ability including an advanced proficiency in R and other source environments.</p> <p>Sound knowledge of Occupational Health and Safety issues, particularly in a laboratory, aquarium, or field setting.</p> <p><i>Position Specific Essential Skills and Knowledge:</i></p> <p>21416 - Demonstrable experience in the culturing and handling of microalgae.</p> <p>21420 - A strong background in experimental design and the quantitative and statistical analysis of physiological and genomic data with an advanced proficiency in R.</p> <p>21421 - A strong background in experimental design and the quantitative and statistical analysis of environmental and ecological data with an advanced proficiency in R.</p> <p>21415, 21420 and 21421 - Ability to meet AIMS' field work requirements to restricted or scientific diver level including boating in remote locations.</p>
Desirable Skills and Knowledge:	<p>Experience with the collection and spawning of corals or other aquatic invertebrates.</p>
Qualifications and Experience	
Essential Qualifications and Experience:	<p>PhD in a relevant discipline, preferably in ecology or marine biology.</p>

	<p>High level (relevant to opportunity and career stage) of academic achievement, quality and number of publications, and/or other forms of research outputs.</p> <p>Demonstrated record of successful multidisciplinary collaboration.</p> <p>Ability and desire to participate in laboratory analyses, experiments and/or field trips to potentially remote locations.</p> <p>Experience in summarising scientific data and the ability to precisely write and edit scientific reports and publications.</p> <p><i>Position Specific Essential Qualifications and Experience:</i></p> <p>21416 - Demonstrable experience in the culturing and handling of microalgae.</p> <p>21420 - A strong background in experimental design and the quantitative and statistical analysis of physiological and genomic data with an advanced proficiency in R.</p> <p>21421 - A strong background in experimental design and the quantitative and statistical analysis of environmental and ecological data with an advanced proficiency in R.</p> <p>21415, 21420, and 21421 - Ability to meet AIMS field work requirements to restricted or scientific diver level including boating in remote locations.</p>
Desirable Qualifications and Experience:	<p>Knowledge of and ability to identify key coral species of the Great Barrier Reef.</p> <p>Coxswain grade 1 NC boat driving credentials, or ability to obtain.</p>
Technology and Equipment	
Technology & Equipment Used:	<p>Standard molecular and biochemical analyses under PC2 conditions.</p> <p>Standard and high-performance computational environments.</p> <p>Familiarity with a variety of field survey equipment and methodologies, underwater photography and/or videography.</p> <p>Familiarity with control systems for manipulative experimental aquarium systems.</p> <p>Familiarity with instruments commonly used to assess coral health and performance, including PAM fluorometry, respirometry, and image analysis.</p>
Special Requirements	
Other Special Requirements:	C Class Drivers licence or the willingness to obtain.

About the Location

Townsville

Townsville is a vibrant and rapidly growing city in North Queensland. Surrounded by the Great Barrier Reef, numerous coastal islands, the Wet Tropics rainforest and the outback, and less than two hours by plane from Brisbane, the region experiences a warm tropical climate with more than 300 days of sunshine each year.

A diverse economic base with strengths in government administration, defence, education, marine science, natural resource management, manufacturing and mining, ports and shipping and agriculture supports a current population of over 190,000 people.

Boasting a relaxed lifestyle, residents of Townsville enjoy access to world class educational, medical, sporting and recreational facilities. Townsville attracts high quality national and international festivals, cultural and sporting events.

For further information visit www.townsville.qld.gov.au

