



James Cook University is rated 5 ("well above world standard") for its research output in medical microbiology.\*

\* Excellence in Research for Australian (ERA) 2012 national report by the Australian Research Council



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OF TROPICAL HEALTH & MEDICINE



Cairns  
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## Contact Information

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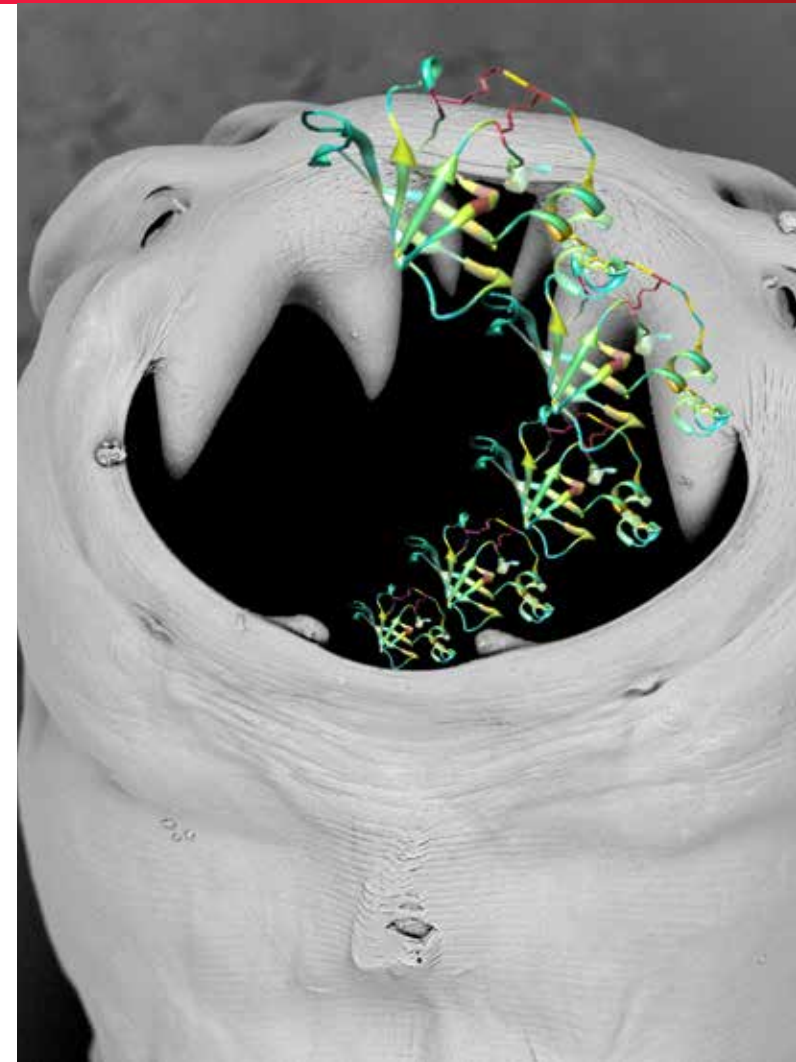
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This brochure is published by James Cook University, June 2015. This publication is intended as a general introduction to JCU. Information is correct at the time of printing. CRICOS Provider Code 00117J.

## Centre for Biodiscovery & Molecular Development of Therapeutics



## About the Centre



Tropical North Queensland, the home of James Cook University, is uniquely situated to discover and test novel compounds of therapeutic potential.

The Daintree Rainforest and Great Barrier Reef provide unparalleled biodiversity. North Queensland also harbours many parasites, edible marine species and other organisms restricted to tropical environments, such as hookworms and box jellyfish.

With such enormous biodiversity comes a rare opportunity to explore and develop new medicines derived from these natural resources as novel therapeutics for a range of non-infectious human illnesses.

The Centre for Biodiscovery and Molecular Development of Therapeutics was created to provide a framework for a diverse range of groups to collaborate on cross-disciplinary projects.

The Centre provides an innovative approach to the development of compounds of therapeutic potential under its five key programs which each comprise their own project leaders and a team of project researchers and early career researchers.

We invite you to explore with us the exciting potential of the tropical environment as we seek discoveries that will change the lives of those all over the world for the better.

## Program Areas

We are focussed on creating a brighter future for life in the tropics. We operate across five research themes with projects in Australasia, the Pacific, Asia and the Americas.

### Biodiscovery

Harnessing the therapeutic potential of the marine and terrestrial flora and fauna of the tropical environment, isolating promising molecules for analysis.

### Molecular Characterisation

Molecular analyses of bioactive molecules including determination of three-dimensional structures and bioengineering to maximise their therapeutic efficacy.

### Design and Delivery

Exploring new approaches to drug design and delivery, including the synthesis of new classes of pharmacologically-active compounds.

### Molecular Immunology

Seeking to understand the intricate pathways involved in the regulation of immune responses and to use that understanding to develop and test new therapeutics.

### Clinical Development

Facilitating the translation of new therapies from the laboratory to the clinic, with the most promising novel drug treatments being taken to human clinical trials.

## People

**Directors:** Professor Alex Loukas, A/Prof Andreas Lopata.

**Program Leaders:** Emeritus Professor Richard Keene, Professor Norelle Daly, Professor Alan Nimmo, A/Prof Jamie Seymour.

## Facilities

- **The Queensland Tropical Health Alliance Laboratories** - a state-of-the-art research facility at JCU's Cairns campus.
- **Australian Institute of Tropical Health and Medicine laboratories** - under construction at JCU's Townsville and Cairns campuses.
- **Advanced Protein Analysis Facility** - including ESI and MALDI mass spectrometry and NMR spectroscopy on JCU's Cairns campus
- **Small animal facilities** - state-of-the-art mouse facilities for infectious and non-infectious PC2 work on Cairns and Townsville campuses
- **Immunology and cell biology suites** - multi-colour flow cytometry and electron/fluorescence microscopy facilities on JCU's Cairns and Townsville campuses



Discoveries that will change lives