



## **Australian Seafood Cooperative Research Centre (CRC) Postgraduate Scholarship 2009**

**\$26,500 per annum indexed yearly**

### **“Processing of Sea cucumber viscera for bioactive compounds.”**

In collaboration with Flinders University and Tasmanian Seafood Pty. Ltd., the Australian Seafood CRC offers a scholarship of \$26,500 per annum for three years for a Postgraduate Student. The scholarship has an additional operating budget of at least \$5,000 per year for three years and \$300 towards thesis binding in the third year. A further \$1,000 per year is also available for defined mentor activities to be approved by the CRC. As a Seafood CRC student the successful candidate will be fully engaged in the CRC PhD program which will support the development of the student as a scientist in a number of innovative ways through annual workshops and mentoring programs (see [www.seafoodcrc.com](http://www.seafoodcrc.com)).

### **Project description**

We are looking to appoint a postgraduate scholar to a PhD project that aims to identify and characterize bioactive compounds from a marine organism prevalent in Australian waters. This PhD project addresses the critical area of deriving products of high value from products of the seafood processing industry that are currently considered to be of no value or an additional cost burden. It has the potential of converting these negative cost products to income generators and moves the industry to be contributors to the lucrative functional food market. This can be achieved through the identification of novel bioactives and the development of novel technology for seafood processing co-products such as sea cucumber viscera.

This project will develop extraction and fractionation protocols to obtain extracts and fractions of various polarity and molecular weights from sea cucumber viscera and test these extracts and hydrolysates for bioactivities using established chemical analyses and biological assays. Overall, this project will introduce novel technologies for processes at existing processing plants, for value-added seafood co-products. The project will contribute to Australian Seafood CRC Program 1B – Value Chain profitability.

The student will be enrolled at Flinders University, Adelaide, but the position will require some travel to Tasmania for the collection of sea cucumbers and interaction with the supporting industry. The student will be co-supervised at Flinders by Professor Chris Franco, who has over 20 years of experience in drug discovery, and Associate Professor Wei Zhang, a biochemical engineer with expertise in bioprocessing of marine organisms. External collaborators in the project include an industry mentor, Mr Grant Leeworthy, Fisheries Research Manager, Tasmanian Seafood Pty. Ltd.

### **Selection criteria – essential**

*(Note for intending applicants – applicants should address each selection criterion individually and should argue their case by citing evidence to support their claims rather than presenting a list of facts only. A willingness to explore and learn is also important.)*

1. An Honours (1<sup>ST</sup> or 2A) degree, Master's degree (Distinction average) or equivalent in a relevant discipline (e.g., Biological Sciences, Biotechnology, Biochemical Engineering, Cell and Molecular Biology, Fisheries, Aquaculture, and Food Sciences).
2. Ability and experience in working both independently and as part of an interdisciplinary team.
3. Strong written and oral communication skills, including an ability to publish and present results of scientific research and to communicate effectively in a variety of scientific and non-scientific forums.
4. Knowledge, understanding and commitment to Equal Employment Opportunity, Occupational Health and Safety including biosafety, Workplace Diversity and Employee Participation.

The student will work in the newly commissioned Health Sciences Building housing the Flinders Marine Bioproducts and Bioprocessing facility located in the laboratories of the Dept. of Medical Biotechnology, Flinders Medical Science and Technology.

### **Selection criteria – desirable**

5. A commitment to applied research and an interest in supporting the development of Australia's seafood industry.
6. Demonstrated ability to conduct independent research into literature and other sources of information on existing research on characterisation and bioprocessing of functional food products and bioactives.
7. Demonstrated ability to perform laboratory based extraction, fractionation, analysis and bioprocess procedures (e.g., dissection, homogenisation, hydrolysis, de-lipidation, enzymatic digestion, microscopy, biochemical analysis, HPLC, GC-MS, spectrophotometer, bioassay, 2-D gel electrophoresis).

### **Other information**

Applicants are required to include two documents: (1) a document addressing the selection criteria and (2) a "Resume or CV" including the names of at least two referees. For instructions on how to apply, please follow the information on the following links:

[http://www.flinders.edu.au/scholarships-system/main-display-scholarship-details.cfm?scholarship\\_id=1943](http://www.flinders.edu.au/scholarships-system/main-display-scholarship-details.cfm?scholarship_id=1943) The application form is at

<http://www.flinders.edu.au/scholarships-system/forms/hdrs-scholarships.cfm> International applicants must meet the English language requirement - see

<http://www.flinders.edu.au/international-students/study/entry--and-english-requirements/english-language-requirements.cfm>

## **Selection of Candidates**

The final decision on the award of this scholarship will be based on an assessment of the requirements of the total Position Description. The decision will be final but feedback may be given to unsuccessful candidates as to how to improve their future applications. For further information regarding this scholarship, organisational environment and other aspects of pursuing a PhD at Flinders University and with the Australian Seafood CRC, please contact:

Prof Chris Franco

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Flinders University, Adelaide, SA 5001

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OR;

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Closing date for applications: **30th June, 2009.**