

# Honours research project opportunity



## ***Development of a rapid non-invasive biomarker assay for barramundi sex***



Contact Supervisor: Jarrod Guppy  
(<https://scholar.google.com.au/citations?user=m9LLU8AAAAAJ&hl=en> )

Location: James Cook University, Townsville 4814, QLD Australia.

Other Supervisors: Professor Dean Jerry and others see <https://www.jcu.edu.au/arcsta/teams>

Honours. Applicants should be familiar with the [Honours Student Research Requirements](#)

### **Project summary**

Managing broodstock populations requires a clear understanding of the reproductive status, identity and relationship between individuals. Barramundi broodstock are protandrous hermaphrodites causing several challenges for management of breeding populations by changing sex from male to female mid-way through life. No visual characteristics can be used to determine the sex of broodstock and when not in reproductive condition retrieval of sperm or eggs to confirm sex is not possible. As such, rapid, reliable and non-invasive methods are required to sex individual barramundi broodstock and determine their reproductive status. This Honours project will develop a swab-based biomarker assay for application in research and commercial production of barramundi.

This Honours project is embedded within both The ARC Industrial Transformation Research Hub for Supercharging Tropical Aquaculture through Genetic Solutions, and the ARC Early Career Industry Fellowship - Novel reproductive approaches to de-risk and transform barramundi breeding.

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