

## Connor Robert Gervais

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Citizenship: American

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Current Residence: Australia

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### EDUCATION:

#### PhD in Marine Biology

April 2019 (anticipated)

Macquarie University, Sydney, New South Wales, AUSTRALIA

Thesis Title: Physiological and behavioural responses of embryonic and juvenile Port Jackson sharks (*Heterodontus portusjacksoni*) to environmental stressors, natural and anthropogenic

Supervisor: Dr. Culum Brown and Dr. Jodie L. Rummer

#### M.Sc. in Marine Biology and Ecology,

January 2016

James Cook University, Townsville, Queensland, AUSTRALIA

Thesis Title: Too hot to handle? Juvenile epaulette sharks, *Hemiscyllium ocellatum*, and predicted future ocean temperatures

Supervisor: Dr. Jodie L. Rummer

#### B.S. in Marine Biology,

June 2013

University of California, Santa Cruz (UCSC), Santa Cruz, California, USA

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### RESEARCH INTERESTS:

Physiological and behavioural mechanisms of developing elasmobranchs their response to environmental stressors, including anthropogenic climate change as well as natural stressors (e.g. predator response, seasonal fluctuations, etc.) and differential responses of individuals between nurseries and/or populations.

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### AREAS OF SPECIALIZATION:

- Temperature preference, tolerance, and activity assays in aquatic animals
- Oxygen consumption and respirometry techniques
- Aquatic swimming performance
- Aquatic animal video and movement assessments
- Embryonic shark husbandry and staging
- Collection, identification, tagging (and associated surgery) and husbandry of teleost and elasmobranch species

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### PUBLICATIONS:

**Gervais C**, Mourier J, Rummer J (2015) Developing in warm water: irregular colouration and patterns of a neonate elasmobranch. *Mar Biodivers*: 1-2

- Gervais CR**, Nay TJ, Renshaw G, Johansen JL, Steffensen JF, Rummer JL (2018) Too hot to handle? Using movement to alleviate effects of elevated temperatures in a benthic elasmobranch, *Hemiscyllium ocellatum*. *Marine Biology* 165: 162 doi 10.1007/s00227-018-3427-7
- Vila Pouca C, **Gervais C**, Reed J, Brown C (2018) Incubation under climate warming affects behavioural lateralisation in Port Jackson sharks. *Symmetry*: 10, 184
- Nay TJ, **Gervais CR**, Hoey AS, Johansen JL, Steffensen JF, Rummer JL (2018) The emergence emergency: A mudskipper's response to temperatures. *Journal of Thermal Biology* 78: 65-72 doi <https://doi.org/10.1016/j.jtherbio.2018.09.005>
- Hernandez AV, **Gervais CR**, Rummer JL, Porter ME (*In Review*) Born to walk: swimming and aquatic walking kinematics of epaulette sharks. *Journal of Experimental Biology*
- Vila Pouca C, **Gervais CR**, Reed J, Michard J, Brown C (*In Review*) Global warming enhances quality discrimination in sharks. *Behavioural Ecology and Sociobiology*
- Nay TJ, Longbottom RJ, **Gervais CR**, Johansen JL, Rummer JL, Steffensen JF, Hoey AS. Microhabitat use and temperature utilization in a coral reef flat specialist, the epaulette shark *Hemiscyllium ocellatum*. (In prep)
- Gervais CR**, Rummer JL, Brown C. Physiological and behavioural response to predation during the embryonic development of *Heterodontus portusjacksoni*. (In prep)
- Gervais CR**, Flee, fight, freeze. Physiological and behavioural responses of juvenile Port Jackson shark to conspecific “death cues” (In prep)
- Gervais CR**, Fuchert T, Rummer JL, Huveneers, CPM, Brown C. The role of elevated temperature on physiological and embryonic development of an oviparous benthic shark (In Prep)
- Gervais CR**, C Rummer JL, Huveneers, CPM, Brown C. How hot is too hot? Thermal tolerance and performance of young Port Jackson sharks (*Heterodontus portusjacksoni*) (In Prep)

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**GRANTS AND FUNDING:**

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| Fisheries Society of the British Isles- Travel award (£1,000 GBP)<br>Attendance to Species on the Move conference, Kruger National park, South Africa   | 2019 |
| Society of Experimental Biology- Company of Biologists travel grant (£470.00 GBP)<br>Attendance to Sharks International Conference, Joao Pessoa, Brazil | 2018 |
| Department of Biological Sciences- grant matching scheme (\$850 AUD)<br>Macquarie University, Sydney, New South Wales, Australia                        | 2018 |

Wainright Fellowship (\$1,400 USD) Friday Harbor Laboratories, University of Washington, Washington, USA	2017
Friday Harbour Laboratories Adopt-a-student endowment (\$1,800 USD) Friday Harbor Laboratories, University of Washington, Washington, USA	2017
Department of Biological Sciences (\$1,000) Macquarie University, Sydney, New South Wales, Australia	2017
ASFB John Glover Travel Fund (\$400 AUD) Attendance to Australian Society for Fish Biology/Oceania Chondrichthyan Society Conference	2016
ARC linkage grant and International Macquarie University Research Excellence Scholarship (\$26,288 AUD per annum) PhD living stipend	2015-2019
Department of Biological Sciences (\$3,000 AUD per annum) Macquarie University postgraduate research fund	2015-2019
Macquarie University Postgraduate Research Scholarship (\$37,997 AUD per annum) Tuition for 3 years	2015-2019
James Cook University (\$500 AUD) M.Sc. research	2015

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**PROFESSIONAL EXPERIENCE:**

**Fish Swimming Course, Friday Harbor Laboratories, Washington, USA** 2015

Supervisors: Dr. Paolo Domenici, Prof. John Steffensen, Dr. Jacob Johansen

Project and experience:

- Swimming performance of surf perch and the cost of turning when exposed to bidirectional flow (i.e., surge)
- Laterality assays
- Physiological, behavioural, and kinematic techniques and assays
- Video and photo analysis training

**Research assistant:** Macquarie University Sydney NSW 2109 2015-2017

Supervisor: A/Prof. Culum Brown

Responsibilities:

- Collected and tagged Port Jackson sharks (*Heterodontus portusjacksoni*) via SCUBA/skin diving; Tagged new individuals using PIT tags and measured and logged all individuals caught
- Dive coordinator
- Boat skipper
- Trained volunteers

**Research assistant and Lab technician:** ARC Centre of Excellence for Coral Reef Studies 2014- 2016  
James Cook University, Townsville, QLD, AUSTRALIA

Supervisor: Dr. Jodie L. Rummer

Responsibilities:

- Training new students and volunteers, organizing volunteers, equipment care and maintenance, laboratory care and maintenance, animal husbandry; developing experimental protocols
- Designing and executing behavioural and physiological research exploring effects of temperature on developing sharks

**MSc Minor Research Project:** James Cook University, Townsville, Australia 2015

Supervisor: Dr. Jodie L. Rummer

- Determined temperature preference of reef flat specialists, *Hemiscyllium ocellatum*, exposed to a range of current and end-of-century predicted temperatures in addition to monitoring growth, food consumption and survival of neonate sharks
- Determined upper thermal limits of adult sharks during seasonal extremes

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**PRESENTATIONS:**

How hot is too hot? Temperature's role on the development and physiology of a benthic shark

2018 Sharks International; Joao Pessoa, Brazil

2018 Macquarie University HDR conference

Fight, flight, or freeze? Physiological and behavioural responses of juvenile Port Jackson sharks

(*Heterodontus portusjacksoni*) to conspecific death cues

2017 Macquarie University HDR conference

The use of movement by a benthic elasmobranch species, *Hemiscyllium ocellatum*, to alleviate effects of temperature

2016 ASFB/OCS Conference, Hobart, Tasmania, Australia

Behavioural thermoregulation of a coastal benthic elasmobranch, *Hemiscyllium ocellatum*

2015 MSc Presentation, James Cook University, Townsville, Queensland, Australia

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**TEACHING EXPERIENCE:**

**Tutor (Teaching assistant):**

2017

Macquarie University; Sydney, NSW, Australia

Vertebrate evolution- year 3 course

Professor: Dr. Culum Brown

**Supervisor for undergraduate/MSc students**

2016-2018

Macquarie University; Sydney, NSW, Australia

Supervisor: Dr. Culum Brown

**Mentor for visiting international students**

2014-2016

ARC Centre of Excellence for Coral Reef Studies,  
James Cook University, Townsville, QLD, AUSTRALIA

Supervisor: Dr. Jodie L. Rummer

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**SKILLS AND CERTIFICATIONS:**

**Diving**

Macquarie University Dive and Snorkelling Coordinator (2017- current)

James Cook University Dive Leader (2014- current)

PADI Divemaster (2011)

AAUS Scientific Diver (2011)

NAUI Nitrox (2011)

NAUI Master Diver (2011)

PADI Rescue Diver (2010)

Experience:

Dives: 600+ hrs

Divemaster: 400+ hours

Dive Coordinator: 60+ hrs

Snorkelling Coordinator: 60+ hrs

**Boating**

General Boat Driving Licence

Short Range Operator Certificate of Proficiency (SROCP) (2018)

Boat hours:

Training and proficiency (Macquarie University): 4 days

Field work:

Day: 40+ days

Night: 4 nights

**First Aid and advanced resuscitation**

HLTAID001 Provide cardiopulmonary resuscitation (2007- current)

HLTAID003 Provide first aid (2007- current)

HLTAID007 Provide advanced resuscitation (2010- current)

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**REFERENCES:**

**Professor Culum Brown**, PhD supervisor

Department of Biological Sciences

Macquarie University, Sydney NSW

Australia

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