

CV: MIKE MCWILLIAM

PERSONAL

Email: mjmcwilliam@outlook.com

Citizenship: British (J1 Exchange Visitor to the US)

CURRENT POSITION

2019-Present Postdoctoral Research Fellow in Quantitative Ecology
Hawaii Institute of Marine Biology, University of Hawaii Manoa

PRIOR POSITIONS

2018-2019 Research Associate in Coral Reef Biodiversity
ARC Centre of Excellence for Coral Reef Studies, James Cook University
Project: *The functional biogeography of the Pacific Ocean*

EDUCATION

2015-2018 PhD (*Cum Laude*), Natural and Physical Sciences
ARC Centre of Excellence for Coral Reef Studies, James Cook University
Thesis title: *The functional diversity and redundancy of corals*

2009-2012 BA (Hons 1st Class) Biological Sciences
University of Oxford
Dissertation: *Evolutionary radiations of Antarctic Hydrocorals*

RESEARCH INTERESTS

Demography	Trade-offs in demographic rates; comparative demography and traits ⁹
Biogeography	Global patterns of biodiversity using spatial and functional trait data ^{2, 5}
Resilience	Long-term dynamics; disturbance, recovery and regime shifts ⁷
Climate Change	Response of populations and ecosystems to warming; coral bleaching ^{1, 3}
Ecosystem function	Diversity-productivity relationships; facilitation and response diversity ^{4, 8}

PUBLICATIONS - [Google Scholar](#)

- 2020 ⁹ Pratchett, M. S., **McWilliam, M. J.**, & Riegl, B. (2020). Contrasting shifts in coral assemblages with increasing disturbances. *Coral Reefs*, 1-11 ⇒
- ⁸ Chase, T. J., Pratchett, M. S., **McWilliam, M. J.**, Hein, M. Y., Tebbett, S. B., & Hoogenboom, M. O. (2020). Damselfishes alleviate the impacts of sediments on host corals. *Royal Society Open Science*, 7(4), 192074. ⇒
- ⁷ **McWilliam, M.**, Pratchett, M. S., Hoogenboom, M. O., & Hughes, T. P. (2020). Deficits in functional trait diversity following recovery on coral reefs. *Proceedings of the Royal Society B*, 287(1918), 20192628. ⇒
- 2019 ⁶ **McWilliam, M.** (2019) The functional diversity and redundancy of corals. Doctoral dissertation, James Cook University. ⇒
- ⁵ Doszpot, N. E., **McWilliam, M. J.**, Pratchett, M. S., Hoey, A. S., & Figueira, W. F. (2019). Plasticity in Three-Dimensional Geometry of Branching Corals Along a Cross-Shelf Gradient. *Diversity*, 11(3), 44. ⇒

- 2018 ⁴ **McWilliam, M.**, Chase, T.J., Hoogenboom, M.O. (2018). Neighbor Diversity Regulates the Productivity of Coral Assemblages. *Current Biology* 28.22 (2018): 3634-3639 *Cover feature →
- ³ Hughes, T. P., Kerry, J. T., Baird, A. H., Connolly, S. R., Dietzel, A., Eakin, C. M., ... & **McWilliam, M. J.** (2018). Global warming transforms coral reef assemblages. *Nature*, 556.7702 (2018): 492 →
- ² **McWilliam, M.**, Hoogenboom, M. O., Baird, A. H., Kuo, C. Y., Madin, J. S., & Hughes, T. P. (2018). Biogeographical disparity in the functional diversity and redundancy of corals. *Proceedings of the National Academy of Sciences*, 115 (12) 3084-3089 →
- 2017 ¹ Hughes, T. P., Kerry, J. T., Álvarez-Noriega, M., Álvarez-Romero, J. G., Anderson, K. D., Baird, A. H., ... & **McWilliam, M.J.** (2017). Global warming and recurrent mass bleaching of corals. *Nature*, 543(7645), 373 *Cover feature →

MEDIA COVERAGE

- 2020 Recovery study⁷ featured in 'When reef ecosystems fail to recover' [China Daily](#).
- 2019 Reef productivity study⁴ highlighted on [F1000 Prime](#).
- 2018 Coral bleaching study³ reaches the 2018 [Altmetric Top 100](#) (#9); over 200 news articles
Biogeography study² in a [PNAS featurette](#) 'Diversity in tropical reef ecosystems'
Biogeography study² in a [Coral COE](#) article, 'Redundancy offers reassurance to reefs'
- 2017 Coral bleaching study¹ reaches the 2017 [Altmetric Top 100](#) (#21); over 350 news articles
- 2016 '13 Messages from Marine Biologists Fighting for the Great Barrier Reef' [Buzzfeed](#)

PRESENTATIONS & WORKSHOPS

- 2021 Session Host (confirmed): "Can functional studies provide a sustainable future for coral reefs?" International Coral Reef Symposium (ICRS), Bremen, Germany
- 2020 Presenter: "Navigating coral trait space" Department of Biology Seminar Series, University of Hawaii Manoa
- 2019 Coral Demography Workshop, Boone Center for Science and Environmental Leadership at the Wrigley Marine Science Center on Santa Catalina Island
- 2018 Presenter: "The functional diversity and redundancy of corals", PhD Exit Seminar, ARC Centre of Excellence for Coral Reef Studies; [\[video\]](#)
- 2017 Session Host: "Species, traits and Coral Reef Processes" European Coral Reef Symposium (ECRS), Oxford, United Kingdom.
Presenter: "Linking coral assemblages to community productivity", European Coral Reef Symposium (ECRS), Oxford, United Kingdom.
Presenter: "Regional disparity in the diversity and redundancy of coral functional roles." Australian Coral Reef Society (ACRS) Conference, Townsville, Australia.
- 2016 Presenter: "Functional collapse on Caribbean Coral Reefs.", International Coral Reef Symposium (ICRS), Honolulu, Hawai'i, USA.

AWARDS & FUNDING

- 2019 Australian Marine Science Association (AMSA, North Queensland Division) Award for Research
- 2018 Virginia Chadwick Award for outstanding publication in peer-reviewed international journals (AUD 1000)

2017	Vikki Harriot Award, Outstanding Conference Presentation Award Australian Coral Reef Society (AUD 500)
2015	JCUPRS Scholarship, Postgraduate Research Scholarship (AUD 204,872)
2012	Brasenose Travel Grant (GBP 500, for coral reef ecology workshop, Bermuda) Bermuda Institute Of Ocean Sciences Scholarship (GBP 2000)
2009	Brasenose Travel Grant (GBP 500, for a research work placement, Indonesia)

RESEARCH EXPEDITIONS

2019	[16] Kaneohe Bay, Oahu (Bleaching surveys, multiple surveys over 6 months); [15] Palau (Coral trait variation study, duration: 21 Days)
2018	[14] Southern Coral Sea (Coral Sea Monitoring, duration: 20 Days); [13] Orpheus Island (Coral recruitment study, duration: 7 Days); [12] Central Coral Sea (Coral Sea Monitoring, duration: 17 Days)
2017	[11] Palm Island Reefs, Great Barrier Reef (AIMs expedition, duration: 10 days), [10] Whitsunday Island Reefs (Coral recruitment study, duration: 6 days); [9] Central Great Barrier Reef (AIMs expedition, duration: 15 days); [8] Orpheus Island, Australia (Reef productivity study, 2 Months)
2016	[7] Great Barrier Reef, Cairns to Cooktown (Bleaching Mortality Surveys, duration: 28 days), [6] Heron Island, Great Barrier Reef (Fish behaviour study; duration; 21 days); [5] Opal Reef, Great Barrier Reef (Fish behaviour study; duration: 4 days); [4] Great Barrier Reef, Cairns to Cooktown (Bleaching surveys, duration: 28 days)
2015	[3] Palm Island Reefs (Cross-shelf growth study, duration: 7 days), [2] Orpheus Island, Great Barrier Reef (Pre-bleaching surveys; duration: 14 days); [1] Lizard Island, Great Barrier Reef (Fish movement study; duration; 21 days).

POLICY REPORTS

2017	Briefing to MP's on Great Barrier Reef Bleaching, delivered to MP's at 'Science Meets Parliament' in Canberra, Australia
2016	Advancing Climate Action in Queensland and Science-based policy plan for the Great Barrier Reef , written and submitted to MP's for the Australian Coral Reef Society

OTHER SKILLS & ACTIVITIES

SCUBA Instructor	Marine Science and SCUBA Instructor, working in 2012-2014 for (1) ActionQuest, British Virgin Islands, (2) W Resort, North Ari Atoll, Maldives (3), Heron and Hayman Island, Great Barrier Reef, and (4) Bayplay Adventure Tours, Victoria, Australia
Reviewer	Reviewer of manuscripts for <i>Proceedings of the Royal Society B</i> , <i>Functional Ecology</i> , <i>Coral Reefs</i> , <i>Marine and Freshwater Research</i> , and <i>Biodiversitas</i> ; <i>Indonesian Journal of Biodiversity</i> . Reviewer of grant proposals for the National Science Foundation (NSF) and Centre de synthèse et d'analyse sur la biodiversité (CESAB).