



MARTINO MALERBA

Postdoctoral research fellow
Deakin University, Australia

APPOINTMENTS

ALFRED DEAKIN POSTDOCTORAL RESEARCH FELLOW

Deakin University (VIC)
*Improving the resilience of
farm dams to climate change*
Supervisor:
Prof. Peter Macreadie
2020-ongoing

POSTDOCTORAL FELLOW AT THE CENTRE FOR GEOMETRIC BIOLOGY

Monash University (VIC)
*Eco-evolutionary dynamics of
cell size in phytoplankton*
Supervisor:
Prof. Dustin Marshall
2016-2020

Private Statistical Consultant

James Cook University (QLD)
Supervisor: Emeritus Prof.
Rhonda Jones
2015-2016

CONTACT

✉ martino.malerba@gmail.com

☎ +61 (4) 2060-9231

FIRST-AUTHOR ARTICLES

*[Impact Factor]

1. MALERBA, M.E., Ghedini G., & Marshall, D.J. (2020) Genome Size Affects Fitness in the Eukaryotic Alga *Dunaliella tertiolecta*. *Current Biology*, 30, 3450-3456 [9.6]
2. MALERBA, M.E., Marshall, D.J. Palacios, M. M. Raven, J. A. & Beardall, J. (in press) Cell size influences inorganic carbon acquisition in artificially selected phytoplankton. *New Phytology*, [8.5]
3. MALERBA, M.E. & Marshall, D.J. (2020) Testing the drivers of the temperature-size covariance using artificial selection. *Evolution*, 74,169-178 [3.7]
4. MALERBA, M.E., White, C.R. & Marshall, D.J. (2019) The outsized trophic footprint of marine urbanization. *Frontiers in Ecology and the Environment*, 17, 400-406 [9.3]
5. MALERBA, M.E. & Marshall, D.J. (2019) Size-abundance rules? Evolution decouples body size, energy and demography. *Ecology Letters*, 22, 1407-1416 [8.7]
6. MALERBA, M.E., Palacios, M.M. & Marshall, D.J. (2018) Do larger individuals cope with resource fluctuations better? An artificial selection approach. *Proc. R. Soc. B.*, 285, 1-9 [4.6]
7. MALERBA, M.E., White, C.R. & Marshall, D.J. (2018) Eco-energetic consequences of evolutionary shifts in body size. *Ecology Letters*, 21, 54-62. [8.7]
8. MALERBA, M.E., Palacios, M.M., Delgado, Y.M.P., Beardall, J. & Marshall, D.J. (2018) Cell size, photosynthesis, and the package effect: An artificial selection approach. *New Phytol.* 219, [8.5]
9. MALERBA, M.E., White, C.R. & Marshall, D.J. (2017) Phytoplankton size-scaling of net-energy flux across light and biomass gradients. *Ecology*, 98, 3106-3115. [5.8]
10. MALERBA, M.E., Heimann, K. & Connolly, S.R. (2016) Nutrient utilization traits vary systematically with intraspecific cell size plasticity. *Funct. Ecol.*, 30, 1745-1755. [5]
11. MALERBA, M.E., Connolly, S.R. & Heimann, K. (2016) Standard flow cytometry as a rapid and non-destructive proxy for cell nitrogen quota. *J. App. Phycol.*, 28, 1085-1095. [3.2]
12. MALERBA, M.E., Heimann, K. & Connolly, S.R. (2016) Improving dynamic phytoplankton reserve-utilization models with an indirect proxy for internal nitrogen. *J. Theor. Biol.*, 404, 1-9. [2.3]

MARTINO MALERBA

POSTDOCTORAL RESEARCH FELLOW

Deakin University, Australia

EDUCATION

PHD IN ECOLOGICAL MODELLING

James Cook University (QLD)

Prof. Sean R. Connolly

Thesis: Modelling nitrogen-limited dynamics in phytoplankton populations. 2012-2015

HONOURS IN ECOLOGICAL MODELLING

James Cook University (QLD)

Prof. Sean R. Connolly

Thesis: Modelling the effects of cell size on demography and nutrient dynamics in microalgal cultures 2010

MARINE BIOLOGY ADVANCED MAJOR

James Cook University (QLD)

Awarded with Academic

Medal for Coursework

2007-2009

13. MALERBA M.E., Connolly, S.R. & Heimann, K. (2015) An experimentally validated nitrate-ammonium-phytoplankton model. *Ecological Modelling* 317: 30-40. [2.4]

14. MALERBA, M.E., Connolly, S.R. & Heimann, K. (2012) Nitrate-nitrite dynamics and phytoplankton growth: Formulation of a dynamic model. *L&O*. 57, 1555-1571. [3.8]

COLLABORATIONS

15. Ghedini, G., MALERBA, M.E. & Marshall, D.J. (2020) How to estimate community energy flux? A comparison of approaches. *Proc. R. Soc. B*. [4.6]

16. Malara, D., MALERBA, M.E., Heimann, K. (2019) Sensitivity of Live Microalgal Aquaculture Feed to Singlet Oxygen-Based Chemotherapy. *J App. Phycol.* [2.6]

17. Sezmis, A.L., MALERBA, M.E., Marshall, D.J. & McDonald, M.J. (2018) Beneficial mutations from evolution experiments increase rates of growth. *J Mol Evol*, 86, 111-117. [2]

18. Palacios M.M., MALERBA, M.E. and McCormick M. (2018) Multiple predator effects on juvenile prey survival. *Oecologia*, 188, 417-427. [3.1]

19. Dubuc, A., Waltham, N., MALERBA, M.E. & Sheaves, M. (2017) Extreme dissolved oxygen variability in urbanised tropical wetlands. *Estuar Coast Shelf Sci*, 198, 163-171. [2.6]

20. Cameron, H., Monro, K., MALERBA, M.E., Munch, S. & Marshall, D.J. (2016) Why do larger mothers produce larger offspring? A test of classic theory. *Ecology*, 97, 3452-3459. [4.6]

RESEARCH INCOME

- *Fellowship*. Alfred Deakin Research Fellowship at Deakin Uni. (2020-2022) AU\$ 228,692 (salary + funds)
- *Fellowship*. Centre for Geometric Biology Fellowship at Monash Uni. (2016-2020) AU\$ 399,760 (salary + funds)
- *PhD scholarship*. Aus. Institute of Marine Science PhD scholarship (2012-2015) AU\$149,743 (salary + funds)
- *Course scholarship*. Enhancing Linkages between Math and Ecology, Michigan State Uni. (2013) US\$ 10,000
- *Grant*. Science-IT-Engineering ECR Interdisciplinary Research Grant, Monash University (2018) AU\$ 10,000
- *Grant*. Seagrass Mapping project, Parks Victoria #RPP 1920 P14 (2020) AU\$ 30,000 (CI: Dr Paul Carnell)
- *Grant*. Floating wetlands for wastewater treatments, Wannon Water grant (2019) AU\$ 20,000 (CI: Dr Tim Tutt)

MARTINO MALERBA

POSTDOCTORAL RESEARCH FELLOW

Deakin University, Australia

TEACHING

- *Lecturer*. Postgraduate courses SIT764 and SIT782, School of Information Technology (20 hours completed across 3 trimesters) • Deakin Uni. • 2020-ongoing
- *Guest lecturer*. Undergraduate course BIO3021 on Marine Biology with Prof Dustin Marshall • Monash Uni. • 2016-2020
- *Guest lecturer*. Undergraduate course on Env. Biology (BIO1042) with Prof Dustin Marshall • Monash Uni. • 2018
- *Workshop coordinator*. I prepared all materials for a 3-hour workshop and a 1-hour lecture on "Bayesian statistical methods" at James Cook University as part of the Master course "Ecological Dynamics: Modelling With Data" (MB5340)
- *Teaching assistant* for undergraduate and Master course on Ecological Modelling (MB5340) with Prof Sean Connolly • James Cook Uni. • 2015
- *Teaching assistant* for undergraduate and Master courses on Quantitative Methods in Biology (BS2001-BS5001) with Prof Simon Robson • James Cook Uni. • 2012-15
- *Teaching assistant* for first-year course on Modelling Natural Systems (SC1102) with A/Prof Yvette Everingham • James Cook Uni. • 2013-15
- *Teaching assistant* for first-year course on Botany (BT1001) with Prof Joseph Holtum • James Cook Uni. • 2011

DEPARTMENTAL SEMINARS

- EAWAG research station, ETH Zurich, Switzerland. Title: Energetic Consequences of an Evolutionary Shift in Body Size. Host: A/Prof Francesco Pomati (2018)
- Monash University, Melbourne, Australia. Title: Eco-Evolutionary Dynamics of Body Size in Phytoplankton. Host: Prof Dustin Marshall (2018)
- University of California, Berkley, USA. Title: The Eco-Evolutionary Dynamics of Cell Size: a Case Study on the Green Alga *Dunaliella Tertiolecta*, Host: Prof Anastasios Melis (2016)

CONFERENCES (ORAL PRESENTATIONS)

- Microbial Ecology-Environmental Microbiology (MEEM) conference. Melbourne, Australia (2020)
- Australasian Evolution Society. Sydney, Australia (2019)
- Second International Joint Congress on Evolutionary Biology, as part of the symposium "In vivo, in vitro, in silico experimental evolution. Convergence and insights into evolution" • France • 2018
- Australasian Evolution Society. Hobart, Australia (2017)
- Western Society of Naturalists. Monterey, USA (2016)
- Ecological Society of America. Baltimore, USA (2015)
- Australasian Society for Phycology and Aquatic Botany. Sydney, Australia (2014)
- Asia-Pacific Conference on Algal Biotechnology. Adelaide, Australia (2012)

AWARDS

- Presentation Award. Early-Career Researcher Symposium, Monash University (2018) AU\$ 2,000
- Presentation Award. Postgraduate Conference, Australian Institute of Marine Science (2014) AU\$ 1,000
- Presentation Award. Postgraduate Conference, James Cook University (2014) AU\$ 300
- Presentation Award. Postgraduate Conference, Australian Institute of Marine Science (2013) AU\$ 2,000

MARTINO MALERBA

POSTDOCTORAL RESEARCH FELLOW

Deakin University, Australia

ACADEMIC ROLES

Panel Member

PhD milestone
Monash University, 2019

Committee Member

Australasian Society for
Phycology and Aquatic Botany
(ASPAB)
2013-2016

Reviewer

Various ecological scientific
journals, including
Ecology Letters, Ecology,
Functional Ecology, J. of
Theoretical Biology, Proc. R.
Soc. L. B., J. of Phycology, Algal
Research

OUTREACH

Writer for The Conversation
2019

**Writer for the Australasian
Science Magazine**
2017- 2019

Radio Interviews

SBS radio (2019)
Triple R (2019)
3CR community radio (2018)

REFERENCES

PROF. DUSTIN MARSHALL

Postdoc Mentor (2016-2020)
Head of Marine Evolutionary Ecology Group
School of Biological Sciences, Monash University Clayton
P: (+61) 4 1886 7242
E: dustin.marshall@monash.edu

PROF. SEAN CONNOLLY

PhD and Honours Supervisor (2010-2015)
Head of Ecological Modelling Group at James Cook University
College of Science and Eng., James Cook University, Townsville
P: (+61) 7 4781 4242
E: ConnollyS@si.edu

PROF. PETER MACREADIE

Fellowship Mentor (2020-ongoing)
Head of the Blue Carbon Lab, Centre for Integrative Ecology
Deakin University, Burwood, Melbourne
P: (+61) 4 2254 8672
E: p.macreadie@deakin.edu.au

PROF. RHONDDA JONES

Supervisor for private statistical consultant position (2015)
Graduate Research School, James Cook University, Townsville
P: (+61) 7 4781 4288
E: rhondda.jones@jcu.edu.au