

# GHEDINI GIULIA

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## POSITIONS HELD

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- 2021 – present **Group Leader & “la Caixa” Fellow**, Functional Ecology Group  
Instituto Gulbenkian de Ciência, Oeiras, Portugal
- 2019 – 2021 **Australian Research Council (ARC) DECRA Fellow**  
School of Biological Sciences, Monash University, Australia. Host: Prof. Dustin Marshall
- 2016 – 2019 **Postdoctoral Researcher**  
Centre for Geometric Biology, Monash University, VIC, Australia  
*Supervisors:* Prof. Dustin Marshall, Prof. Craig White

## EDUCATION

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- 2016 **PhD in Ecology**  
Southern Seas Ecology Laboratories, The University of Adelaide, Australia  
*Advisors:* Prof. Sean D. Connell, Prof. Bayden Russell  
*Thesis:* Ecological resistance and buffers of environmental change.
- 2012 **Master’s Degree in Marine Biology**  
Department of Biology, The University of Pisa, Italy  
*Advisors:* Prof. Lisandro Benedetti-Cecchi, Prof. Fabio Bulleri  
*Thesis:* Impacts of invasive species on native macroalgal communities.
- 2011 **Bachelor of Science (Honours) in Marine Ecology**  
Centre for Research on Ecological Impacts of Coastal Cities, The University of Sydney, Australia  
*Advisor:* Prof. Ross A. Coleman  
*Thesis:* Effects of stormwater pollution on marine invertebrate assemblages.
- 2009 **Bachelor Degree in Biological Sciences**  
Department of Biology and Evolution, University of Ferrara, Italy  
*Advisor:* Prof. Giuseppe Augusto Foà  
*Thesis:* Orientation in lizards using polarized light.

## PEER-REVIEWED PUBLICATIONS

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\* *supervised student*

1. **Ghedini G**, Marshall DJ, Loreau M (2021). Phytoplankton diversity affects biomass and energy production differently during community development. *Functional Ecology*, *in press*. doi:10.1111/1365-2435.13955.
2. Nørgaard LS, **Ghedini G**, Phillips BL, Hall MD (2021). Energetic scaling across different host densities and its consequences for pathogen proliferation. *Functional Ecology*, 35:475-484, <https://doi.org/10.1111/1365-2435.13721>.
3. Lovass M\*, Marshall DJ, **Ghedini G** (2020). Conspecific chemical cues drive density-dependent metabolic suppression independently of resource intake. *Journal of Experimental Biology*, jeb.224824, doi: 10.1242/jeb.224824.
4. **Ghedini G**, Malerba ME, Marshall DJ (2020). How to estimate community energy flux? A comparison of approaches reveals that size-abundance trade-offs alter the scaling of community energy flux. *Proceedings of the Royal Society B*, 287(1933):20200995, <https://doi.org/10.1098/rspb.2020.0995>.

5. Malerba ME, **Ghedini G**, Marshall DJ (2020). Genome size affects fitness in the eukaryotic alga *Dunaliella tertiolecta*. *Current Biology*, 30:3450-3456.e3, <https://doi.org/10.1016/j.cub.2020.06.033>.
6. **Ghedini G**, Loreau M, Marshall DJ (2020). Community efficiency during succession: a test of MacArthur's minimisation principle in phytoplankton communities. *Ecology*, 101:e03015, <https://doi.org/10.1002/ecy.3015>.
7. **Ghedini G**, Loreau M, White CR, Marshall DJ (2018). Testing MacArthur's minimisation principle: do communities minimise energy wastage during succession? *Ecology Letters*, 21:1182-1190, <https://doi.org/10.1111/ele.13087>.
8. **Ghedini G**, White CR, Marshall DJ (2018). Metabolic scaling across succession: do individual rates predict community-level energy use? *Functional Ecology*, 32: 1447–1456, <https://doi.org/10.1111/1365-2435.13103>.
9. **Ghedini G**, Craig R. White, Dustin J. Marshall (2017). Does energy flux predict density dependence? An empirical field test. *Ecology*, 98: 3116–3126, <https://doi.org/10.1002/ecy.2033>.
10. **Ghedini G** & Connell SD (2017) Moving ocean acidification research beyond a simple science: Investigating ecological change and their stabilizers. *Food Webs*, 13: 53-59, <http://doi.org/10.1016/j.fooweb.2017.03.003>. Invited review.
11. Provost EJ, Kelaher BP, Dworjanyn SA, Russell BD, Connell SD, **Ghedini G**, Gillanders BM, Figueira W, Coleman M A (2016) Climate-driven disparities among ecological interactions threaten kelp forest persistence. *Global Change Biology*, 23:353-361, <https://doi.org/10.1111/gcb.13414>.
12. **Ghedini G** & Connell SD (2016) Organismal homeostasis buffers the effects of abiotic change on community dynamics. *Ecology*, 97(10): 2671-2679, <https://doi.org/10.1002/ecy.1488>.
13. Connell SD, Nimmo DG, **Ghedini G**, Mac Nally R, Bennett AF (2016) Ecological Resistance – Why Mechanisms Matter: A Reply to Sundstrom et al. *Trends in Ecology & Evolution*, 31(6):413-414, <https://doi.org/10.1016/j.tree.2016.03.015>.
14. Connell SD & **Ghedini G** (2015) Resisting regime-shifts: the stabilising effect of compensatory processes. *Trends in Ecology and Evolution*, 30(9):513-515, doi: <https://doi.org/10.1016/j.tree.2015.06.014>.
15. **Ghedini G**, Russell BD, Connell SD (2015) Trophic compensation reinforces resistance: herbivory absorbs the increasing effects of multiple disturbances. *Ecology Letters*, 18(2):182-187, <https://doi.org/10.1111/ele.12405>.
16. Falkenberg LJ, Connell SD, Coffee OI, **Ghedini G**, Russell BD (2015) Species interactions can maintain resistance of subtidal algal habitats to an increasingly modified world. *Global Ecology and Conservation*, 5:549-558, <https://doi.org/10.1016/j.gecco.2015.10.003>.
17. **Ghedini G**, Russell BD, Falkenberg LJ, Connell SD (2015) Beyond spatial and temporal averages: ecological responses to extreme events may be exacerbated by local disturbances. *Climate Change Responses*, 2(6):1-8, <https://doi.org/10.1186/s40665-015-0014-8>.
18. Maggi E, Benedetti-Cecchi L, Castelli A, Chatzinikolaou E, Crowe T, **Ghedini G**, Kotta J, Lyons D, Ravaglioli C, Rilov G, Rindi L, Bulleri F (2014) Ecological impacts of invading seaweeds: a meta-analysis of their effects at different trophic levels. *Diversity & Distributions*, 21(1):1-12, <https://doi.org/10.1111/ddi.12264>.
19. **Ghedini G**, Russell BD, Connell SD (2013) Managing Local Coastal Stressors to Reduce the Ecological Effects of Ocean Acidification and Warming. *Water*, 5(4):1653-1661. <https://doi.org/10.3390/w5041653>. Invited review.
20. Tamburello L, Benedetti-Cecchi L, **Ghedini G**, Alastra T, Bulleri F (2012) Variation in the structure of subtidal landscapes in the NW Mediterranean Sea. *Marine Ecology Progress Series*, 457:29-41. <https://doi.org/10.3354/meps09703>.
21. **Ghedini G**, Klein JC, Coleman RA (2011) Potential effects of storm-water runoff on assemblages of mobile invertebrates. *Marine Ecology Progress Series*, 439:169-180. <https://doi.org/10.3354/meps09307>.

## RESEARCH FUNDING AND FELLOWSHIPS

2021-2023	“la Caixa” Postdoctoral Junior Leader Incoming Fellowship	€305,100
2021-2022	Marie Skłodowska-Curie Widening Fellowship Horizon 2020 (declined)	€159,815
2019-2021	Australian Research Council DECRA Fellowship	\$409,805
2019	Advancing Diversity in Biology Grant, Monash University	\$2,097
2015	Lirabenda Endowment Fund, The Field Naturalists Society of South Australia	\$3,000
2015	Conchological Society of Great Britain and Ireland Research Grant	\$2,000
2014	Conservation Biology Grant, Nature Conservation Society of South Australia	\$1,000
2013	Ecological Society of Australia Student Research Grant	\$1,500
2013	Dr. Paris Goodsell Marine Ecology Research Grant	\$1,500
2013	Nature Foundation of South Australia Research Grant	\$3,000
2013-2016	International Postgraduate Research Scholarship, The University of Adelaide	\$162,000
2013-2016	UTS President's Scholarship, University of Technology of Sydney (declined)	\$162,000
2013-2016	Macquarie University Research Excellence Scholarship (declined)	\$162,000

## PRIZES AND AWARDS

2019	School of Biological Sciences Career Development Award, Monash University	\$10,000
2019	Australian Academy of Science, JG Russell Award for top-ranked DECRA	\$6,000
2018	Commendation for Science Award Research Excellence by an ECR, Monash University	\$2,000
2017	Mike Cullen Award, School of Biological Sciences, Monash University	\$5,000
2016	Dean's Commendation for Doctoral Thesis Excellence, The University of Adelaide	
2016	School of Biological Sciences Postgraduate Achievement Award, The University of Adelaide	\$500
2016	Best student presentation, 11 <sup>th</sup> International Temperate Reef Symposium, Pisa, Italy	€500
2015	Best student presentation, Australian Marine Science Association Symposium, Adelaide	\$500
2008	Overseas Exchange Program Scholarship, University of Ferrara, Italy	€1,800

## INVITED SEMINARS and CONFERENCE TALKS

03/07/2022	<b>Society for Experimental Biology</b> satellite meeting “ <i>Why and how does metabolic rate scale with body size?</i> ”. Montpellier, France. Invited by Dr Tommy Norin.
11/03/2021	<b>Leibniz-Institute of Freshwater Ecology and Inland Fisheries</b> , Berlin, Germany. Host: Prof. Thomas Mehner.
16/10/2020	School of Biological Sciences, <b>The University of Sydney</b> , NSW, Australia. Host: Dr. Ezequiel Marzinelli.
25/07/2020	<b>Gordon Research Conference “Unifying Ecology Across Scales”</b> , Southern New Hampshire, US. Invited by Profs. Angelica Gonzalez and John DeLong. (Conference cancelled due to Covid-19).
05/05/2020	<b>Eawag, Department of Aquatic Ecology</b> , Zurich, Switzerland. Host: Prof. Florian Altermatt.
13/03/2020	School of Biological Sciences, <b>The University of Adelaide</b> , Australia. Host: Prof. Sean D. Connell.

- 05/09/2019 **Centre for Biodiversity Theory and Modelling**, CNRS Moulis, France. Host: Prof. Michel Loreau.
- 26/08/2019 Institute for Chemistry and Biology of the Marine Environment (ICBM), **Carl-von-Ossietzky University Oldenburg**, Germany. Host: Prof. Helmut Hillebrand.
- 15/05/2019 School of Biological Sciences, **Macquarie University**, NSW, Australia. Host: Dr. Chris Reid.
- 10/07/2018 Department of Biological Science, **Florida State University**, Tallahassee, Florida, US. Host: A/Prof. Sophie McCoy.
- 27/03/2017 Opening keynote: Berlin-Brandenburg Institute of Advanced Biodiversity Research annual meeting (BBIB). **Freie Universitat**, Berlin. Host: Prof Matthias Rillig.
- 20/06/2016 **Centre for Biodiversity Theory and Modelling**, CNRS, France. Host: Prof. Michel Loreau.
- 16/06/2016 Institute of Biology, **École Normale Supérieure**, Paris. Hosted by Prof H  l  ne Morlon
- 15/10/2015 School of Biological Sciences, **Melbourne University**, Australia. Host: Prof. Steve Swearer.

### CONTRIBUTED CONFERENCE PRESENTATIONS (oral presentations only)

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1. **Ghedini G**, White CR, Marshall DJ. "Can ecological interactions alter individual energy use?" Gordon Research Seminar "*Unifying Ecology Across Scales*", University of New England, US, 22-27 July 2018.
2. **Ghedini G**, White CR, Marshall DJ. "Population density alters *per capita* energy use: an energetic explanation of density-dependent growth." *Ecological Society of America* 102<sup>nd</sup> Annual Meeting, Portland, US, 6-11 August 2017.
3. **Ghedini G**, Russell BD, Connell SD. "Exploring resistance to change." *11<sup>th</sup> International Temperate Reef Symposium*, Pisa, Italy, 26-30 June 2016.
4. **Ghedini G**, Russell BD, Connell SD. "Resisting regime-shifts: the stabilising effects of compensatory processes." *Ecological Society of Australia*, Adelaide, December 2015.
5. **Ghedini G**, Russell BD, Connell SD. "Resisting regime-shifts: the stabilising effects of compensatory processes." *Australian Marine Science Association (AMSA) SA Symposium*, Flinders University, Adelaide, 30<sup>th</sup> October 2015.
6. **Ghedini G**, Russell BD, Connell SD. "Loss of resistance to gradual and abrupt abiotic change: when compensatory mechanisms fail." *AMSA National Conference*, Geelong, VIC, Australia, 5-9 July 2015.
7. **Ghedini G**, Russell BD, Connell SD. "Ecosystem stability: how climate change can erode processes that counter the effects of disturbance." *Third International Symposium: Effects of Climate Change on the World's Oceans*, Santos City, Brazil, 23-27 March 2015.
8. **Ghedini G**, Russell BD, Connell SD. "Can compensatory mechanisms counter-balance the effects of increasing multiple stressors?" *AMSA National Conference*, Canberra, Australia, 6-10 July 2014.
9. **Ghedini G**, Russell BD, Connell SD. "Compensatory mechanisms: a counter to multiple stressors?" *10<sup>th</sup> International Temperate Reefs Symposium*, Perth, WA, Australia, 12-17 January 2014.

### SUPERVISION OF RESEARCH STUDENTS AND STAFF

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- **Two Bachelor of Science Honours students**, Monash University (2020 and 2021). Both completed with First Class Honours.
- Supervising and training **two research assistants**, Monash University (2019-2021).
- Research project supervisor of **third-year undergraduate students** during the field course component of the unit BIO3021 "*Marine biology*", Monash University (Semester I, 2018 and 2019).
- Co-supervisor of a **Bachelor of Science Honours student**, The University of Adelaide (2014). Completed with Second Class Honours division A.

## TEACHING EXPERIENCE

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- **Guest lecturer**, unit “*Marine biology*”, Monash University (2018, 2019, 2020).
- **Guest lecturer**, unit “*Ecological Issues I*”, The University of Adelaide (2015).
- **Tutor** for third year students, unit “*Principles & Practice of Research (Advanced) II*”, The University of Adelaide (2015).
- **Demonstrator** for third-year undergraduate practicals, unit “*Research Methods in Environmental Biology III*”, The University of Adelaide (2014, 2015).

## ACADEMIC SERVICE

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- **Associate Editor** for *Functional Ecology* (2020 – present);
- **Reviewer** for international peer-reviewed journals, including *Proceedings B*, *Functional Ecology*, *Global Change Biology*, *Biological Reviews*, *Global Ecology and Biogeography*, *Ecography*, *Journal of Experimental Marine Biology and Ecology*, *Journal of Phycology*.
- **Examiner** of Bc.S. Honours students, School of Biological Sciences, Monash University (2019, 2020).
- **Evaluator of students’ assignments** for first-year undergraduate course “*Life on Earth*”, Monash University (2020).
- **Committee member** to score presentations at AMSA Symposium, Australia (2015).
- **Reviewer** of student research grant applications for the Ecological Society of Australia (2015).

## OUTREACH & OTHER ENGAGEMENT ACTIVITIES

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- **Panel member** of “**Early Career Researchers DECRA Panel Discussion 2020**” at Monash University.
- **Interview for International Day of Women in Science** article for Monash University (11/02/2019) (<https://www.monash.edu/science/home/womensinscience>)
- Contributed to **press releases** for the Centre for Geometric Biology ([cgb.org.au](http://cgb.org.au)), Monash University ([monash.edu/science/news](http://monash.edu/science/news)) and University of Adelaide ([blogs.adelaide.edu.au/environment/2015/02/03](http://blogs.adelaide.edu.au/environment/2015/02/03)).
- News coverage: **Australia and New Zealand Science Media Exchange** about Ghedini et al. 2020 *Proc B* (<https://www.scimex.org/newsfeed/size-may-not-matter-when-estimating-community-energy-use,-study-finds>). **Phys.org** about Ghedini et al. 2017 *Ecology* (<https://phys.org/news/2017-11-energy-crowd.html>) and Ghedini et al. 2015 *Ecology Letters* (<https://phys.org/news/2015-02-ecology.html>).
- **Three Minute Thesis Competition**, The University of Adelaide (2015). Presentation of PhD research for general public. Title: “Looking beneath the surface: the invisible fight of nature against stress”.
- **Research video** for Australian Marine Science Association Video Competition (2015). Title: “An invisible fight”.