

# GHEDINI GIULIA

email: [gghedini@igc.gulbenkian.pt](mailto:gghedini@igc.gulbenkian.pt)

website: [group website](#)

[ORCID](#)

[Google Scholar](#)

## POSITIONS

---

- 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  
*Supervisor:* Prof. Dustin Marshall

## EDUCATION

---

- 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  
*Supervisors:* 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  
*Supervisor:* 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  
*Supervisor:* Prof. Giuseppe Augusto Foà  
*Thesis:* Orientation in lizards using polarized light.

## PEER-REVIEWED PUBLICATIONS

---

\* *supervised student*

1. **Ghedini G**, Marshall DJ, Loreau M (2021). Phytoplankton diversity affects biomass and energy production differently during community development. *Functional Ecology*, 36, 446-457. 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, <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**, Alestra 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	€297,000
2021-2022	Marie Skłodowska-Curie Widening Fellowship Horizon 2020 (declined)	€159,815
2019-2021	Australian Research Council DECRA Fellowship	AUD 409,805
2019	Advancing Diversity in Biology Grant, Monash University	AUD 2,097
2015	Lirabenda Endowment Fund, The Field Naturalists Society of South Australia	AUD 3,000
2015	Conchological Society of Great Britain and Ireland Research Grant	£1,000
2014	Conservation Biology Grant, Nature Conservation Society of South Australia	AUD 1,000
2013	Ecological Society of Australia Student Research Grant	AUD 1,500
2013	Dr. Paris Goodsell Marine Ecology Research Grant	AUD 1,500
2013	Nature Foundation of South Australia Research Grant	AUD 3,000
2013-2016	International Postgraduate Research Scholarship, The University of Adelaide	AUD 162,000
2013-2016	UTS President's Scholarship, University of Technology of Sydney (declined)	
2013-2016	Macquarie University Research Excellence Scholarship (declined)	

## PRIZES AND AWARDS

2019	School of Biological Sciences Career Development Award, Monash University	AUD 10,000
2019	Australian Academy of Science, JG Russell Award for top-ranked DECRA	AUD 6,000
2018	Commendation for Science Award Research Excellence by an ECR, Monash University	AUD 2,000
2017	Mike Cullen Award, School of Biological Sciences, Monash University	AUD 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	AUD 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	AUD 500
2008	Overseas Exchange Program Scholarship, University of Ferrara, Italy	€1,800

## INVITED SEMINARS and CONFERENCE TALKS

03/07/2022	<i>Invited keynote: <b>Society for Experimental Biology</b> satellite meeting “Why and how does metabolic rate scale with body size?”. Montpellier, France. Invited by Dr Tommy Norin.</i>
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)

---

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

---

- **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

---

- **Co-organizer of the ecology week** for the IBB PhD program, Instituto Gulbenkian de Ciência (2022)
- **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

---

- **Associate Editor** for *Functional Ecology* (2020 – present);
- **Reviewer** for international peer-reviewed journals, including *Proceedings B*, *Ecology Letters*, *Ecology & Evolution*, *Journal of Ecology*, *Global Change Biology*, *Biological Reviews*, *Global Ecology and Biogeography*, *Ecography*, *Journal of Phycology*.
- **Selection committee, la Caixa Postgraduate Abroad Fellowships 2022** (conducted interviews for 20 candidates in the life sciences)
- **PhD committee member** of 2 students, IGC (2022)
- **Evaluator of applications to the PhD program of IGC (2022)**
- **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

---

- **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”.