



Prof. Gil Rilov

Senior Scientist, Head of the Marine Community Ecology Lab, Marine Biology Department, National Institute of Oceanography, Israeli Limnological and Oceanographic Research (IOLR).

Educational training

Institution and location	Degree	Period	Field of study
Faculty of Life Sciences, Tel-Aviv	B. Sc.	1987-1990	Biology
University, Tel Aviv			
Zoology Department, Faculty of Life	M. Sc. (with distinction)	1991-1993	Conservation biology
Sciences, Tel-Aviv University			
Institute for Nature Conservation Research	Ph.D.	1994-2000	Marine ecology
(INCR), Faculty of Life Sciences, Tel-Aviv			
University, Tel Aviv			
Duke University	"Global Fellows program"	Summer	Courses: "Conservation
-		1998	biology and policy" and
			"marine mammals"
Duke University, USA	Fulbright Post-Doctoral	2000-2002	Marine ecology
-	research fellow		
University of Canterbury, New Zealand	Post-doc, Mellon Foundation,	2002-2004	Marine ecology
	Post-Doctoral research fellow		
Oregon State University	Post-doc and PISCO program	2005-2008	Marine ecology
	science coordinator (in Bruce		
	Menge and Jane Lubchenco lab)		

A. Personal statement

At IOLR I established and head the marine community ecology lab since 2009 and between 2016-2018 I headed the marine biology department. I am also an associated professor in the marine biology department at the Charney School of Marine Sciences at the University of Haifa. I have been studying the ecology of coastal communities (coral reefs, rocky shores, deep reefs and seagrass) for the past 30 years in many biogeographic regions (Mediterranean, Red Sea, Pacific, Atlantic and Caribbean coasts). This includes ecological surveys and field and lab experiments on benthic-pelagic coupling (larval recruitment), species interactions, biodiversity and more. I have 106 publications in peer-reviewed journals and 6 book chapters, and I edited a springer book on Marine Bioinvasions.

On the international arena, I received an EU Marie Curie grant, was a partner in 3 European Union-FP7 projects, am was part of the core group of a COST-ACTION project, MARCONS, on marine conservation in European waters, was/am a PI on two joint Israel-Germany grant (BMBF) comparing climate change impacts in the Baltic and east Mediterranean seas, and I had a binational BSF-NSF grant with Northeastern University in the USA, for climate change research on rocky intertidal ecosystems. I am also one of the initiators and leaders of an EU HORIZON-2020 project, FutureMARES, that focuses on the current and future impacts of climate change on marine biodiversity, ecosystem functions and services, as well as developing nature-based solutions to deal with these impacts. I am also partner and task leader in a new Horizon Europe, ACTNOW, focusing on the impact of cumulative stressors on the marine environment, and a partner in a new COST-ACTION, SEA-UNICORN on functional connectivity.

My lab currently runs the national monitoring program on rocky shore biodiversity, and investigates the ecology and biodiversity of Mediterranean coastal communities, and the effects of bioinvasions, climate change (warming, acidification, sea level rise and extreme events) and marine protected areas on these communities and their functions. I am trying to translate my findings and insights to actions regarding ecosystem services (with a special focus on blue carbon), nature based-solutions, and marine conservation planning. In the last four years, we are also developing a program for ecological monitoring of Mediterranean deep reefs using ROV, and have so far lead four expeditions for that on Israeli deep reefs. My students also studied sea turtle ecology and conservation, shark populations in the eastern Mediterranean as well as seagrass ecology and mapping in the Red Sea. I was a lead author of the marine ecosystems chapter of the national ecosystem assessment of Israel that assessed marine ecosystem services. As part of the BALTMED and BIOMOD projects with GEOMAR (Kiel, Germany), my lab has constructed several innovative experimental installations (including large mesocosm facilities) to test the effects of warming and acidification on benthic species, communities and ecosystem functions, which is providing valuable insights on the impacts of climate change on Mediterranean ecological communities. In 2015 I also run a citizenscience project on human uses and activity in a Mediterranean marine reserve in Haifa and in 2021 started a citizenscience monitoring program with 5 communities along the Israeli coast. I so far supervised 20 MSc students and 8 PhD students and 4 post-docs.

B. Positions and Honors

Positions

Dates	Name of Institution and Department	Rank/Position	
2007-2008	Oregon State University	Assistant Professor – Senior Research	
2008-2010	Maritime College, Ruppin Academic Center	Adjunct Lecturer	
2008-2020	Oregon State University	Assistant Professor – Courtesy faculty	
2009-present	Israeli Limnological and Oceanographic Research	Senior Scientist	
2012- 2019	University of Haifa, Charney School of Marine Science,	Senior Lecturer	
	Marine Biology Department		
2020-present	University of Haifa, Charney School of Marine Science,	Associate Professor	
	Marine Biology Department		

Honors

Lumpkin Global fellowship for travel, tuition and board to attend a "Conservation Biology and Policy" course in the Nicholas School of the Environment, Duke University, North Carolina, USA (US\$ 4,500).

Fulbright post-doctoral award in the Environmental Sciences. (US\$ 50,000).

2000 **Packard Foundation**. Travel support to attend the 9th Coral Reef Symposium in Bali, Indonesia (US\$ 500).

2002 Andrew Mellon Foundation post-doctoral award. (NZ\$ 55,000 per annum).

C. Teaching

Year	Name of Course	Type of Course	Degree
		Lecture/Seminar	
2000-2002	Marine Ecology	Lecture and lab - Duke University	B.Sc., M.Sc.
2008-9	Marine Ecology & the Mediterranean	Lecture - The School of Marine Sciences and Marine Environment, Ruppin Academic Center, Israel	BSc
2008-9	Rocky shore ecology	Lecture - The School of Marine Sciences and Marine Environment, Ruppin Academic Center, Israel	BSc
2009-10	Ecology & benthic communities	Lecture - The School of Marine Sciences and Marine Environment, Ruppin Academic Center, Israel	BSc
2013-present	Rocky shore ecology	Lecture and workshop (field and lab work), Marine Biology Department, Haifa University	MSc, PhD
2016-present	Marine Ecology	Lecture, Marine Biology Department, Haifa University	MSc, PhD

D. Publications

Edited Book

Rilov G & Crooks J (eds) 2009. Biological Invasions in Marine Ecosystems: Ecological, Management, and Geographic Perspectives. *Ecological Studies Series*. Springer. 625 pp.

Articles in Refereed Journals (last 10 years out of a total of 105)

1. Díaz-Morales M, Bommarito C, Knol J, Grabner D, Noè S, **Rilov G**, Wahl M, Guy-Haim T, Sures B (2023). Parasitism enhances gastropod feeding on invasive and native algae while altering essential energy reserves for organismal homeostasis upon warming. Science of the Total Environment. In press.

- 2. Guerchon J, Morov AR, Tagar A, Rubin-Blum M, Tikochinski Y, Berenshtein I, **Rilov G**, Stern N. Marine top secrets: ichthyoplankton in surface water uncover hidden knowledge on fish diversity and distribution. Estuarine, Coastal and Shelf Science. In press.
- 3. Mulas M, Silverman J, Guy-Haim T, Noé S, **Rilov G**. (2022). High climate vulnerably of the Levantine endemic and endangered habitat-forming macroalga, Gongolaria rayssiae: implications for reef carbon. Frontiers in Marine Science. DOI: 10.3389/fmars.2022.862332. https://www.frontiersin.org/articles/10.3389/fmars.2022.862332/full.
- 4. **Rilov G**, Klein L, Iluz D, Dubinsky Z, Guy-Haim T (2022). Last snail standing? Superior thermal resilience of an alien tropical intertidal gastropod over natives in an ocean-warming hotspot. Biological Invasions. DOI: 10.1007/s10530-022-02871-x.
- Garrabou J, Gómez-Gras D, Medrano A, Cerrano C, Ponti M, Schlegel R, Bensoussan N, Turicchia E, Sini M, Gerovasileiou V, Teixido N, Mirasole A, Tamburello L, Cebrian E, Rilov G, and 55 more co-authors (2022). Marine heatwaves drive recurrent mass mortalities in the Mediterranean Sea. Global Change Biology, DOI: https://doi-org.ezproxy.haifa.ac.il/10.1111/gcb.16301.
- Escalas A, Avouac A, Belmaker J, Bouvier T, Cledassous V, Ferraton F, Rieuvilleneuve F, Rilov G, Rovirosa Mulet A, Shapiro-Goldberg D, Villéger S (2022). An invasive herbivorous fish (Siganus rivulatus) influences both benthic and planktonic microbes through defecation and nutrient excretion. Science of the Total Environment. 838 (2022) 156207. https://www.sciencedirect.com/science/article/abs/pii/S0048969722033046
- Cooke RSC, Gearty W, Chapman ASA, Dunic J, Edgar GJ, Lefcheck JS, Rilov G, McClain CR, Stuart-Smith RD, Lyons SK, Bates AE (2022). Anthropogenic disruptions to longstanding patterns of trophic-size structure in vertebrates. Nature Ecology and Evolution. DOI: 10.1038/s41559-022-01726-x. https://www.nature.com/articles/s41559-022-01726-x.
- 8. Díaz-Morales M, Bommarito C, Vajedsamiei J, Grabner D, **Rilov G**, Wahl M, Sures B (2022). Heat sensitivity of first host and cercariae may restrict parasite transmission in a warming sea. Scientific Reports. 12: 1174. https://doi.org/10.1038/s41598-022-05139-5
- 9. Mulas M, Silverman J, **Rilov G** (2022). Biomass calibration of nine dominant native and non-native Levantine seaweeds. Aquatic Botany. 178: 103496. https://doi.org/10.1016/j.aquabot.2022.103496
- 10. Fraschetti S, 29 co-authors, **Rilov G**, Borja A (2022). An integrated assessment of the Good Environmental Status of Mediterranean Marine Protected Areas. Journal of Environmental Management https://doi.org/10.1016/j.jenvman.2021.114370.
- 11. Hamm T, Barkhau J, Gabriel AL, Gottschalck LL, Greulich M, Houiller D, Kawata U, Tump LN, Leon AS, Vasconcelos P, Yap V, Almeida C, Chase Z, Hurd CL, Lavers JL, Nakaoka M, **Rilov G**, Thiel M, Wright JT, Lenz M. (2022). Plastic and natural inorganic microparticles do not differ in their effects on juvenile mussels (Mytilidae) from different geographic regions. Science of the Total Environment. https://doi.org/10.1016/j.scitotenv.2021.151740.
- 12. Amsalem E, **Rilov G** (2021). High thermal plasticity, and vulnerability, in extreme environments at the warm distributional edge: the case of a tidepool shrimp. Journal of Experimental Marine Biology and Ecology. 545: 151641. https://doi.org/10.1016/j.jembe.2021.151641.
- 13. Bevilacqua S, Airoldi, Ballesteros E, Benedetti-Cecchi L, Boero F, Bulleri F, Cebrian E, Cerrano C, Claudet J, Colloca F, Coppari M, Di Franco A, Fraschetti S, Garrabou J, Guarnieri G, Guerranti C, Guidetti P, Halpern BS, Katsanevakis S, Mangano MC, Micheli I F, Milazzo M, Pusceddu A, Renzi M, Rilov G, Sarà G, Terlizzi Antonio (2021). Mediterranean rocky reefs in the Anthropocene: present status and future concerns. Advances in Marine Biology. 89: 1-51. https://doi.org/10.1016/bs.amb.2021.08.001.
- 14. Wahl M, Barboza FR, Buchholz B, Dobretsov S, Guy-Haim T, **Rilov G**, Schuett R, Wolf F, Vajedsamiei J, Yazdanpanah M, Pansch C (2021) Pulsed pressure: fluctuating impacts of multifactorial global change on a temperate macroalgal community. Limnology and Oceanography. https://doi-org.ezproxy.haifa.ac.il/10.1111/gcb.15896
- 15. Queirós AM, Talbot E, Beaumont NJ, Somerfield PJ, Kay S, Pascoe C, Dedman S, Fernandes JA, Jueterbock A, Miller PI, Sailley SF, Sará G, Carr LM, Austen MC, Widdicombe S, **Rilov G**, Levin LA, Hull SC, Walmsley SF, Aonghusa CN (2021). Bright spots as climate-smart marine spatial planning tools for conservation and blue growth. Global Change Biology. https://doiorg.ezproxy.haifa.ac.il/10.1111/gcb.15827.
- Shapiro Goldberg D, Rilov G, Villéger S, Belmaker J (2021). Predation cues lead to reduced foraging of invasive Siganus rivulatus in the Mediterranean. Frontiers in Marine Science. DOI: 10.3389/fmars.2021.678848.
- 17. **Rilov G**, David N, Guy-Haim T, Arav R, Filin S (2021). Sea level rise can severely reduce biodiversity and community net production on rocky shores. Science of the Total Environment. DOI: https://doi.org/10.1016/j.scitotenv.2021.148377.
- 18. Sara G, 21 co-Authors, **Rilov G**, 30 co-Authors, Helmuth B (2021). The Synergistic Impacts of Anthropogenic Stressors and COVID-19 on Aquaculture: A Current Global Perspective. Reviews in Fisheries Sciences and Aquaculture. DOI: 10.1080/23308249.2021.1876633.
- 19. Livore JP, Mendez MM, Miloslavich P, **Rilov G**, Bigatti G (2021). Biodiversity monitoring in rocky shores: Challenges of devising a globally applicable and cost-effective protocol. Ocean and Coastal Management. DOI: doi.org/10.1016/j.ocecoaman.2021.105548.
- 20. Albano PG, Steger J, Bošnjak M, Dunne B, Guifarro Z, Turapova E, Hua Q, Kaufman DS, **Rilov G**, Zuschin M. (2021) Native biodiversity collapse in the Eastern Mediterranean. Proceedings of the Royal Society B. https://doi.org/10.1098/rspb.2020.2469
- 21. Schäfer S, Monteiro J, Castro N, Gizzi F, Henriques F, Ramalhosa P, Wirtz P, **Rilov G**, Gestoso I, Canning-Clode J (2021). Lost and found: a new hope for a key habitat type in the marine ecosystem of a subtropical Atlantic Island. Regional Studies in Marine Science. 41, 101575.
- 22. Albano PG, Azzarone M, Amati B, Bogi C, Sabelli B, **Rilov G** (2020). Poor diversity or poorly explored? A mesophotic molluscan assemblage shows the degree of undersampling of the Eastern Mediterranean. Biodiversity and Conservation. https://doi.org/10.1007/s10531-020-02063-w
- 23. Katsanevakis S, Coll M, Fraschetti S, Giakoumi S, Goldsborough D, Mačić V, Mackelworth PC, Rilov G, Stelzenmüller V, Albano PG, Bates AE, Bevilacqua Stanislao, Gissi E, Hermoso V, Mazaris AD, Pita C, Rossi V, Teff-Seker Y, Yates K (2020). Twelve recommendations for advancing marine conservation in European and contiguous seas. Frontiers in Marine Sciences. https://www.frontiersin.org/articles/10.3389/fmars.2020.565968/full
- 24. Gissi E, Manea E, Mazaris AD, Fraschetti S, Almpanidou V, Bevilacqua S, Coll M, Guarnieri Giuseppe, Lloret-Lloret E, Pascual M, Petza Dimitra, **Rilov G**, Schonwald M, Stelzenmüller V, Katsanevakis S (2020). A review of the combined effects of climate change and other human stressors on the marine environment. **Science of the Total Environment**. https://www.frontiersin.org/articles/10.3389/fmars.2020.565968/full
- 25. Mulas M, Neiva J, Sadogurska SS, Ballesteros E, Serrao EA, Rilov G, Israel A. Genetic affinities and biogeography of putative Levantine-endemic seaweed *Treptacantha rayssiae* comb. nov. (Phaeophyceae). *Cryptogamie Algologie*. 41(10): 91-103
- 26. Rabi C, Rilov G, Morov A, Guy-Haim T (2020). First record of the Red Sea gastropod Nerita sanguinolenta Menke, 1829 (Gastropoda: Cycloneritida: Neritidae) from the Israeli Mediterranean coast. Bioinvasions Records. DOI: 10.3391/bir.2020.9.3.06.
- 27. Guy-Haim T, Silverman J, Wahl M, Aguirre J, **Rilov G.** Epiphytes alleviate harmful effects of ocean acidification The dressed coralline hypothesis. *Marine Environmental Research*. 160, 105093. DOI: 10.1016/j.marenvres.2020.105093.
- 28. Rilov G, Peleg O, Guy-Haim T, Yeruham E. (2020). Community dynamics and ecological shifts on Mediterranean vermetid reefs. *Marine Environmental Research*. DOI: 10.1016/j.marenvres.2020.105045.

- 29. Sisma-Ventura G, Antonioli F, Silenzi S, Devoti S, Montagna P, Chemello R, Gehrels, Dean S, **Rilov G**, Sivan D. Assessing (2020). Vermetid reefs as indicators of past sea-levels in the Mediterranean. *Marine Geology*. 429: 106313. DOI: 10.1016/j.margeo.2020.106313.
- 30. Bevilacqua S, Katsanevakis S, Micheli F, Sala E, **Rilov G**, Sarà G, Abdul Malak D, Abdulla A, Gerovasileiou V, Gissi E, Mazaris AD, Pipitone C, Sini M, Stelzenmüller V, Terlizzi A, Todorova V, Fraschetti S (2020). The status of coastal benthic ecosystems in the Mediterranean Sea: evidence from ecological indicators. *Frontiers in Marine Science*. In press.
- 31. Winters G, Beer S, Willette DA, Viana I, Chiquillo KL, Beca-Carretero P, Villamyor B, Azcarate-Garcia T, Shem-Tov R, Mwabvu B, Migliore L, Rotini A, Oscar MA, Belmaker J, Gamliel I, Alexandre A, Engelen AH, Pocaccini G, **Rilov G** (2020). The tropical seagrass Halophila stipulacea: reviewing what we know from its native and invasive habitats, alongside identifying knowledge gaps. *Frontiers in Marine Science*. DOI: 10.3389/fmars.2020.00300
- 32. Gamliel I, Garval T, Guy-Haim T, Willette D, Rilov G, Belmaker J (2020). Incorporating physiology into species distribution models moderates the projected impact of warming on Mediterranean marine species. *Ecography* 43(7):1090-1106. DOI: 10.1111/ecog.04423
- 33. Meneghesso C, Seabra R, Broitman BR, Burrows MT, Chan BKK, Guy-Haim T, Wethey DS, Ribeirh PA, Rilov G, Santos AM, Sousa LL, Fernando PL (2020). Remotely-sensed L4 SST underestimate the thermal fingerprint of coastal upwelling. *Remote Sensing of Environment*. DOI: 10.1016/j.rse.2019.111588
- 34. Peleg O, Guy-Haim T, Yeruham E, Silverman J, **Rilov G** (2020). Tropicalisation may invert trophic state and carbon budget of shallow temperate rocky reefs. *Journal of Ecology*. DOI: 10.1111/1365-2745.13329.
- 35. Van der Hal N, Yeruham E, Shukis D, **Rilov G**, Astrahan P, Angel DL (2019). Uptake and incorporation of PCBs by eastern Mediterranean rabbitfish that consumed microplastics. *Marine Pollution Bulletin*. DOI: 10.1016/j.marpolbul.2019.110697.
- 36. Garrabou J and 63 more co-authors including **Rilov G** (2019). Collaborative Database to Track Mass Mortality Events in the Mediterranean Sea. *Frontiers in Marine Science*. DOI: 10.3389/fmars.2019.00707
- 37. Wahl M. Werner F, Buchholz B, Raddatz S, Graiff A, Matthiessen B, Karsten U, Hiebenthal C, Hamer J, Ito M, Guelzow E, **Rilov G**, Guy-Haim, T (2019). Season affects strength and direction of the interactive impacts of ocean warming and biotic stress in a coastal seaweed ecosystem. *Limnology & Oceanography*. DOI: 10.1002/lno.11350.
- 38. Yeruham, E., Shpigel M, Abelson A, **Rilov** G (2019). Ocean warming and tropical invaders erode the fitness of a key herbivore. *Ecology*. DOI: 10.1002/ecy.2925.
- 39. **Rilov G**, Fraschetti S, Gissi E, Pipitone C, Badalamenti F, Tamburello L, Menini E, Goriup P, Mazaris D.A, Garrabou J, Benedetti-Cecchi L, Danovaro R, Loiseau C, Claudet J, Katsanevakis S (2019). A fast-moving target: achieving marine conservation goals under shifting climate and policies. *Ecological Applications*. DOI: 10.1002/eap.2009
- 40. Schäfer S., Monteiro J, Castro N, Rilov G, Canning-Clode J (2019). *Cronius ruber* (Lamarck, 1818) arrives to Madeira Island: a new indication of the ongoing tropicalization of the northeastern Atlantic. *Marine Biodiversity*. DOI: 0.1007/s12526-019-00999-z.
- 41. Mazaris A, Kallimanis AS, Gissi E, Pipitone C, Danovoro R, Claudet J, Rilov G, Badalameti F, Stelzenmüller, Thiault, Benedetti-Cecchi L, Goriup P, Katsanevakis S, Fraschetti S (2019). Threats to marine biodiversity in European protected areas. Science of The Total Environment. DOI: 10.1016/j.scitotenv.2019.04.333.
- 42. Choi F, Gouhier T, Lima F, Rilov G, Seabra Rui, Helmuth B (2019). Mapping physiology: biophysical mechanisms define scales of climate change impacts. *Conservation Physiology*. 7(1) coz28. DOI: 10.1093/conphys/coz028
- 43. Giakoumi S, Katsanevakis S, Albano PG, Azzurro E, Cardoso AC, Cebrian E, Deidun A, Edelist D, Francour P, Jimenez C, Mačić V, Occhipinti-Ambrogi A, Rilov G, Sghaier YR (2019). Management priorities for marine invasive species. *Science of the Total Environment*. DOI: 10.1016/j.scitotenv.2019.06.282.
- 44. **Rilov G**, Mazaris AD., Stelzenmüller V, Helmuth B, Wahl M, Guy-Haim T, Mieszkowska N, Ledoux JB, Katsanevakis S (2019). Adaptive marine conservation planning in the face of climate change: What can we learn from physiological, ecological and genetic studies? *Global Ecology and Conservation*. DOI: 10.1016/j.gecco.2019.e00566.
- 45. Mulas M, Silverman J, Israel A, Golomb D, Rilov G (2019). Marine algal forests in the Levantine Basin: the case of Cystoseira rayssiae along the Israeli coast. *Proceedings of the 6th Mediterranean Symposium on Marine Vegetation*.
- 46. Fraschetti, S, Pipitone C, Mazaris AD, Rilov G, Badalamenti F, Bevilacqua S, Claudet J, Carić H, Dahl K, D'Anna G, Daunys D, Frost MT, Gissi E, Göke C, Goriup P, Guarnieri G, Holcer D, Lazar B, Mackelworth P, Manzo S, Martin G, Palialexis A, Panayotova MD, Petza D, Rumes B, Todorova V, Katsanevakis S (2018). Light and shade in marine conservation across European and Contiguous Seas. *Frontiers in Marine Science*, DOI: 10.3389/fmars.2018.00420.
- 47. Yeruham E, Abelson A, Rilov G, Ben Ezra D, Shpigel M (2018). Energy budget of cultured *Paracentrotus lividus* under different temperatures. *Aquaculture*. 501: 7-13.
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- 50. Zamir R, Alpert Pinhas, Rilov G (2018). Increase in weather patterns generating extreme desiccation events: implications to Mediterranean rocky shore ecosystems. *Estuaries and Coasts*. 7: 1868-1884.
- 51. Barash A, Pickholtz R, Pickholtz E, Blaustein L, Rilov G. (2018). Shark aggregations near power plants: an emerging phenomenon. Marine Ecology Progress Series. Accepted.
- 52. Guy-Haim T, Lyons DA, Kotta J, Ojaveer H, Queirós AM, Chatzinikolaou E, Arvanitidis C, Como S, Magni P, Blight AJ, Orav-Kotta H, Somerfield PJ, P Crowe TP, Rilov G (2018). Effects of invasive ecosystem engineers on marine biodiversity and ecosystem functions a global review and meta-analysis. *Global Change Biology*. DOI: 10.1111/gcb.14007
- 53. **Rilov G**, Peleg O, Yeruham E, Garval T, Vichik A, Raveh O (2018). Alien turf: overfishing, overgrazing and invader domination on southeastern Levant reef ecosystems. *Aquatic Conservation: Marine and Freshwater Ecosystems*. DOI: 10.1002/aqc.2862.
- 54. Stelzenmüller, V., M. Coll, A. D. Mazaris, S. Giakoumi, S. Katsanevakis, M. E. Portman, R. Degen, P. Mackelworth, A. Gimpel, P. G. Albano, V. Almpanidou, J. Claudet, F. Essl, T. Evagelopoulos, J. J. Heymans, T. Genov, S. Kark, F. Micheli, M. G. Pennino, G. Rilov, B. Rumes, J. Steenbeek, and H. Ojaveer. 2017. A risk-based approach to cumulative effect assessments for marine management. Science of the Total Environment 612:1132-1140.
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- 61. Dal Bello M, Rilov G, Peleg O. and 41 more co-authors (2016). Consistent patterns of spatial variability between NE Atlantic and Mediterranean rocky shores. *Journal of the Marine Biological Association of the UK*. DOI:10.1017/S0025315416001491.
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E. Research support

Ongoing research support

Role	Co-Researchers	Topic	Sum	Funded by	Years
LPI	Many Europeans	ACTNOW: Advancing understanding of Cumulative Impacts on European marine biodiversity, ecosystem functions and services for human wellbeing	€12,500,000	European Union HORIZON Europe	2023- 2026
PI	Several Israeli and Jordanian scientists	Evaluating seagrass ecosystem threats and functions in the Gulf of Aqaba under current and future climate to improve regional marine conservation	\$500,000	USAID MERC program	2021- 2024
LPI (Member of the Scientific Steering Committee and a work package leader)	Many Europeans	Climate change and future marine ecosystem services and biodiversity (FutureMARES)	€8,555,905 total; of this 425,000 to Israeli side	European Union HORIZON 2020	2020- 2024
PI		REEF-MAP. Using "crowd-sourcing" information to map and study shallow reef ecological hotspots and unique areas in support of Israeli Mediterranean MPA planning, monitoring and Ecosystem-Based Management	400,000 Shekel	Yad-Hanadiv	2019- 2021
PI	Krueger-Hadfield Stacy (University of Alabama, USA), PI	The impacts of climate change on mating systems and life cycle evolution in the sea: a case study of macroalgae at the warm edge of a fast-warming sea	\$75,000	Binational Science Foundation (BSF)	2019- 2020
PI	Martin Wahl (GEOMAR) PI, Bernd Sures (University of Duisburg-Essen), Tamar Guy- Haim (IOLR) CO-PI	BIOMOD: How bioinvasions and parasites modulate climate change impact on benthic communities	€750,000, € 250,000 to Israeli side	BMBF- MOST Joint German- Israeli Marine Sciences Program	2019- 2022
PI	Jacob Silverman (IOLR) PI	The effects of biodiversity shifts - driven by climate change and bioinvasions - on reef ecosystem functions	\$163,000	Israel Science Foundation (ISF)	2016- 2020
PI	Sagi Filin (Technion) Israeli Co-PI, Brian Helmuth and Tarik Gouhier (Northeastern University) American PIs	The importance of scale in predicting climate change impacts on community stability	\$240,000 (Israeli side) \$640,000 (US side)	NSF-BSF (Biological Oceanography)	2016- 2020
PI on rocky shore part		National Monitoring program of the ecology of rocky shores	\$75,0000 per annum	Ministry of Environmental protection	2013- ongoing

Completed Research Support (last 8 years and over \$US10,000)

Completed Research Support (last 8 years and over \$0510,000)					
Role	Co-Researchers	Topic	Sum	Funded by	Years
PI		Levant rocky-shore biodiversity: testing	€ 100,000	EU FP7-People,	2009
		ecological impacts of climate change and		Marie Curie	-13
		bioinvasions on a unique ecosystem		Reintegration-	
				Grant	

PI	Ruthy Yahel (NPA) Co-PI, Daniel Schaffer (EcoOcean) Co-	Forming the basis for marine reserves along the Israeli Mediterranean coast to	\$110,000	Goldman Foundation	2010 -11
	PI	conserve biodiversity of an ecosystem in peril			
PI		Survey of epi-benthic communities in Haifa Bay	\$45,000	Israel Port Company	2010
PI	Jack Silverman (IOLR) Co-PI	The combined effects of the extinction of an ecosystem engineer and global climate change on the Israeli rocky shore seascape	\$40,000	Ministry of Energy, Water and Infrastructure	2010 -13
LPI	Melany Austin (PML) PI. Many Co-PIs in a European consortium	VECTORS: Vectors of Change in Oceans and Seas Marine Life, Impact on Economic Sectors	€75,000 of €12,500,000 for the consortium	European Union, FP-7 - Ocean of Tomorrow	2011 -14
PI		An ecosystem doomed? Testing the combined effects of sea level rise and loss of an ecosystem engineer on Levant rocky shore biodiversity	\$307,000	Israel Science Foundation (ISF)	2011 -15
PI on a section of the project	Buki Rinkevich (IOLR) Co-PI Alvaro Israel (IOLR) Co-PI	Environmental Impact Assessment of sand mining – current ecological state and potential impacts on hard bottom communities around Haifa and Ashdod	~\$650,000 out of a total of ~\$1,500,000	Israel Port Company	2012
LPI	Vangelis Papathanassiou (HCMR) PI. Many Co-PIs in a European consortium.	PERSEUS: Policy-oriented marine Environmental Research for the Southern European Seas	€15,000 of €13,000,000 for the consortium	European Union, FP-7 - Ocean of Tomorrow	2012 -15
PI		Test of marine reserves as a management tool for marine conservation on the Israeli Mediterranean coast	\$42,000	Ministry of Energy, Water and Infrastructure	2012 -14
PI	Martin Wahl (GEOMAR) PI	Will coastal ecosystems of the Levant re- organize under the influence of climate change ? The combined effects of sea temperature rise and ocean acidification on benthic communities	€224,000 Israeli part	BMBF- MOST Joint German- Israeli Marine Sciences Program	2012 -15
PI	Gideon Winters (Dead Sea & Arava Science Center) PI, Sigal Abramovich (BGU) Co-PI, Sven Ber (TAU) Co-PI.	Mapping seagrass meadows in the northern part of the Gulf of Eilat - what are the environmental implications of conserving these unique ecosystems, and can they serve as bioindicators of the ecological services of their marine environment?	\$40,000	Ministry of Environmental Protection	2013 -15
PI		Comparing ecological communities between western and eastern Mediterranean rocky reefs	~€6000 expenses do field work in Napoli and Ischia (Italy)	European Union – ASSAMBLE program	2014
Contractor	Rachel Alterman (Technion) PI, Ziva Kolodny Co-PI (Haifa Municipality)	Mapping human activity in the Shikmona Reserve using Citizen Science	€30,600	European Union (under the project Mare Nostrum)	2014 -15

^{*}PI = Principal Investigator; LPI= Local Principal Investigator; CI = Cooperating Investigator