

Irene Olivé



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Current Position: Ricercatore III° livello

Current Affiliation:

Integrated Marine Ecology Department, Stazione Zoologica Anton Dohrn, Napoli (Italy)

Education/Training/Experience

Institute and Location	Degree / Function	Year	Field of Study
Universidad de Cádiz, Spain	BSc and MSc (Licenciada)	1998-2002	Marine Sciences
Universidad de Cádiz, Spain	PhD	2003-2008	Marine Ecology
Instituto de Ciencias del Mar de Andalucía, ICMAN-CSIC, Spain	Research Technician	2008-2009	Physico-chemical oceanography
Instituto de Ciencias del Mar y Limnología, ICMYL-UNAM, Mexico	Lecturer and research associate	2009	Photo-physiology of benthic tropical macrophytes
Universidad de Cádiz, Spain	Postdoc	2009-2010	Marine biology
Centro de Ciências do Mar, CCMAR, Portugal	Postdoc	2011-2017	Climate change on macrobenthic photosynthetic organisms
University of Glasgow, UK	Postdoc	2018-2020	Climate change on macrobenthic photosynthetic organisms
Stazione Zoologica Anton Dohrn, Napoli, Italy	Ricercatore	2021-	Ecology of macrobenthic photosynthetic organisms

Participation in competitive projects

List of participation in the last 10 years (2011-present)

Principal investigator (PI)

- 2014 Effects of CO₂ on seagrass photophysiology. ASSEMBLE program, EU.
- 2014 Long-term effects of high CO₂ on seagrasses photosynthetic machinery. PADI Foundation, USA.
- 2017 Identification, distribution and ecological condition of seagrass meadows in Mayotte. PADI Foundation, USA.
- 2017-18 Productivity, Blue carbon, and nutrient cycling of marine macrophytes in Reunion Island. EMBRIC Transnational Access, ENVRIplus. EU.
- 2018-20 Marie Skłodowska-Curie Individual Fellowships (H2020-MSCA-IF-EF-ST, EU). Multi-driver climate change effects on Seagrass Metabolism: ecosystem implications. (752250, MSCA-IF-2016). European Union.
- 2019 Carbon metabolic balance and Blue carbon storage capacity of seagrass beds across Scotland. Scottish Alliance for Geoscience, Environment and Society (SAGES), United Kingdom.
- 2019 A novel approach to study the effects of ocean acidification on marine vegetation (seagrass and seaweeds): Using upwelling-exposed coastal lagoons in Baja California as natural laboratories. Next-Gen research Grants, Mexico.
- 2020 Valuation of ecosystem services provided by seagrasses - VALGRASS. ASSEMBLE Plus program, EU.

Participation in research projects

- 2009-11 Gestion environnementale des zones lagunaires à vocation aquacole (ECOLAGUNES). SUDOE Interreg Program, EU.
- 2010-13 Whole-system metabolism and CO₂ fluxes in a coastal lagoon dominated by saltmarsh and seagrass meadows (PTDC/AAC-CLI/103348/2008). Fundação para a Ciência e a Tecnologia (FCT). Portugal.
- 2010-14 Seagrass productivity: from genes to ecosystem management (COST Action ES0906). EU-COST Program. EU.
- 2013-15 High-CO₂ effects on seagrass photosynthetic ecophysiology (PTCD/MAR-EST/3687/2012). Fundação para a Ciência e a Tecnologia (FCT). Portugal.
- 2016-19 Climate change effects on seagrass secondary metabolism: ecological implications (PTDC/MAR-EST/4257/2014). Fundação para a Ciência e a Tecnologia (FCT). Portugal.
- 2016-19 Valuation of the ecosystem services delivered by Ria Formosa lagoon (PTDC/MAR-EST/3223/2014). Fundação para a Ciência e a Tecnologia (FCT). Portugal.
- 2020-22 Importancia de la interacción entre estresores locales y cambio global en comunidades vegetadas marinas. Bases científicas para una gestión integrada y sostenible – GLOCOMA (FEDER-UCA18-107243). Junta de Andalucía. España.

Other

Competitive postdoctoral fellowships and contracts

- 2009 Postdoctoral fellowship Universidad Nacional Autónoma de México (UNAM). Desarrollo de un modelo morfo-fisiológico para estimar los requerimientos mínimos cuánticos de crecimiento de las angiospermas marinas. Mexico. Duration: 1 year.
- 2011 Postdoctoral Fellowship Fundação para a Ciência e a Tecnologia (FCT). Ocean acidification effects on seagrass productivity (SFRH/BPD/71129/2010). Portugal. Duration: 6 years.
- 2017 Marie Skłodowska-Curie Individual Fellowships (H2020-MSCA-IF-EF-ST, EU). Multi-driver climate change effects on Seagrass Metabolism: ecosystem implications. (752250, MSCA-IF-2016). European Union. Duration: 2 years.

Mentoring and supervision

- 3 MSc Thesis supervised, 2 BSc Thesis supervisor, 2 ERASMUS+ International Summer Internships supervised, more than 10 Field and lab experimental work supervised from BSc and MSc students

Academic boards

- 9 PhD evaluation committees. (role: jury board member, external evaluator and alternate jury board), 3 MSc evaluation committees (role: jury board member)

Collaborations in scientific organizations

- Reviewer of SCI journals: “Aquatic Botany”, “Botanica Marina”, “Estuaries and Coasts”, “Frontiers in Environmental Science”, “Frontiers in Marine Science”, “Frontiers in Plant Science”, “Journal of Marine Science and Engineering”, “Limnology and Oceanography”, “Marine Environmental Research”, “Methods in Ecology and Evolution”, “New Phytologist”, and “PLOS ONE”
- Member of international scientific societies: SIBECOL and SEF (Spain), SAGES and MASTS (Scotland), SRUK/CERU and MCAA (UK), ASLO and CERF (USA).

Publications

List of publications of the last 10 years (2011-present)

Peer-reviewed publications:

- Vergara JJ, García-Sánchez MP, Olivé I, García-Marín P, Brun FG, Pérez-Lloréns JL, et al. Seasonal functioning and dynamics of *Caulerpa prolifera* meadows in shallow areas: An integrated approach in Cadiz Bay Natural Park. *Estuarine, Coastal and Shelf Science*. 2012;112(0):255-64. doi: 10.1016/j.ecss.2012.07.031.
- Flecha S, Pérez FF, Navarro G, Ruiz J, Olivé I, Rodríguez-Gálvez S, et al. Anthropogenic carbon inventory in the Gulf of Cádiz. *Journal of Marine Systems*. 2012;92:67-75. doi: 10.1016/j.jmarsys.2011.10.010.
- Mazzuca S, Bjork M, Beer S, Felisberto P, Gobert S, Procaccini G, et al. Establishing research strategies, methodologies and technologies to link genomics and proteomics to seagrass productivity, community metabolism and ecosystem carbon fluxes. *Frontiers in Plant Science*. 2013;4. doi: 10.3389/fpls.2013.00038.

- Olivé I, Vergara JJ, Pérez-Lloréns JL. Photosynthetic and morphological photoacclimation of the seagrass *Cymodocea nodosa* to season, depth and leaf position. *Marine Biology*. 2013;160:285-97. doi: 10.1007/s00227-012-2087-2.
- Martínez-Crego B, Olivé I, Santos R. CO₂ and nutrient-driven changes across multiple levels of organization in *Zostera noltii* ecosystems. *Biogeosciences*. 2014;11(24):7237-49. doi: 10.5194/bg-11-7237-2014.
- Costa MM, Barrote I, Silva J, Olivé I, Alexandre A, Albano S, et al. Epiphytes modulate *Posidonia oceanica* photosynthetic production, energetic balance, antioxidant mechanisms and oxidative damage. *Frontiers in Marine Science*. 2015;2. doi: 10.3389/fmars.2015.00111.
- Lauritano C, Ruocco M, Dattolo E, Buia MC, Silva J, Santos R, et al. Response of key stress-related genes of the seagrass *Posidonia oceanica* in the vicinity of submarine volcanic vents. *Biogeosciences*. 2015;12(13):4185-94. doi: 10.5194/bg-12-4185-2015.
- Sandoval-Gil JM, Barrote I, Silva J, Olivé I, Costa MM, Ruiz JM, et al. Plant–water relations of intertidal and subtidal seagrasses. *Marine Ecology*. 2015;36(4):1294-310. doi: 10.1111/maec.12230.
- Olivé I, Silva J, Costa MM, Santos R. Estimating seagrass community metabolism using benthic chambers: The effect of incubation time. *Estuaries and Coasts*. 2016;39(1):138-44. doi: 10.1007/s12237-015-9973-z.
- Olivé I, Silva J, Lauritano C, Costa MM, Ruocco M, Procaccini G, et al. Linking gene expression to productivity to unravel long- and short-term responses of seagrasses exposed to CO₂ in volcanic vents. *Scientific Reports*. 2017;7:42278. doi: 10.1038/srep42278.
- Procaccini G, Ruocco M, Marín-Guirao L, Dattolo E, Brunet C, D'Esposito D, et al. Depth-specific fluctuations of gene expression and protein abundance modulate the photophysiology in the seagrass *Posidonia oceanica*. *Scientific Reports*. 2017;7:42890. doi: 10.1038/srep42890.
- Ruocco M, Musacchia F, Olivé I, Costa MM, Barrote I, Santos R, et al. Genomewide transcriptional reprogramming in the seagrass *Cymodocea nodosa* under experimental ocean acidification. *Molecular Ecology*. 2017;26(16):4241-59. doi: 10.1111/mec.14204.
- Enríquez S, Olivé I, Cayabyab N, Hedley JD. Structural complexity governs seagrass acclimatization to depth with relevant consequences for meadow production, macrophyte diversity and habitat carbon storage capacity. *Scientific Reports*. 2019;9(1):14657. doi: 10.1038/s41598-019-51248-z.
- de los Santos CB, Olivé I, Moreira M, Silva A, Freitas C, Araújo Luna R, et al. Seagrass meadows improve inflowing water quality in aquaculture ponds. *Aquaculture*. 2020;528:735502. doi: 10.1016/j.aquaculture.2020.735502.
- Piro A, Bernardo L, Serra IA, Barrote I, Olivé I, Costa MM, et al. Leaf proteome modulation and cytological features of seagrass *Cymodocea nodosa* in response to long-term high CO₂ exposure in volcanic vents. *Scientific Reports*. 2020;10(1):22332. doi: 10.1038/s41598-020-78764-7.

Book Chapters:

- Pérez-Lloréns JL, Vergara JJ, Olivé I, Mercado JM, Conde-Álvarez R, Pérez-Ruzafa Á, et al. Autochthonous Seagrasses. In: Goffredo S, Dubinsky Z, editors. *The Mediterranean Sea: Its History and Present Challengers*: Springer Netherlands; 2014. p. 137-58.