

CV OSCAR SERRANO GRAS

Date of birth: 5th September 1981, Granollers, Spain (41 years old)

DNI: 47708809R

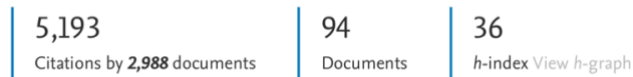
PhD in Biology: University of Barcelona: Barcelona, completion 2011-09-11

Researcher codes:

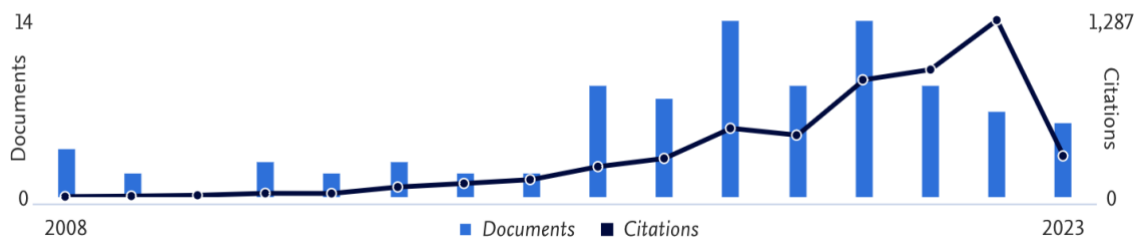
ORCID: <https://orcid.org/0000-0002-5973-0046>

SCOPUS: [25655253200](https://scopus.com/authid/detail.url?authorID=25655253200)

SCOPUS metrics (current as of 23 March 2023):

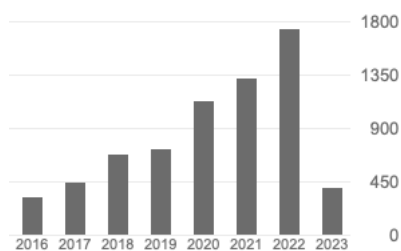


Document & citation trends



GOGGLE SCHOLAR metrics (current as of 23 March 2023):

	All	Since 2018
Citations	7538	6016
h-index	44	38
i10-index	75	74



Personal Websites & Social Links

[Edith Cowan University](#)

[Centro de Estudios Avanzados de Blanes \(CSIC\)](#)

[@oserranogras, Twitter](#)

Keywords

Blue Carbon, Global Change, Climate Change, Mitigation and Adaptation, Marine Ecology and Palaeoecology, Marine Biogeochemical Cycles, Seagrass Ecology and Paleoecology, Use of Stable Isotopes in Ecological Studies, Basic and Applied Ecology of Aquatic Macrophytes, Balance of Ecosystem, Detrital Compartment in Marine Macrophytes, Biomarkers and Analysis of Ecosystem Health

Email

o.serranogras@ecu.edu.au

oserrano@ceab.csic.es

Biography

Dr Serrano has spent 10 years conducting research in Australia before moving to CEAB. Now, he is currently working in a Ramon y Cajal tenure-track position at CEAB since May 2021. He published in top peer-reviewed journals, successfully led projects to reconstruct global change impacts on coastal areas, and mentored under- and post-graduate students, and post-doctoral researchers in Australia and Spain towards successfully completing their projects, including the publication of their research as lead authors in top peer-reviewed journals. He is conducting research in multiple countries and regions, including South America, Australia the Mediterranean Sea and the Atlantic Ocean.

His research focuses on the study of climate–human–landscape interactions in both coastal and terrestrial ecosystems using multi-disciplinary approaches. Dr Serrano’s work sits at the interface between palaeoecology, contemporary ecology, climate change research and biogeosciences, to deliver new insights onto the global change processes and dynamics of ecosystems at millenary time scales. His work has introduced a new research program on seagrass ecology based on the analysis of the palaeoarchives existing in the massive deposits these ecosystems develop over millennia and the insights it can provide on global change and the impacts on coastal ecosystems. Indeed, his long-term career on the study of Blue Carbon and biogeochemical cycles has placed him among the top researchers in this field. Dr Serrano’s research is influencing policy and management.

Career objective

After spending 10 years abroad conducting research, I’ve decided to return home in Spain close to my family and friends. My career objective is to secure a permanent research position at the Centro de Estudios Avanzados de Blanes (CSIC) to continue to develop world class research in collaboration with top researchers, industry and policy makers, while establishing a research group at CEAB-CSIC.

Education

2011 PhD in Essential and Applied Ecology, Faculty of Biology, University of Barcelona, Spain

PhD Supervisor: Miguel Ángel Mateo Mínguez

2007 Master in Environmental Sciences, Faculty of Biology, University of Barcelona, Spain

Employment

2021–2026 Senior Scientist, Ramón y Cajal Researcher, Centre for Advanced Studies of Blanes, Spanish National Research Council (CEAB-CSIC) (Spain): 2021 to present.

2016–2020 Postdoctoral Research Fellow, Centre for Marine Ecosystems Research, Edith Cowan University (CMER-ECU)

2012–2016 Postdoctoral Fellow, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Marine and Coastal Carbon Biogeochemical Cluster and Indian Ocean Marine Research Centre, University of Western Australia (UWA), Australia

2011–2012 Postdoctoral Fellow (AGRIWESTMED project; FP7-IDEAS-ERC), Department of Soil Science and Agricultural Chemistry, University of Santiago de Compostela, Spain

Institutional Responsibilities

2022–present Representative of Spain in JPI Oceans (BlueBio ERA-Net Cofund), Europe

2021–2022 Organizer of the Internal Seminar, CEAB, Spain

2019–2021 Mid-Career Researcher Member on the Analytics and Performance Working Group, ECU, Australia

2018–2021 Graduate Student Advisor, ECU, Australia

2017–2019 Representative of Early and Mid-Career Researchers, ECU, Australia

2016–2018 Scientific Advisor for the Department of Environment and Energy (blue carbon), Australia

2014 – 2015 Scientific Advisor for the Environmental Protection Agency (metal pollution), Australia
2012 – 2014 Organizer of the Internal Seminar, ECU, Australia

PhD and MSc Thesis Supervision*

1. Mohamed Rozaimi (2011–2015). PhD Thesis Title: Carbon storage and preservation in seagrass meadows (Edith Cowan University, Australia). Role: co-supervisor.
2. Anna Lafratta (2016–2020). PhD Thesis Title: Role of seagrasses as biogeochemical sinks and environmental archives (Edith Cowan University, Australia). Role: co-supervisor.
3. Cristian Salinas (2018–2022). PhD Thesis Title: Seagrass soils as paleoenvironmental tools and biogeochemical sinks for management (Edith Cowan University, Australia). Role: principal supervisor.
4. Radhiyah Ruhon (2014-2016). Master of Science Thesis Title: Impact of mooring activities on carbon stocks in seagrass meadows (University of Western Australia). Role: principal supervisor.
5. Camila Bedulli (2017-2019). Master of Science Thesis Title: Contribution of seagrass blue carbon toward carbon neutral policies in a touristic and environmentally-friendly island (University of Western Australia). Role: principal supervisor.
6. Connor Gorham (2019-2021). Master of Science Thesis title: Carbon storage potential of temperate tidal marsh ecosystems in Western Australia. (Edith Cowan University, WA, Australia). Role: principal supervisor.
7. Axel Warner (2020-2022). Master of Science Thesis title: Reconstruction of environmental change during the Holocene based on the multiproxy study of sedimentary archives (Edith Cowan University, WA, Australia). Role: principal supervisor
8. Maelle Tabaste (2021-2022). Master of Science Thesis title: Impact of recreational boats on the blue carbon sink associated with *Posidonia oceanica* meadows in the Costa Brava (Aix Marseille Universite, France). Role: co-supervisor.
9. Jack Robinson (2021-ongoing). Master of Science Thesis title: Deciphering the mechanisms facilitating seagrass restoration and the recovery of key ecosystem services, such as Blue Carbon (Edith Cowan University, WA, Australia). Role: co-supervisor.
10. Berta Batlles (2021-ongoing). Master of Science Thesis title: Role of calcareous organisms inhabiting seagrass meadows in climate change mitigation and adaptation (University of Barcelona). Role: principal supervisor.
11. Enric Gomis (2021-ongoing). Master of Science Thesis title: Role of seagrass escarpments as rocky habitat (University of Barcelona). Role: principal supervisor.
12. Irene Bernabeu (2021-ongoing). Reconstruction of environmental change in Sweden Fjords (University of Barcelona). Master of Science Thesis title: Role: co-supervisor.

**During my career I've supervised 38 under- and post-graduate student' projects at Edith Cowan University, University of Barcelona, and Centro de Estudios Avanzados de Blanes (CSIC).*

Mentoring post-doctoral researchers

1. [Inés Mazarrasa](#)
2. [Briac Monnier](#)
3. [Nerea Piñeiro-Juncal](#)
4. [Aurora Ricart](#)
5. [Simone Strydom](#)
6. [Martin Dahl](#)
7. [Ariane Arias-Ortiz](#)
8. [Nicole Foster](#)

Professional Services

1. Editorial Board Member of *Frontiers in Marine Science* journal (2018–present)
2. Research Grant Referee/Assessor (Australian Research Council, European Union, CRN, Spanish Council) (2017–present)
3. Thesis Assessor (under-graduate students, MSc and PhD) (2016–present)
4. Peer Reviewer of Q1 journals (2014–present)

5. AMSA and ASLO memberships (2013-ongoing)
6. Host delegation from the Fourth Institute of Oceanography, State Oceanic Administration, China-ASEAN Countries Joint Research and Development, Centre of Marine Science and Technology at ECU (2018)
7. Press conference organised by the Wilderness Society and CCWA coordinating in regards to the EPA greenhouse gas emissions guidelines (2019)
8. Informing Department of Environment and Energy around implementation of Blue Carbon into policy (2016–ongoing)
9. Informing South Australia Government around implementation of Blue Carbon into policy (2017–ongoing)
10. Informing South Australia Environmental Protection Agency around metal pollution management (2018–ongoing)

Invited positions, fellowships and distinctions

- 2021–2024 Ramon y Cajal Award, Spanish State Research Agency & EU (research funds for top ranked applications), CEAB-CSIC, Spain
- 2021–2026 Ramon y Cajal Fellowship, Spanish State Research Agency & EU, CEAB-CSIC, Spain
- 2017 & 2021 Australian Nuclear Science and Technology Organization Award (to run 14C analyses), CMER-ECU, Australia
- 2020 Research Media Impact Award, ECU, Australia
- 2019–2020 Deputy Vice-Chancellor Research Fellowship, CMER-ECU, Australia
- 2019 Silver Jubilee Visiting Professorship Award (funds to host Prof. Eugenia Apostolaki for 2 months), ECU, Australia
- 2019 Research Media Impact Award, ECU, Australia
- 2018 Early Mid-Career Researcher, ECU, Australia
- 2017 Silver Jubilee Visiting Professorship Award, ECU (funds to host Prof. Nuria Marbà for 3 months), ECU, Australia
- 2016 – 2019 Discovery Early Career Research Award, Australian Research Council, ECU, Australia
- 2015 Silver Jubilee Visiting Professorship Award (funds to host Prof. Antonio Martinez-Cortizas for 2 months), ECU, Australia
- 2012 – 2016 Postdoctoral Fellowship, CSIRO and Indian Ocean Marine Research Centre, UWA, Australia

Membership and service

1. Group of Aquatic Macrophyte Ecology (GAME): Blanes, Catalunya, ES2006-01-01 to 2031-12-31
2. Grupo de Ecología Bentónica SGR2005-000277 (Centre for Advanced Studies of Blanes (CSIC)): Blanes, Catalunya
3. Association for the Sciences of Limnology and Oceanography (ASLO)
4. Australian Marine Science Association (AMSA)
5. Mid-Career Researcher member on the Analytics and Performance Working Group (ECU; 2019–ongoing)
6. Mercury Australia team member, and representative from ECU and Western Australia
8. BIOSFERA, Associació d'Educació Ambiental: L'Hospitalet De Llobregat, Catalunya, Foundation Member

Funding

Since 2012, I've secured ~4 million euros in funding, with ~3 million for research operational and 1 million for employment contracts.

1. Title: Millenary Changes in the Mediterranean
Funding: Spanish National Plan for Scientific and Technical Research and Innovation (Madrid, Catalunya) 2021-09 to 2024-08 | Grant, EURO 165,000. IP: Oscar Serrano and Miguel Angel Mateo.

URL: <https://www.ceab.csic.es/en/project/canvi-ambiental-en-ecosistemas-costaners-mediterranis-en-resposta-a-pressions-antropogeniques-i-climaticques-durant-lholoce/>

2. Ramon y Cajal Spanish National Plan for Scientific and Technical Research and Innovation (Madrid, Catalunya) 2021-05 to 2026-04 | Salary award, EURO 250,000. IP: Oscar Serrano.
URL: <https://www.ceab.csic.es/en/project/canvi-ambiental-en-ecosistemas-costaners-en-resposta-a-pressions-antropogeniques-durant-lholoce/>
3. Ramon y Cajal Research Operational Spanish National Plan for Scientific and Technical Research and Innovation (Madrid, Catalunya) 2021-05 to 2026-04 | Grant, EURO 40,000. IP: Oscar Serrano.
URL: <https://www.ceab.csic.es/en/project/canvi-ambiental-en-ecosistemas-costaners-en-resposta-a-pressions-antropogeniques-durant-lholoce/>
4. Award linked to Top-Ranked Ramon y Cajal Spanish National Plan for Scientific and Technical Research and Innovation (Madrid, Catalunya) 2021-05 to 2024-04 | Award, EURO 150,000. IP: Oscar Serrano.
URL: <https://www.ceab.csic.es/en/project/canvi-ambiental-en-ecosistemas-costaners-en-resposta-a-pressions-antropogeniques-durant-lholoce/>
5. Blue Carbon Assessment of restored *Amphibolis* meadow South Australian Research and Development Institute (Adelaide, South Australia) 2021-01 to 2021-12 | Grant, EURO 15,840. IP: Oscar Serrano and Paul Lavery.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
6. Changes in seagrass structure and biomass in Western Australia in response to dredging and marine heatwave disturbances BMT Commercial Australia Pty Ltd (Perth, Western Australia) 2020-06 to 2021-05 | Grant, EURO 7,670, IP: Oscar Serrano.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
7. Nature Conservation, Building and Nuclear Safety, International Climate Protection Initiative (IKI) - Conservation of biodiversity, seagrass ecosystems and their services safeguarding food security and resilience in vulnerable coastal communities in a changing climate German Federal Ministry for the Environment (Berlin) 2020-01 to 2023-01 | Grant, EURO 680,000. IP: Oscar Serrano and Paul Lavery.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
8. Mangroves, seagrass meadows and local communities: development and exchange of experiences linked to the throughout management of biodiversity and services in the Caribbean region (MAPCO) Instituto de Investigaciones Marinas y Costeras (Santa Marta, Colombia) 2019-01 to 2020-01 | Grant, EURO 17,800. IP: Oscar Serrano.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
9. AMS radiocarbon dating to assess Blue Carbon erosion following a marine heatwave in Shark Bay' seagrass, 2019-2020, ANSTO analytical services values at EURO 13,200. IP: Oscar Serrano.
10. Visiting Fellow Ines Mazarrasa Elosegui Edith Cowan University (WA, Australia) 2018-06 to 2018-12 | Grant, EURO 3,300. IP: Oscar Serrano.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
11. Carbon sequestration in seagrass meadows in Greece: potential for climate change mitigation Edith Cowan University (WA, Australia) 2018-01 to 2019-01 | Grant, EURO 5,500. IP: Oscar Serrano.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>

12. Past and future dynamics in coastal ecosystems Australian Research Council (Canberra, Australia) 2017-01-01 to 2019-12-31 | Grant, EURO 258,000. IP: Oscar Serrano.
Grant Number: DE170101524
URL: <https://app.dimensions.ai/details/grant/grant.6711919>
13. Seagrass meadows as metal filters in a high-polluted coastal marine environment Ecological Society of Australia (QLD, Australia) 2017-01 to 2020-01 | Grant, EURO 1,600. IP: Oscar Serrano and Paul Lavery.
<http://dx.doi.org/10.13039/501100008702>
14. Coastal Carbon Opportunities: demonstrating additionality and potential for future offsets in South Australia Goyder Institute (Adelaide, South Australia) 2017-01 to 2019-01 | Grant, EURO 76,300. IP: Oscar Serrano and Paul Lavery.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
15. Australian-wide risk assessment of carbon dioxide emissions from seagrass habitat under current and future global change threats Edith Cowan University (WA, Australia) 2016-01 to 2017-01 | Grant, EURO 6,000. IP: Oscar Serrano.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
16. Seagrass archives to reveal environmental history-reconstruction of metals contamination history at Port Pirie (SA) Ecological Society of Australia (QLD, Australia) 2016-01 to 2017-01 | Grant, EURO 4,000. IP: Oscar Serrano and Paul Lavery.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
17. Technical Review - Blue Carbon Emissions Reduction Opportunities Department of Environment and Water (Perth, Western Australia) 2016-01 to 2016-12 | Grant, EURO 19,800. IP: Oscar Serrano.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
18. A novel approach to assess pollution in coastal ecosystems Edith Cowan University (WA, Australia) 2015-01 to 2016-01 | Grant, EURO 16,300. IP: Oscar Serrano.
URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
19. Serrano O, Serrano E, Collia A, Serra A. Invasive species in Catalan aquatic ecosystems: environmental education to prevent their dispersion, Catalan Gov. 2015. EURO 23,100. IP: Eduard Serrano and Oscar Serrano.
20. Assessing the capacity of seagrass sediments to sequester carbon dioxide and metal pollution: past, present and future scenarios Edith Cowan University (WA, Australia) 2014-01 to 2016-01 | Grant, EURO 26,100. IP: Oscar Serrano. URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>
21. The sedimentary record under seagrasses as a tool for the evaluation, valorization, diagnosis, and prognosis in the Spanish Insular National Parks (PALEOPARK), Spanish National Research council, 2014. EURO 107,000. IP: Miguel Angel Mateo.
22. Mateo MA, Lavery P, Serrano O, Martinez-Cortizas A, Cacho I, Pelejero C, Maldonado M, Martin D. Andalusian blue carbon for climate change mitigation: quantification and valorization mechanisms (LIFE BLUE NATURA), LIFE Climate Change Mitigation Project 2014. EURO 1,800,000. IP: Miguel Angel Mateo.
23. Mateo MA, Otero X, Taboada T, Lavery P, Serrano O, Osorio T, Lambais M, Huerta MA, Soler M. Advances in sampling techniques, biogeochemical characterization, and quantification of

seagrass millenary deposits, Ministry of Economy and Competitiveness, National Funding Scheme for the support of Science, Technology and Innovation, Spain, 2014. EURO 185,000. IP: Miguel Angel Mateo.

24. Serrano O, Kendrick G. Reconstruct the past of the Wasse-Wonnerup systems. Department of Water (DoW), Research Collaboration Agreement between University Western Australia and Department of Water (Perth), Department of Water (Perth) 2014. EURO 16,500. IP: Oscar Serrano and Gary Kendrick.
25. Serrano O, Duarte C, Olsen Y, Role of seagrass as carbon sinks and paleoenvironmental pH records, University Western Australia, Science Without Borders Brazil-UWA Scheme 2013. EURO 6,600. IP: Oscar Serrano and Ylva Olsen.
26. Olsen Y, Serrano O, Kendrick G. Do seagrass meadows provide pH refugia for calcifying organisms? University Western Australia, Early Career Researcher Scheme 2013. EURO 10,600. IP: Oscar Serrano and Ylva Olsen.
27. Organic Carbon Preservation in Estuarine Seagrass Meadows of Western Australia Ernest Hodgkin Trust (Perth, Western Australia) 2012-01 to 2014-01 | Grant, EURO 3,350. IP: Oscar Serrano and Paul Lavery. URL: <https://www.ecu.edu.au/schools/science/staff/profiles/research-fellows/dr-oscar-serrano>

Publications

I've co-authored 15 scholarly reports and book chapters, 94 papers published in peer-review journals, 11 open-access datasets. The journals rank between 1st and 10th in their respective disciplines, with an average impact factor of 4.5, including 12 manuscripts published in journals with Impact Factor ranging from 9 to 22, ranking among the first in their respective disciplines.

Scholarly reports and book chapters (15)

1. Mateo MA, Leiva-Dueñas C, Piñero-Juncal N, **Serrano O**, Giralt S, Leavitt P, Martínez-Cortizas A, Buchaca T, Schouten S, Procaccini G, Lavery P, Thoran A, Milani A, Sans A, Bolivar M, Pérez N, López-Merino L, Soler M, Frigola J, Delgado A, Masqué P, Garcia-Orellana J, Barreiro F, Valero BL, Serrano E, Ballesteros-Arias P, Riera M, Maldonado M, Ortega-Casamayor E, Martin D (2022) Cambios milenarios en los ecosistemas de parques nacionales insulares: perturbaciones, resiliencia y tendencias según el archivo de las fanerógamas marinas. Monografías Proyectos Parques Nacionales, MITECO.
2. **Serrano O**, Arias-Ortiz A, Duarte CM, Kendrick GA, Lavery PS (2021) Impact of Marine Heatwaves on Seagrass Ecosystems. Ecosystem Collapse and Climate Change, Elsevier book-chapter. https://doi.org/10.1007/978-3-030-71330-0_13
3. Mateo MA, García-Redondo V, Leiva-Dueñas C, **Serrano O**, Díaz-Almela, E (2021) El valor ecológico, social y económico de las fanerógamas marinas. Praderas marinas, tesoros de biodiversidad | report. http://www.ceida.org/sites/default/files/adxuntos-publicaciones/praderas_marinas_tesoros_de_biodiversidad_opt.pdf
4. Duarte CM, Atwood TB, Kairo JG, Kennedy H, Krause-Jensen D, Lovelock CE, **Serrano O** (2021) UNESCO Marine World Heritage: Custodians of the globe's blue carbon assets. UNESCO Marine World Heritage | report. <https://whc.unesco.org/en/blue-carbon-report/>
5. Kelleway JJ, Adame MF, Gorham C, Bratchell J, **Serrano O**, Lavery PS, Owers CJ, Rogers K, Nagel-Tynan Z, Saintillan N (2021) Carbon Storage in the Coastal Swamp Oak Forest Wetlands of Australia. Wetland Carbon and Environmental Management | book-chapter Wiley.

<https://doi.org/10.1002/9781119639305.ch18>

6. Kelleway J*, **Serrano O***, Baldock J, Cannard T, Lavery P, Lovelock CE, Macreadie P, Masqué P, Saintilan N, Steven AD (2018) Technical review of opportunities for including blue carbon in the Australian Government's Emissions Reduction Fund. Canberra, ACT: CSIRO. 2017. *joint first authors.
<https://publications.csiro.au/rpr/download?pid=csiro:EP166570&dsid=DS2>
7. Lavery PS, Lafratta A, **Serrano O**, Masqué P, Jones A, Fernandes M, ... & Gillanders B (2019) Coastal carbon opportunities: technical report on carbon storage and accumulation rates at three case study sites. Goyder Institute for Water Research Technical Report Series, (19/21), 94.
[http://www.goyderinstitute.org/r2299/media/system/attrib/file/634/Goyder TRS-19-21%20Coastal%20Carbon%20Opportunities_Task1d_technical-report_Final-no%20appendices.pdf](http://www.goyderinstitute.org/r2299/media/system/attrib/file/634/Goyder_TRS-19-21%20Coastal%20Carbon%20Opportunities_Task1d_technical-report_Final-no%20appendices.pdf)
8. **Serrano O**, Kelleway JJ, Lovelock C, Lavery PS (2019) Conservation of Blue Carbon Ecosystems for Climate Change Mitigation and Adaptation. In Coastal Wetlands (pp. 965-996). Elsevier. <https://doi.org/10.1016/B978-0-444-63893-9.00028-9>
9. Fourqurean J, Johnson B, Boone Kauffman J, Kennedy H, Emmer I, Howard J, Pidgeon E, **Serrano O** (2014) Conceptualizing the project and developing a field measurement plan, in J. Howard, S. Hoyt, K. Isensee, M. Telszewski, E. Pidgeon (eds.), Coastal Blue Carbon: Methods for assessing carbon stocks and emissions factors in mangroves, tidal marshes and seagrass meadows, Conservation International, Intergovernmental Oceanographic Commission of UNESCO, International Union for Conservation of Nature. Virginia, USA. (IF = n/a; Citations = 169). <https://www.thebluecarboninitiative.org/manual/>
10. Fourqurean, J., Johnson, B., Boone Kauffman, J., Kennedy, H., Lovelock, C., Alongi, D., Cifuentes, M., Copertino, M., Crooks, S., Duarte, CM., Howard, J., Hutahaean, A., Kairo, J., Marbà, N., Morris, J., Murdiyarso, D., Pidgeon, E., Ralph, P., Saintilan, N., **Serrano, O.** (2014). Field Sampling of Soil Carbon Pools in Coastal Ecosystems, in J. Howard, S. Hoyt, K. Isensee, M. Telszewski, E. Pidgeon (eds.), Coastal Blue Carbon: Methods for assessing carbon stocks and emissions factors in mangroves. tidal marshes and seagrass meadows, Conservation International, Intergovernmental Oceanographic Commission of UNESCO, International Union for Conservation of Nature. Virginia, USA. <https://www.thebluecarboninitiative.org/manual/>
11. Fourqurean J, Johnson B, Boone Kauffman J, Kennedy H, Lovelock C, Saintilan N, Alongi D, Cifuentes M, Copertino M, Crooks S, Duarte CM, Fortes M, Howard J, Hutahaean A, Kairo J, Marbà N, Murdiyarso D, Pidgeon E, Ralph P, **Serrano O** (2014) Field Sampling of Vegetative Carbon Pools in Coastal Ecosystems, J. Howard, S. Hoyt, K. Isensee, M. Telszewski, E. Pidgeon (eds.), Coastal Blue Carbon: Methods for assessing carbon stocks and emissions factors in mangroves. tidal marshes and seagrass meadows, Conservation International, Intergovernmental Oceanographic Commission of UNESCO, International Union for Conservation of Nature. Virginia, USA. <https://www.thebluecarboninitiative.org/manual/>
12. Pergent G, Bazairi H, Bianchi C, Boudouresque CF, Buia MC, Clabaut P, Harmelin-Vivien ML, Mateo MA, Montefalcone M, Morri C, Orfanidis S, Pergent-Martini G, Semroud R, **Serrano O**, Verlaque M (2012) Mediterranean seagrass meadows: resilience and contribution to climate change mitigation. A short summary. International Union of Conservation of Nature, pp. 40. <https://www.iucn.org/content/mediterranean-seagrass-meadows-resilience-and-contribution-climate-change-mitigation>

13. Mateo, MA, **Serrano O** (2012) The carbon sink associated to *Posidonia oceanica*, In Pergent G, et al. (Eds.) Mediterranean seagrasses: resilience and contribution to the attenuation of climate change. A short summary. IUCN Mediterranean, Malaga, pp 40.
<https://www.iucn.org/content/mediterranean-seagrass-meadows-resilience-and-contribution-climate-change-mitigation>
14. Serrano L, **Serrano O**, Pinto R, Zakhama R, Ramsi Y, Scapini F, Bayed A, Abdrabo M, Farag MM, Baccar F, Charfi F, Rossano C, Nourisson D, Mateo MA (2009) Ecological functioning of transitional water Bodies: from conceptual and mechanistic models to management. In Scapini F, Boffa J-M, Cassar LF, Conrad E, Nardi M (Eds.) Sustainable management of Mediterranean coastal fresh and transitional water bodies: a socio-economic and environmental analysis of changes and trends to enhance and sustain stakeholder benefits, 229-230. Firenze University Press, 333pp.
15. Hassan MA, Serrano L, **Serrano O**, Mateo MA, Abdrabo M (2009) Suitability Analysis of Water Quality in Lake Maryuit for Economic Activities Using GIS Techniques 2009 | book-chapter. Firenze University Press.
<https://scholar.google.com.au/scholar?oi=bibs&cluster=17545555410907712579&btnI=1&hl=en>

Refereed journal articles (94)

1. Majtényi-Hill C, Reithmaier G, Yau YY, **Serrano O**, Piñeiro-Juncal N, Santos IR, 2023
Inorganic carbon outwelling from a Mediterranean seagrass meadow using radium isotopes
Estuarine, Coastal and Shelf Science
<https://doi.org/10.1016/j.ecss.2023.108248>
2. Malerba ME, de Paula Costa MD, Friess DA, Schuster L, Young MA, Lagomasino D, **Serrano O**, Hickey SM, York PH, Rasheed M, Lefcheck JS, 2023
Remote sensing for cost-effective blue carbon accounting
Earth-Science Reviews
<https://doi.org/10.1016/j.earscirev.2023.104337>
3. Capó-Bauçà S, Whitney S, Iñiguez C, **Serrano O**, Rhodes T, Galmés J, 2023
The trajectory in catalytic evolution of Rubisco in *Posidonia* seagrass species differs from terrestrial plants
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Datasets (11)

1. Impact of seagrass establishment, industrialization and coastal infrastructure on seagrass biogeochemical sinks [dataset] 2020 | dataset
<https://doi.org/10.25958/5E967DE408E58>
2. Seagrass losses since mid-20th century fuelled CO₂ emissions from soil carbon stocks [dataset] 2020 | dataset
<https://doi.org/10.25958/5ED5BAB3B80BC>
3. Top 30 cm soil C org stocks, isotopic C org signature (^{13}dC) and fine sediment content (silt and clay %) estimated in soil cores sampled in seagrass meadows around Australia [dataset] 2020 | dataset
<https://doi.org/10.25958/GPS9-M874>
4. Australian vegetated coastal ecosystems as global hotspots for climate change mitigation 2019 | dataset
<https://doi.org/10.25919/5D3A8ACC9B598>
5. Sediment inorganic carbon (PIC) deposits in seagrass meadows and adjacent sand-patches (v. 2) 2018-08-03 | dataset
<https://doi.org/10.20350/DIGITALCSIC/8555>
6. Data from: Optimal soil carbon sampling designs to achieve cost-effectiveness: a case study in blue carbon ecosystems 2018 | dataset
<https://doi.org/10.5061/DRYAD.QJ472R2>
7. Country-level mangrove soil carbon stocks and losses 2017 | dataset
<https://doi.org/10.1594/PANGAEA.874382>

8. A marine heat wave drives massive losses from the world's largest seagrass carbon stocks 2016 | dataset
<https://doi.org/10.4225/75/5A1640E851AF1>
9. Impact Of Mooring Activities On Carbon Stocks In Seagrass Meadows [dataset] 2016 | dataset
<https://doi.org/10.4225/75/56C561FB1D419>
10. Key Biogeochemical Factors Affecting Soil Carbon Storage In Posidonia Meadows 2016 | dataset
<https://doi.org/10.4225/75/56B2FD48B92D5>
11. Seagrass Sediments Reveal The Long-term Deterioration Of An Estuarine Ecosystem [dataset] 2016 | dataset
<https://doi.org/10.4225/75/56C566831D41A>

Presentations in Conferences

More than 110 oral communications and posters (21 as speaker and 89 as co-author) in national and international conferences, including ASLO, ECSA, INQUA. Hosting two sessions around Blue Carbon in ASLO Spain (2017) and Puerto Rico (2019). More than 40 invited seminars, lectures and presentations at universities, industry partners and community events.

More relevant presentations in conferences listed below:

- Leiva-Dueñas C, Piñeiro-Juncal N, Díaz-Almela E, Martínez-Cortizas A, Salinas C, **Serrano O**, Mateo MA (2021) Long-term resilience of seagrass meadows. ASLO 2021: Aquatic Sciences for a Sustainable Future: Nurturing Cooperation. Aquatic Sciences Meeting, Virtual meeting, 22–27 June 2021. Oral.
<https://aslo.secure-platform.com/a/gallery/rounds/7/details/3633>
- **Serrano O**, Apostolaki E, Serrano E, Inostroza K, Mazarrasa I, Leiva-Dueñas C, Piñeiro-Juncal N, Díaz-Almela E, Soler M, Monnier B, Holitzki T, Johnson E, Pergent G, Mateo MA (2021) Cocktail of biotic and abiotic factors driving seagrass Blue Carbon variability across the Mediterranean Sea. ASLO 2021: Aquatic Sciences for a Sustainable Future: Nurturing Cooperation. Aquatic Sciences Meeting, Virtual meeting, 22–27 June 2021. Oral.
<https://aslo.secure-platform.com/a/gallery/rounds/7/details/2988>
- Piñeiro-Juncal N, Belshe F, Díaz-Almela E, Leiva-Dueñas C, Mateo MA, **Serrano O** (2021) Decay rates of organic carbon stocks in seagrass soils. ASLO 2021: Aquatic Sciences for a Sustainable Future: Nurturing Cooperation. Aquatic Sciences Meeting, Virtual meeting, 22–27 June 2021. Oral. <https://aslo.secure-platform.com/a/gallery/rounds/7/details/3109>
- Apostolaki ET, Lavery P, Serrano E, Inostroza K, Mitzan VL, Gerakaris V, Dailianis T, Glampedakis J, Holitzki T, Johnson E, Mateo MA, **Serrano O** (2021) Poseidon grass in Greece: assessment of their blue carbon and nitrogen storage capacity. ASLO 2021: Aquatic Sciences for a Sustainable Future: Nurturing Cooperation. Aquatic Sciences Meeting, Virtual meeting, 22–27 June 2021. Oral. <https://aslo.secure-platform.com/a/gallery/rounds/7/details/4170>
- Mateo MA, Lavery PS, **Serrano O**, Skov M (2019) SS09 Blue Carbon: from the ecosystem to the markets. ASLO 2019: Aquatic Sciences Meeting. Planet Water, Challenges and Successes. San Juan de Puerto Rico (USA) 24/02/2019 – 01/03/2019.
- Mateo MA, Díaz-Almela E, Mendoza R, Vivas S, Piñeiro-Juncal N, Leiva-Dueñas C, Otero MM, Peñalver P, León D, Alhama MV, Gómez A, Moreno D, Barrajón A, de la Rosa J, Remón JM, Fernández M, Arroyo MC, Giralt S, **Serrano O**, Belshe EF, Monnier B, Lavery P, Sans A, Alaman M (2019). Getting muddy to clear the path of Blue Carbon to the emissions offset systems. ASLO 2019: Aquatic Sciences Meeting. Planet Water, Challenges and Successes. San Juan de Puerto Rico (USA) 24/02/2019 – 01/03/2019. Oral.

- Piñero-Juncal N, Díaz-Almela E, Leiva-Dueñas C, Deulofeu O, Soler M, Benjumea D, Giralt S, Frigola J, Martínez-Cortizas A, **Serrano O**, Lavery PS, Mateo MÁ (2019) Sedimentary processes as a control of blue carbon stocks and fluxes: a study case from the Spanish Andalusian coasts. ASLO 2019: Aquatic Sciences Meeting. Planet Water, Challenges and Successes. Puerto Rico. 23 February - 2 March 2019. Oral.
- Díaz-Almela E, Piñero-Juncal N, Leiva-Dueñas C, Garcia-Orellana J, Frigola J, Soler M, Benjumea D, Bruach-Menchén JM, **Serrano O**, Belshe EF, Lavery PS, Vázquez-Loarte A, Pagès JF, Giralt S, Mateo MÁ (2019) A blue carbon inventory: stocks and fluxes for the region of Andalusia (SW Mediterranean). ASLO 2019: Aquatic Sciences Meeting. Planet Water, Challenges and Successes. Puerto Rico. 23 February - 2 March 2019. Oral.
- Leiva-Dueñas C, Piñero-Juncal N, Diaz-Almela E, **Serrano O**, Belshe EF, Lavery PS, Martínez-Cortizas A, Mateo MÁ (2019) Factors influencing long-term blue carbon accumulation in seagrasses meadows along Andalusian coast: a paleo-perspective. ASLO 2019: Aquatic Sciences Meeting. Planet Water, Challenges and Successes. Puerto Rico. 23 February–2 March 2019. Oral.
- Leiva-Dueñas C, **Serrano O**, Martínez Cortizas A, López-Merino L, Miguel MA (2018) Millennial-scale *Posidonia oceanica* (L. Delile) ecosystem productivity reconstructed using a palaeoecological approach. VI International Symposium on Marine Sciences. Vigo, Spain, 20-22 June 2018. Oral.
- Piñero-Juncal N, Belshe F, Benjumea D, Díaz-Almela, E, Leiva-Dueñas C, Sans A, **Serrano O**, Soler M, Mateo MA (2018) On the Quantification of Blue Carbon in Seagrass Meadows. VI International Symposium on Marine Sciences. Vigo, Spain, 20–22 June 2018. Oral.
- Leiva-Dueñas C, Buchaca T, Leavitt P, Piñero-Juncal N, **Serrano O**, Lavery PS, Milani A, Thoran A, Mateo MA (2018) Primary producer pigments in *Posidonia oceanica* (L. Delile) sedimentary archives: long-term temporal trends in a coastal area. VI International Symposium on Marine Sciences. Vigo, Spain, 20-22 June 2018. Oral.
- Leiva-Dueñas C, **Serrano O**, Martínez-Cortizas A, López-Merino L, Mateo MA (2018) Millennial-scale *Posidonia oceanica* (L. Delile) ecosystem productivity reconstructed using a palaeoecological approach. VI International Symposium on Marine Sciences. Vigo, Spain, 20-22 June 2018. Oral.
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- Saderne V, Macreadie PI, Maher DT, Middelburg JJ, **Serrano O**, Almahasheer H, Arias-Ortiz A, Cusack M, Eyre BD, Fourqurean J, Kennedy H, Krause-Jensen D, Kuwae T, Lavery P, Lovelock CE, Marbà N, Masqué P, Mateo MA, Mazarrasa I, McGlathery KJ, Oreska MPJ, Sanders CJ, Santos IR, Smoak JM, Tanaya T, Watanabe K, Krishnakumar PK, Rabaoui L, Qurban MA, Duarte CM (2018) Role of carbonate burial in “Blue Carbon” ecosystems budgets. International Seagrass Biology Workshop (ISBW13). Singapore 11–17 June 2018.
- Lavery PS, **Serrano O**, Lovelock C, Atwood T, Macreadie P, Canto R, Phinn S, Arias-Ortiz A, Bai L, Baldock J, Bedulli C, Carnell P, Connolly R, Donaldson P, Esteban A, Ewers-Lewis C, Eyre B, Hayes M, Horwitz P, Hutley L, Kavazos C, Kelleway JJ, Kendrick GA, Kilminster K, Lafratta A, Lee J, Maher D, Marbà N, Masque P, Mateo MA, Mount R, Ralph P, Roelfsema C, Rozaimi M, Ruhon R, Salinas C, Samper-Villarreal J, Sanderman J, Sanders C, Santos I, Sharples C, Steven A, Trevathan-Tackett CM, Duarte CM (2018) The potential of Australian blue carbon ecosystems for climate change mitigation - a national assessment. International Seagrass Biology Workshop (ISBW13). Singapore 11–17 June 2018. Oral 58 ISWB 088.
- Leiva-Dueñas C, Mateo MÁ, **Serrano O**, Martínez-Cortizas A (2017) Biological proxies in the *Posidonia oceanica* (L. Delile) sedimentary record provide information on ecosystem paleo-productivity. ASLO 2017: Mountains to the Sea. Honolulu 26 February–3 March 2017. Oral.
- Mateo MA, **Serrano O**, Lavery PS, Thoran A, Belshe EF, Milani A (2017) Concepts and reflections on seagrass blue carbon: the *Posidonia oceanica* paradigm. ASLO 2017: Mountains to the Sea. Honolulu 26 February–3 March 2017. Oral.

- Lafratta A, **Serrano O**, Masqué P, Mateo MA, Fernandes M, Gaylard S, Lavery PS (2017) Importance of habitat selection to successfully develop Blue Carbon projects. Australian Marine Sciences Association (AMSA) Annual Conference 2017. Darwin, Australia. 2–6 July 2017. Oral.
- López-Merino L, Colás-Ruiz NR, **Serrano O**, Adame MF, Mateo MA, Martínez Cortizas A (2016) Long-term landscape change mirrors in seagrass *Posidonia oceanica* mats. XIV International Palynological Congress and X International Organisation of Palaeobotany Conference. Salvador de Bahia, Brazil. 23-28 October 2016. Oral.
- **Serrano O**, Lavery PS, López-Merino L, Martínez Cortizas A, Duarte CM, Mateo MA (2016) Seagrass sediments reveal millennial-scale dynamics and processes in coastal ecosystems. 12th International Seagrass Biology Workshop. Gwynedd, Wales (UK). 17–23 October 2016. Oral.
- López-Merino L, **Serrano O**, Adame MF, Mateo MA, Martínez-Cortizas A (2015) Glomalin in marine sediments reflects changes in soil ecosystems' health. Quaternary Perspectives on Climate Change, Natural Hazards and Civilization (Int. Union for Quaternary Research). Nagoya, Japan. 26 July–2 August 2015. Oral.
- **Serrano O**, Rozaimi M, Arias-Ortiz A, Duarte CM, Lavery P, Kendrick GA, Masque P, Mateo MA, Macreadie P, Calafat A, Steven A (2014) Understanding the carbon sequestration capacity of seagrass meadows. Australian Marine Sciences Association 2014 (AMSA). Canberra, Australia. 6–10 July 2014. Oral.
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- Lavery P, Mateo MA, **Serrano O**, Rozaimi M (2013) Estimates of carbon stocks and accumulation rates by seagrass habitats incorporating inter-habitat variability. Australian Marine Sciences Association 2013 (AMSA). Gold Coast, Queensland, Australia. 7–11 July 2013. Oral.
- **Serrano O**, Lavery P, Davis G, Rozaimi M, Martínez-Cortizas A, Mateo MA (2012) The *Posidonia* marine sedimentary record: a millenary archive of heavy metal pollution. Australian Marine Sciences Association 2012 (AMSA). Hobart, Tasmania, Australia. July 2012. Oral.
- Mateo MA, Colombini I, Serrano O, Fallaci M, Gagnarli E, Serrano L, Chelazzi L (2009) Seagrass beach-cast wrack: food, home, or both? Australian Marine Sciences Association (AMSA) Annual Conference 2017. Darwin, Australia. 2–6 July 2017. Oral.
- Pedersen MØ, Holmer M, **Serrano O**, Mateo MA (2009) Seagrass belowground detritus in a global warming scenario: from sink to carbon source. ASLO Aquatic Sciences Meeting 2009. Niza, France. 25–30 January 2009. Oral.
- Serrano L, **Serrano O**, Pinto R, Zakhama R, Ramsi Y, Scapini F, Bayed A, Abdrabo M, Farag MM, Baccar F, Charfi F, Rossano C, Nourisson D, Mateo MA (2008) Ecological functioning of transitional water bodies: from conceptual and mechanistic models to management. 7th WADI EU Project Annual Meeting. La Valeta, Malta. 4–8 November 2008. Oral.
- Serrano L, **Serrano O**, Mateo MA (2008) Lepidochronology in *Posidonia oceanica* (L. Delile): A review of the technique and analysis of some rhizome features along a spatio-temporal gradient. European Marine Biology Symposium 34. Azores, Portugal. 13–17 September 2008. Oral.
- Mateo MA, Serrano L, **Serrano O** (2007) Lake Maryut: a preliminary environmental assessment. 6th International WADI meeting. Coimbra, Portugal. 27–30 June 2007. Oral.
- Mateo MA, Renom P, Romero J, Garrido D, Guallar C, Zakhama R, **Serrano O**, Serrano L (2005) *Posidonia oceanica*: Identifying temporal trends and linking terrestrial and marine systems in Mediterranean coastal areas. MEDCORE Project International Conference. Florence, Italy. 10–14 November 2005. Oral.
- Piñeiro-Juncal N, Leiva-Dueñas C, **Serrano O**, Mateo MÁ, Martínez-Cortizas A (2019) Autogenic and allogenic processes involved in the formation of *Posidonia oceanica* environmental record. 20th Congress of the International Union for Quaternary Research (INQUA). Dublin 25–31 July 2019. Poster.

- Lafratta A, Lavery PS, Masqué P, Mateo MÁ, Fernandes M, Gaylard S, **Serrano O** (2017) A Long Term Perspective Of Lead Pollution In Port Pirie (South Australia) Revealed By Seagrass Sedimentary Archives. ASLO 2017: Mountains to the Sea. Honolulu 26 February–3 March 2017. Poster.
- López-Merino L, **Serrano O**, Adame MF, Colás-Ruiz NR, Martínez Cortizas A, Mateo MA (2016) Long-term ecology and conservation views. European Pollen Database Workshop. Aix-en-Provence. 1–3 June 2016. Poster.
- Garcia-Rubies A, Mateo MA, Hereu B, Coma R, Teixidó N, Garrabou Q, Bonaviri C, Linares C, Zabala M, Cebrian E, Navarro L, Weitzmann B, Cheminée A, Plyuscheva M, Serrano E (2009) Preliminary assessment of the impact of an extreme storm on Catalan Mediterranean benthic communities. 11th Plinius Conference on Mediterranean Storms. Barcelona, Spain. 7–11 May 2009. Poster.
- **Serrano O**, Serrano L, Mateo MA (2008) Potencial en paleo-ecología de los sedimentos subyacentes a las praderas de *Posidonia oceanica*. XIV Simposio Ibérico de Estudios de Biología Marina. Madeira, Portugal. 12–15 September 2008. Poster.
- Lo Iacono C, Mateo MA, Guasch L, Gràcia E, Carbonell R, Serrano L, **Serrano O**, Garrido D (2007) Tracking back the establishment of the seagrass *Posidonia oceanica* (L.) Delile using high resolution seismo-acoustic techniques. Geitalia 2007. Sesto Forum Italiano di Scienze della Terra. Rimini, Italy. 12–14 September 2007

Teaching Experience

- “Climate change: Blue carbon and adaptation based on marine and coastal ecosystems” Ocean Teacher Global Academy - European Union (2018–2023)
- “Meta-analysis: combining published datasets to create new and more compelling information” WAGUL workshop WA Librarians at ECU (2019)
- “PCA as a tool for multiproxy data analysis workshop” at ECU, Australia (2017)
- ~10 invited guest lectures at ECU courses and units by Paul Lavery, Glenn Hyndes, Kathryn McMahon and Anna Hopkins (2014–2019)
- "Ocean Solutions" Massive Open Online Course (2013–2016)
- Diving instructor (2006–2011)

Organisation of Scientific Meetings

- 2021 Session Convener at Association for the Science of Limnology and Oceanography (ASLO) Aquatic Science Meeting, Spain (online)
- 2019 Session Convener at ASLO Aquatic Science Meeting, Puerto Rico
- 2015 Session Convener at ASLO Aquatic Science Meeting, Spain
- 2015 Organiser of Scientific Workshop on Paleoecology, 12 participants, Australia
- 2012 Organiser of Scientific Workshop on Blue Carbon, 25 participants, Australia

Media

I am passionate about extending research outcomes and promoting results, evidenced by my co-founding of the educational company BIOSFERA, more than 60 media interviews and reports in both Europe and Australia and a regular on-line presence through ABC, Channel 9, Science Mag, newspapers and other channels.

A few relevant links below:

- <https://theconversation.com/australias-hidden-opportunity-to-cut-carbon-emissions-and-make-money-in-the-process-124095>
- <https://www.abc.net.au/news/2018-03-20/ocean-heatwave-released-as-much-co2-from-shark-bay-as-1.6m-cars/9564754>
- <https://www.abc.net.au/news/science/2018-03-26/blue-carbon-mangroves-seagrass-fight-climate-change/9564096>

- <https://www.abc.net.au/news/2016-01-28/startling-seagrass-death-discovery-albany-wa/7119070>
- <https://impakter.com/bluecarbon/>
- <https://www.smh.com.au/environment/climate-change/it-stores-pollution-30-times-faster-than-forest-what-is-blue-carbon-20210427-p57mx2.html>
- <https://particle.scitech.org.au/earth/seagrass-for-a-carbon-neutral-rotto/>
- <https://www.theguardian.com/environment/2021/mar/03/blue-carbon-how-three-australian-marine-sites-lock-away-2bn-tonnes-of-co2>
- <https://www.eurekalert.org/news-releases/839474>
- <https://www.weforum.org/agenda/2021/03/unesco-marine-world-heritage-climate/>
- <https://e360.yale.edu/features/why-the-market-for-blue-carbon-credits-may-be-poised-to-take-off>

ANEXO IV Declaración responsable

Don/Doña Oscar Serrano Gras con NIF 47708809R, DECLARA BAJO SU RESPONSABILIDAD

Que son ciertos los méritos alegados en el *curriculum vitae* que acompaña a su solicitud para participar en el proceso selectivo para el ingreso, por el sistema de acceso libre, en la Escala de Científicos Titulares de los Organismos Públicos de Investigación, convocado mediante Resolución de la Subsecretaría de Ciencia e Innovación de fecha 24 de febrero de 2023 (BOE de Núm 47, Sec II.B Pág. 27945).

Que dispone de la documentación que así lo acredita, que será puesta a disposición del tribunal cuando le sea requerida.

En Blanes a 23 de Marzo de 2023

Firmado: Don Oscar Serrano Gras

