

Curriculum vitae

M. ESTER T. A. SERRÃO

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Faculdade de Ciências e Tecnologias (FCT), Universidade do Algarve,
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In Feb 2017: 185 WoS indexed publications, 3781 citations, h-index 34 (Scopus)

Degrees:

- 2007 “Aggregation”. University of Algarve, Portugal
- 1992/96. Ph.D. in Biological Sciences, University of Maine, USA.
- 1990/92. M.Sc. in Probability and Statistics, University of Lisbon, Portugal.
- 1985/89. B.Sc.(Honors) in Biology - Animal Resources and Environment, Univ. Lisbon.

Professional experience:

Research coordination/management:

- 2007-2009; 2015-current. Member of the board of directors of CCMAR.
- 1997 – current: Coordinator of team BEE – Biogeography, Ecology and Evolution and (with G Pearson) of sub-team MAREE – Marine Ecology and Evolution.

Positions:

- 2016-current. Associate Professor, Univ. Algarve, Portugal
- 2007-2016 Assistant Professor (Tenured, with Aggregation). Univ. Algarve, Portugal.
- 2002-2007. Assistant Professor (Tenured). University of Algarve, Portugal.
- 1997-2002. Assistant Professor. University of Algarve, Portugal.
- 1993-1997. Instructor. University of Algarve, Portugal.
- 1990-1993. Teaching Assistant. University of Algarve, Portugal.
- 1989-1990. Research Assistant at INIP (National Institute for Fisheries Research); Portugal.
- 1988-1989. Research Assistant at Dept. Plant Biology, University of Lisbon, Portugal.
- 1987-1988. Research Assistant, LNETI (Nat. Lab. Engineering and Industrial Technology).

Keywords:

Marine conservation, evolutionary ecology, molecular ecology, biogeography, adaptation.

Research topics:

My research team aims to understand patterns and processes mediating function and evolution of marine biodiversity at the genetic level, from ecological to deep evolutionary scales. Topics include causes and consequences of variation in genetic biodiversity, population connectivity, environmental genomics and adaptive evolution, in the context of climate and environmental change. We study these across a diversity of marine systems that play important ecological roles in our planet, from microbial symbionts and polar plankton, to deep reefs and vents, kelp forests and seagrass meadows. We aim to contribute to conservation of marine ecosystems and societal awareness with projects directly aimed at marine habitat conservation and restoration, also fostering volunteer public participation and outreach of scientific information.

Publications

2017

1. Neiva J, **Serrão EA**, Anderson L, Raimondi PT, Martins N, Gouveia L, Paulino C, Coelho NC, Miller KA, Reed DC, Ladah LB, Pearson GA. [Cryptic diversity, geographical endemism and allopolyploidy in NE Pacific seaweeds](#). *BMC Evolutionary Biology*. Jan 2017
2. Pereira TR, Engelen AH, Pearson GA, Valero M, **Serrão EA**. [Population dynamics of temperate kelp forests near their low-latitude limit](#). *Aquatic Botany*. Feb 2017.
3. Arnaud-Haond S, Aires T, Candeias R, Teixeira SJL, Duarte CM, Valero M, **Serrão EA**. [Entangled fates of holobiont genomes during invasion: nested bacterial and host diversities in *Caulerpa taxifolia*](#). *Molecular Ecology*, Dec 2016
4. Varela-Álvarez, E., Paulino, C. & **Serrão, E.A.** [Development and characterization of twelve microsatellite markers for *Porphyra linearis* Greville](#). *Genetica*. doi:10.1007/s10709-016-9941-y
5. Buonomo R., Assis J., Fernandes F., Engelen A.H., Airolidi L, **Serrão E.A.** [Habitat continuity and stepping-stone oceanographic distances explain population genetic connectivity of the brown alga *Cystoseira amentacea*](#). *Molecular Ecology* 26: 766-780 doi: 10.1111/mec.13960
6. Engelen AH, Costa J, Bermejo R, Marbá N, Duarte CM, **Serrão EA**, [A population genetics toolbox for the threatened canopy forming brown seaweeds *Cystoseira tamariscifolia* and *C. amentacea* \(Fucales, Sargassaceae\)](#). *Journal of Applied Phycology* doi: 10.1007/s10811-016-0964-7

2016

7. Assis J, Coelho NC, Lamy T, Valero M, Alberto F, **Serrão EA** (2016) [Deep reefs are climatic refugia for genetic diversity of marine forests](#). *Journal of Biogeography* 43: 833-844. doi:10.1111/jbi.12677
8. Weydmann A, Coelho NC, **Serrão EA**, Burzynski A, Pearson GA (2016) [Pan-arctic population of the keystone copepod *Calanus glacialis*](#). *Polar Biology* doi: 10.1007/s00300-016-1898
9. Saada G, Nicastro KR, Jacinto R, McQuaid CD, **Serrão EA**, Pearson GA, Zardi GI (2016) [Taking the heat: distinct vulnerability to thermal stress of central and threatened peripheral lineages of a marine macroalga](#). *Diversity and Distributions* 1-9, doi: 10.1111/ddi.12474
10. Monteiro CA, Paulino C, Jacinto R, **Serrão EA**, Pearson GA (2016) [Temporal windows of reproductive opportunity reinforce species barriers in a marine broadcast spawning assemblage](#). *Scientific Reports* 6 29198; doi: 10.1038/srep29198
11. Nielsen MM, Paulino C, Neiva J, Krause-Jensen D, Bruhn A, **Serrão EA** (2016). [Genetic diversity of *Saccharina latissima* along a salinity boundary in the North Sea – Baltic transition zone](#). *Journal of Phycology* 52:523-531. doi: 10.1111/jpy.12428
12. Lourenço CR, Zardi GI, McQuaid CD, **Serrão EA**, Pearson GA, Jacinto R, Nicastro KR (2016) [Upwelling areas as climate change refugia for the distribution and genetic diversity of a marine macroalga](#). *Journal of Biogeography* 10.1111/jbi.12744
13. Boavida J, Assis J, Silva I, **Serrão EA** (2016) [Overlooked habitat of a vulnerable gorgonian revealed in the Mediterranean and Eastern Atlantic by ecological niche modelling](#). *Scientific Reports* 6:36460 | DOI: 10.1038/srep36460
14. Pilczynska J, Cocito S, Boavida J, **Serrão EA**, Queiroga H (2016) [Genetic Diversity and Local Connectivity in the Mediterranean Red Gorgonian Coral after Mass Mortality Events](#). *PLoS ONE* 11(3): e0150590. doi:10.1371/journal.pone.0150590
15. Klein, M., Teixeira, S., Assis, A., **Serrão, E.A.**, Gonçalves, E.J, Borges, R (2016) [High interannual variability in connectivity and genetic pool of a temperate clingfish matches oceanographic transport predictions](#). *PLoS ONE*. doi: dx.doi.org/10.1371/journal.pone.0165881
16. Teixeira S, Pearson GA, Candeias R, Madeira C, Valero M, **Serrão EA** (2016) [Lack of fine-scale genetic structure and distant mating in natural populations of *Fucus vesiculosus*](#). *Marine Ecology Progress Series* 544: 131-142

17. Boavida J, Paulo D, Aurelle D, Arnaud-Haond S, Marschal C, Reed J, Gonçalves JMS, **Serrao EA** (2016) A well-kept treasure at depth: precious red coral rediscovered in Atlantic deep coral gardens (SW Portugal) after 300 years. *PLOS ONE* DOI: 10.1371/journal.pone.0147228
18. Assis J, Lucas AV, Barbara I, **Serrão EA** (2016) Future climate change is predicted to shift long-term persistence zones in the cold temperate kelp *Laminaria hyperborea*. *Marine Environmental Research* 113: 174-182 doi: 10.1016/j.marenvres.2015.11.005
19. Aires T, **Serrão EA**, Engelen AH (2016) Host and environmental specificity in bacterial communities associated to two highly invasive marine species (genus *Asparagopsis*). *Frontiers in Microbiology*. DOI: 10.3389/fmicb.2016.00559
20. Segovia-Viadero M, Canteras-Jordana JC, **Serrao EA**, Gonzalez-Wanguemert (2016). Do hatchery-reared sea urchins represent a potential threat to genetic diversity in the wild? *Heredity* 116, 378-383 doi: 10.1038/hdy.2015.109
21. Martinez-Garrido J, **Serrão EA**, Engelen AH, Cox CJ, Garcia-Murillo P, González-Wanguemert M (2016) Multilocus genetic analyses provide insight into speciation and hybridization in aquatic grasses, genus *Ruppia*. *Biological Journal of the Linnean Society*. 117: 177-191
22. Chefaoui RM, Assis J, Duarte CM, **Serrão EA** (2016) Large-scale prediction of seagrass distribution integrating landscape metrics and environmental factors: the case of *Cymodocea nodosa* (Mediterranean-Atlantic). *Estuaries and Coasts* 39: 123-137
23. Vieira C, Engelen AH, Guentas L, Aires T, Houlbreque F, **Serrao E**, DeClerck O, Payri CE (2016) Species specificity of bacteria associated to the brown seaweeds *Lobophora* (Dictyotales, Phaeophyceae) and their potential for induction of rapid coral bleaching in *Acropora muricata*. *Frontiers in Microbiology* doi.org/10.3389/fmicb.2016.00316
24. Costa APL, Calado R, Marques B, Lillebo A, Serôdio J, Soares AMVM, **Serrão EA**, Rocha RJM (2016) The effect of mixotrophy in the ex situ culture of the soft coral *Sarcophyton cf. glaucum* *Aquaculture*. 452: 151-159
25. Paulo D, Manent P, Barrio J, **Serrao EA**, Alberto F. (2016) Recruit survival of *Cymodocea nodosa* along a depth gradient. *Cahiers de Biologie Marine* 57:137-144
26. Gil-Fernandez C, Paulo D, **Serrão EA**, Engelen AH (2016). Limited differences in fish and benthic communities and possible cascading effects inside and outside a protected marine area in Sagres (SW Portugal). *Marine Environmental Research* 114: 12-23
27. González-Wanguemert M, Valente S, Henriques F, Domínguez-Godino JA, **Serrão EA** (2016) Setting preliminary biometric baselines for new target sea cucumbers species of the NE Atlantic and Mediterranean fisheries. *Fisheries Research* 179: 57-66
28. Van Beveren E, Klein M, **Serrão EA**, Gonçalves EJ, Borges R (2016) Early life history of larvae and early juvenile Atlantic horse mackerel *Trachurus trachurus* off the Portuguese west coast. *Fisheries Research* 10.1016/j.fishres.2016.05.018
29. Henriques FF, **Serrão EA**, Gonzalez-Wanguemert. Novel polymorphic microsatellite loci for a new target species, the sea cucumber *Holothuria mammata*. *Biochemical Systematics and Ecology* 66:109-113
30. Boavida J, Assis J, Reed J, **Serrao EA**, Gonçalves JMS (2016) Comparison of small remotely operated vehicles and diver-operated video of circalittoral benthos. *Hydrobiologia*. 766: 247-260. DOI 10.1007/s10750-015-2459-y
31. Creed JC, Engelen AH, D'Oliveira EC, Bandeira S, **Serrao EA** (2016) First record of seagrass in Cape Verde, eastern Atlantic. *Marine Biodiversity Records* 9:57 DOI 10.1186/s41200-016-0067-9
32. Møller M.N., Paulino C., Neiva J., Krause-Jensen D., Bruhn A., **Serrão E.A.** (2016) Genetic diversity of *Saccharina latissima* (Phaeophyceae) along a salinity gradient in the North Sea-Baltic transition zone. *Journal of Phycology*, 52, 523–531.
33. Paulino C., Neiva J., Coelho N.C., Aires T., Marbá N., Krause-Jensen D., **Serrão E.A.** (2016) Characterization of 12 polymorphic microsatellite markers in the sugar kelp *Saccharina latissima*. *Journal of Applied Phycology*, 28, 3071–3074

34. Chefaoui, R.M., Assis J., Duarte C.M., **Serrão E.A.** 2016. Large-scale prediction of seagrass distribution integrating landscape metrics and environmental factors: the case of *Cymodocea nodosa* (Mediterranean-Atlantic). *Estuaries and Coasts*, 39: 123-137
35. Belattmania Z, Engelen AH, Pereira H, **Serrão EA**, Barakate M, Elatouani S, Zrid R, Bentiss F, Chahboun N, Reani A, Sabour B (2016) Potential uses of the brown seaweed *Cystoseira humilis* biomass: 2- Fatty acid composition, antioxidant and antibacterial activities. *J. Mater. Environ. Sci.* 7(6): 2074-2081

2015

36. Pearson GA, Lago-Leston A, Cánovas F, Cox CJ, Verret F, Lasternas S, Duarte CM, Agusti S, **Serrão EA** (2015) Metatranscriptomes reveal functional variation in diatom communities from the Antarctic Peninsula. *ISME Journal* 9, 2275–2289 doi:10.1038/ismej.2015.40
37. Neiva J, Assis J, Coelho NV, Fernandes F, Pearson GA, **Serrão EA** (2015) Genes left behind: climate change threatens cryptic genetic diversity in the canopy-forming seaweed *Bifurcaria bifurcata*. *PLoS ONE* 10(7): e0131530. doi:10.1371/journal.pone.0131530
38. Aires T, Moalic Y, **Serrão EA**, Arnaud-Haond S (2015) Hologenome theory supported by co-occurrence networks of species-specific bacterial communities in siphonous algae (*Caulerpa*). *FEMS Microbiology Ecology* 91: fiv067, doi: 10.1093/femsec/fiv067
39. Mota CF, Engelen AH, **Serrão EA**, Pearson GA (2015) Some don't like it hot: microhabitat-dependent thermal and water stresses in a trailing edge population. *Functional Ecology* doi: 10.1111/1365-2435.12373
40. Johansson ML, Alberto F, Reed DC, Raimondi PT, Coelho NC, Young MA, Drake PT, Edwards CA, Cavanaugh, Assis J, Ladah LB, Bell TW, Coyer JA, Siegel DA, **Serrão EA** (2015) Seascape drivers of *Macrocystis pyrifera* population genetic structure in the northeast Pacific. *Molecular Ecology*, 24: 4866-4885.
41. Araújo R, **Serrão EA**, Sousa-Pinto I, Arenas F, Monteiro CA, Toth G, Pavia H, Aberg P (2015) Trade-offs between life-history traits at range-edge and central locations. *Journal of Phycology* 51: 808-818
42. Ramos A, Weydmann A, Cox C, Canário A, **Serrão EA**, Pearson GA (2015). A transcriptome resource for the copepod *Calanus glacialis* across a range of culture temperatures. *Marine Genomics*. 23: 27-29, doi 10.1016/j.margen.2015.03.014
43. Monteiro CA, **Serrão EA**, Pearson GA (2015) Reproductive investment, synchrony and recruitment success in marine broadcast spawners: effects of mating system and habitat (exposed shore versus estuary). *Marine Environmental Research*, doi 10.1016/j.marenvres.2015.07.001
44. Martins MJF, Lago-Leston A, Anjos A, Duarte CN, Augusti S, **Serrão EA**, Pearson GA (2015) A transcriptome resource for Antarctic krill (*Euphausia superba* Dana) exposed to short-term stress. *Marine Genomics*. 23: 45-47, doi.org/10.1016/j.margen.2015.04.008
45. Zardi G, Nicastró K, McQuaid C, Castilho R, Costa J, **Serrão EA**, Pearson GA (2015) Intraspecific genetic lineages of a marine mussel show behavioural divergence and spatial segregation over a tropical/subtropical biogeographic transition. *BMC Evolutionary Biology* 15:100 doi 10.1186/s12862-015-0366-5
46. Assis J, Zupan M, Nicastró KR, Zardi GI, McQuaid CD, **Serrão EA** (2015) Oceanographic conditions limit the spread of a marine invader along southern African shores. *PLOS ONE* doi: 10.1371/journal.pone.0128124
47. Varela-Álvarez E, Balau AC, Marbá N, Afonso-Carrillo J, Duarte CM, **Serrão EA** (2015) Genetic diversity and biogeographical patterns of *Caulerpa prolifera* across the Mediterranean/Atlantic transition zone. *Marine Biology* 162: 557-569 doi 10.1007/s00227-014-2605-5.
48. Pereira TR, Engelen AH, Pearson GA, Valero M, **Serrão EA** (2015) Contrasting timing of life-stages across latitudes – a case study of a marine forest forming species. *European Journal of Phycology* 50: 361-369, doi 10.1080/09670262.2015.1064167

49. Zardi GI, Nicastro KR, **Serrão EA**, Jacinto R, *Monteiro CA*, Pearson GA (2015) Closer to the rear edge: ecology and genetic diversity down the core-edge gradient of a marine macroalga. *Ecosphere* 6(2):23, doi 10.1890/ES14-00460.1
50. Mineur F, Arenas F, *Assis J*, Davies A, Engelen AH, *Fernandes F*, Malta E-j, Thibaut T, Van Nguyen T, Vaz-Pinto F, Vranken S, **Serrão EA**, De Clerck O (2015) European seaweeds under pressure: consequences for communities and ecosystem functioning. *Journal of Sea Research* 98:91-108, doi 10.1016/j.seares.2014.11.004
51. Valente S, **Serrão EA**, Gonzalez-Wanguemert M (2015) West vs East Mediterranean Sea: origin and genetic differentiation of the sea cucumber *Holothuria polii*. *Marine Ecology* 36: 485-495, doi: 10.1111/maec.12156
52. Gonzalez-Wanguemert M, Costa J, Basso, L, Duarte C, **Serrão E**, Henricks I (2015) Highly polymorphic microsatellite markers for the Mediterranean endemic fan mussel *Pinna nobilis*. *Mediterranean Marine Science* 16: 31-35
53. Lourenço CR, Nicastro KR, **Serrão EA**, Castilho R, Zardi GI (2015) Behind the mask: cryptic genetic diversity of *Mytilus galloprovincialis* along southern European and northern African shores. *Journal of Molluscan Studies*. 81: 380-387, 2015. doi: 10.1093/mollus/eyv004
54. Candeias R, Casado-Amezúa P, Pearson GA, **Serrão EA**, Teixeira S (2015) Polymorphic microsatellite markers in the brown seaweed *Fucus vesiculosus*. *BMC Research notes* 8:73 DOI 10.1186/s13104-015-1035-x
55. Pereira TR, Engelen AH, Pearson GA, Valero M, **Serrão EA**. (2015) Response of kelps from different latitudes to consecutive heat shock. *Journal of Experimental Marine Biology and Ecology* 463:57-62

2014

56. Assis J, **Serrão EA**, Claro B, Perrin C, Pearson GA (2014). Climate-driven range shifts explain the distribution of extant gene pools and predict future loss of unique lineages in a marine brown alga. *Molecular Ecology* 23: 2797-2810
57. Neiva, J, Assis, J, Fernandes, F, Pearson, GA, **Serrão, EA**. (2014) Species distribution models and mitochondrial DNA phylogeography suggest an extensive biogeographical shift in the high-intertidal seaweed *Pelvetia canaliculata*. *Journal of Biogeography* 41:1137-1148
58. Oliva S, Romero J, Pérez M, Manent P, Mascaró O, **Serrão EA**, Coelho N, Alberto F (2014) Reproductive strategies and isolation-by-demography in a marine clonal plant along an eutrophication gradient. *Molecular Ecology* 23:5698-5711
59. Arnaud-Haond S, Moalic Y, Hernandez-García E, Eguiluz VM, Alberto F, **Serrão EA**, Duarte CM (2014). Disentangling the influence of mutation and migration in clonal seagrasses using the Genetic Distance Spectrum for microsatellites. *Journal of Heredity* 105:532-541
60. Araújo R, **Serrão EA**, Sousa-Pinto I, Aberg P (2014) Spatial and temporal dynamics of fucoid populations (*Ascophyllum nodosum* and *Fucus serratus*): a comparison between central and range edge populations. *PLoS ONE* 9(3): e92177
61. Berkovic B, Cabaço S, Barrio JM, Santos R, **Serrão EA**, Alberto F (2014) Extending the life history of a clonal aquatic plant: dispersal potential of sexual and asexual propagules of *Zostera noltii*. *Aquatic Botany*, 113: 123-129
62. Martínez-Garrido, J, González-Wangüemert, M, **Serrão, EA**. (2014) New highly polymorphic microsatellite markers for the aquatic angiosperm *Ruppia cirrhosa* reveal population diversity and differentiation. *Genome* 57: 57-59
63. Gonzalez-Wanguemert M, *Domínguez-Godino J*, Giménez-Casalduero F, **Serrão EA** (2014) Genetic signature of a recent invasion: the ragged sea hare *Bursatella leachii* in Mar Menor (SE Spain). *Biochemical Systematics and Ecology*. 54: 123-129
64. Coelho NC, **Serrão EA**, Alberto F (2014) Characterization of fifteen microsatellite markers for the kelp *Laminaria ochroleuca* and cross species amplification within the genus. *Conservation Genetics Resources* 6:949-950

65. van de Vliet MS, Diekmann OE, Machado M, Beebee TJC, Beja P, **Serrão EA** (2014) Genetic divergence for the amphibian *Pleurodeles waltl* in southwest Portugal: dispersal barriers shaping geographic patterns. *Journal of Herpetology* 48: 38-44
66. Cunha RL, Nicastro KR, Costa J, McQuaid CD, **Serrão EA**, Zardi GI (2014) Wider sampling reveals a non siter relationship for geographically contiguous lineages of a marine mussel. *Ecology and Evolution* 4(11); 2070-2081
67. Weydmann A, Coelho NC, Ramos AA, **Serrão EA**, Pearson GA (2014) Microsatellite markers for the Arctic copepod *Calanus glacialis* and cross-amplification with *C. finmarchicus*. *Conservation Genetics Resources* 6:1003-1005
68. Cunha AH, Erzini K, **Serrao EA**, Gonçalves E, Borges R, Henriques M, Henriques V, Guerra M, Duarte C, Marbá N, Fonseca M (2014) Biomares, a LIFE project to restore and manage the biodiversity of Prof. Luiz Saldanha Marine Park. *Journal of Coastal Conservation* 18 (6): 643-655

2013

69. Teixeira S, Olu K, Decker C, Cunha RL, Fuchs S, Hourdez S, **Serrao EA**, Arnaud-Haond S (2013) High connectivity across the fragmented chemosynthetic ecosystems of the deep Atlantic Equatorial Belt: efficient dispersal mechanisms or questionable endemism? *Molecular Ecology* 22:4463-4680
70. Assis J, Coelho N, Alberto F, Valero M, Raimondi P, Reed D, **Serrao EA** (2013) High and distinct range edge genetic diversity despite local bottlenecks. *PLOS ONE* 8(7): e68646
71. Aires, T, **Serrao EA**, Kendrick G, Duarte CM, Arnaud-Haond S (2013). Invasion is a community affair: clandestine followers in the bacterial community associated with the green alga *Caulerpa racemosa* track the invasion source. *PLOS ONE* 8(7): e68429
72. Nicastro KR, Zardi GI, Teixeira S, Neiva J, **Serrao EA**, Pearson GA. (2013) Shift happens: trailing edge contraction associated with recent warming trends threatens a distinct genetic lineage in the marine macroalga *Fucus vesiculosus*. *BMC Biology* 11:6
73. Johansson ML, Raimondi P, Reed DC, Coelho NC, **Serrao EA**, Alberto FA (2013) Looking into the black box: simulating the role of self-fertilization and mortality in the genetic structure of *Macrocystis pyrifera*. *Molecular Ecology* 22:4842-4854
74. **Massa S**, Paulino C, **Serrao EA**, Duarte CM, Arnaud-Haond S (2013) Entangled effects of allelic and clonal (genotypic) richness in the resistance and resilience of experimental populations of the seagrass *Zostera noltii* to diatom invasion. *BMC Ecology* 2013 13:39
75. Zardi GI, Nicastro KR, Costa J, **Serrao EA**, Pearson GA. (2013) Broad scale agreement between intertidal habitats and adaptive traits on a basis of contrasting population genetic structure. *Estuarine Coastal and Shelf Science* 131: 140-148
76. Hubner K, Gonzalez-Wanguemert M, Diekmann OE, **Serrao EA** (2013) Genetic evidence for polygynandry in the black-striped pipefish *Syngnathus abaster*: a microsatellite-based parentage analysis. *Journal of Heredity* 104: 791-797
77. Chust G, Albaina A, Aranburu A, Borja A, Diekmann OE, Estonba A, Franco J, Garmendia JM, Iriondo M, Muxika I, Rendo F, Rodríguez JG, Ruiz-Larrañaga O, **Serrao EA**, Valle M (2013) Connectivity, neutral theories, and the assessment of species vulnerability to global change in temperate estuaries. *Estuarine, Coastal and Shelf Science*. 131:52-63
78. Arnaud-Haond S, Candeias R, **Serrao EA**, Teixeira SJL (2013) Microsatellite markers developed through pyrosequencing allow clonal discrimination in the invasive alga *Caulerpa taxifolia*. *Conservation Genetics Resources* 5:667-669
79. Marquet N, Nicastro KR, Gektidis M, McQuaid CD, Pearson GA, **Serrao EA**, Zardi GI (2013) Comparison of phototrophic shell-degrading endoliths in invasive and native populations of the intertidal mussel *Mytilus galloprovincialis*. *Biological Invasions*.15:1253-1272
80. Cunha AF, **Assis JF**, **Serrao EA** (2013) Seagrasses in Portugal: a most endangered marine habitat. *Aquatic Botany* 104:193-203 <http://dx.doi.org/10.1016/j.aquabot.2011.08.007>

81. Assis J, Claro B, Ramos A, Boavida J, **Serrao EA** (2013) Performing fish counts with a wide-angle camera, a promising approach reducing divers' limitations. Journal of Experimental Marine Biology and Ecology 445:93-98
82. Cunha AH, Varela-Álvarez E, Paulo DS, Sousa I, **Serrão EA** (2013) The rediscovery of *Caulerpa prolifera* in Ria Formosa, Portugal, 70 years after the previous record. Cahiers de Biologie Marine 54: 359-364
83. Xavier JC, Barbosa A, Agustí S, (...) **Serrao EA**, Taboada S, Tavares S, Teixidó N, Vaqué D, Valente T, Vázquez E, Vieira RP, Viñegla B. Polar marine biology science in Portugal and Spain: Recent advances and future perspectives Journal of Sea Research 83: 9-29

2012

84. Monteiro C, **Serrão EA**, Pearson GA (2012) Prezygotic barriers to hybridization in marine broadcast spawners: reproductive timing and mating system variation. PLoS ONE 7(4): e35978
85. Masucci AP, Arnaud-Haond S, Eguiluz VM, Hernandez-Garcia E, **Serrao EA** (2012) Genetic flow directionality and geographical segregation in a *Cymodocea nodosa* genetic diversity network. European Physical Journal (EPJ) Data Science. 1:11
86. Teixeira S, **Serrao EA**, Arnaud-Haond S (2012) Panmixia in a fragmented and unstable environment: the hydrothermal shrimp *Rimicaris exoculata* disperses extensively along the Mid-Atlantic Ridge. PLoS ONE 7(6): e38521.
87. Diekmann O, **Serrao EA** (2012) Range-edge genetic diversity: locally poor extant southern patches maintain a regionally diverse hotspot in the seagrass *Zostera marina*. Molecular Ecology, 21: 1647-1657
88. Neiva J, Pearson GA, Valero M, **Serrao EA** (2012). Fine scale genetic breaks driven by historical range dynamics and ongoing density barriers-effects in the estuarine seaweed *Fucus ceranoides* L. BMC Evolutionary Biology 12: 78
89. Varela-Álvarez E, Gómez Garreta A, Rull Lluch J, Salvador Soler N, **Serrao EA**, and M.A. Ribera Siguán (2012) Mediterranean species of *Caulerpa* are polyploid with smaller genomes in the invasive ones. PLoS ONE 7(10): e47728
90. Nicastro KR, Zardi GI, McQuaid CD, Pearson GA, **Serrão EA** (2012) Love thy neighbour: group properties of gaping behaviour in mussel aggregations. PLoS ONE 7(10): e47382
91. Neiva J, Hansen G, Pearson GA, Vliet M, Maggs C, **Serrao EA** (2012) *Fucus cottonii* (Fucales, Phaeophyceae) is not a single genetic entity but a convergent salt-marsh morphotype with multiple independent origins. European Journal of Phycology 47:461-468.
92. Arnaud-Haond S, Duarte CM, Diaz-Almela E, Marba N, **Serrao EA** (2012) Implications of extreme life span in clonal organisms: millenary clones in meadows of the threatened seagrass (*Posidonia oceanica*). PLoS ONE 7(2): e30454
93. Neiva J, Pearson GA, Valero M, **Serrao EA** (2012) Drifting fronds and drifting alleles: range dynamics, local dispersal and habitat isolation shape the population structure of the estuarine seaweed *Fucus ceranoides* L. Journal of Biogeography 39: 1167-1178
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European Union projects (as national coordinator):

9. BiodivERsA3-2015-165. [Functional variability and dynamics of responses of marine forests to global change \(MARFOR\)](#). Jan 2017-Dec 2019. Involves 10 EU institutions; PI E. Serrão (169 150 € for CCMAR).
10. FP7-ENV-2008-1-226248. [Arctic Tipping Points \(ATP\)](#) – 2009-2012, global PI Paul Wassmann, Univ. Tromsø, Norway, co-PI at CCMAR: G. Pearson, Mar 2009-Feb 2012 (190 672 € for CCMAR)
11. NEST-2005-Path-COM/043251, Ecological diversity and evolutionary networks (EDEN) - Jan 2007-Dec 2009, global PI: E. Hernandez, CSIC, Spain (295 908 € for CCMAR)
12. EU (LIFE 06 NAT/P/000192) “[Restoration and management of biodiversity in the marine Park Site Arrabida-Espichel \(PTCON0010\)](#)” – (BIOMARES). co-PI with K. Erzini, Jan 2007-Dec 2010 (1

145 548 € for CCMAR; co-financed in 1 000 000 € by the cement company SECIL). Since the end of EU funding in 2010, I continue this project at an MPA just with private funding from SECIL. Includes seagrass restoration, biodiversity and fisheries monitoring, environmental education.

13. EVK3-CT-2000-00044. **Monitoring and Management of European Seagrass Beds (M&MS)**. Feb 2001-Aug 2005. global PI: J. Borum, FBL, Denmark (330 000 € for Univ. Algarve)
14. INCO-ERB IC18-CT98-0292. **Prediction of the resilience and recovery of disturbed coastal communities in the tropics (PREDICT)**. Oct 1998-Apr 2002, global PI: C. Duarte, CSIC, Spain (80 750 € for IMAR)

Volunteer-based conservation projects

1. **FINDKELP – Distribution, ecology and population genetics of Portuguese kelp forests (3200 €)** AWARE Foundation (2008); PhD proj of Jorge Assis, ca. 200 divers as volunteers.
2. **DEEP REEFS – Mapping Biodiversity of Deep Marine Habitats (10032 €)** National Geographic Society (2011); PhD project of Joana Boavida, volunteer deep divers association ENTRADA.
3. **“ADOPT: adopt a seagrass meadow” (5 000 €)** funded by Oceanário de Lisboa.

Prizes for Conservation Projects:

2016. **Excellens MARE prize** was awarded by PwC (PricewaterCoopers) to the Marine Park in Arrabida, mainly based on the work developed by our project BIOMARES.
2010. **Fundação EDP** - award for proj. FINDKELP– 35000 €.
2010. **Honorary mention -BES-Biodiversidade** - proj FINDKELP – 3000 €.
2010. **InAqua Prize** - project Deep Reefs– 14688 €.
2009. **Honorary mention of Green Project Awards (GCI)** for project BIOMARES
2009. **Honorary mention BES-Biodiversidade** awarded to SECIL for our project BIOMARES

Other national projects coordinated by my team (most are postdoc projects):

1. EXPL/MAR-PRO/0933/2013 . Cryptic species, connectivity and deep-sea biodiversity distribution (DEEPGEN), Jun2014-Apr2015, PI S Teixeira (49.800€)
2. EXPL/BIA-BIC/1471/2012. Escape the heat: upwelling as current refugia from climate change (REUP), Jun 2013-May 2014. PI K Nicastro (49.956€)
3. SEAPROLIF - Diversity and functioning of coastal marine biomes under siege: implications of seaweed proliferations across three oceans (Netbiome/0002/2011) Mar2012-Aug2015, PI A Engelen (70 000 €)
4. EXPL/BIA-EVF/2263/2013. Sex-biased evolution in multicellular brown algae (EVOSEXUAL), Mar2014-Feb2015, PI F Cánovas (49.103 €)
5. INVASIVES - Invasive seaweeds in rising temperatures: impact and risk assessments (SEAS-ERA/0001/2012) Mar 1, 2012-Aug 31 2015, PI: A Engelen (150 000 € for CCMAR)
6. PTDC/MAR-EST/4331/2012. Using genome scans of DNA polymorphism to infer adaptive population divergence at different spatial scales in the seagrasses *Zostera noltii* and *Z. marina* across Europe, two marine foundation species (ZOSADAPT), Jul2013-Jun2015, PI O Diekmann (191.551€)
7. PTDC/MAR/119363/2010. Sea cucumbers: the new resource for a hungry fishery (CUMFISH), Feb2012-Jan2015. PI M Wanguemert (163.728€)
8. PTDC/MAR/110251/2009. Adaptive potential at range edges: testing relationships between fitness-related traits and population structure near ecophysiological limits (FUDGE), Apr2011-Mar2013. PI K Nicastro (181.752€)
9. PTDC/MAR/115226/2009. Understanding temperate reef fish connectivity (MATRIX), Mar 2011-Feb 2014, PI R Borges (178.488 €)
10. PTDC/MAR/108105/2008. Drivers of co-existence of sympatric species with incomplete reproductive isolation: testing roles of hybridization barriers in marine broadcast spawners (HYBRID), Jan 2010-Apr 2013. PI G Pearson (198.240 €)
11. PTDC/MAR/099887/2008, Landscape genetics of a coastal lagoon; an empirical and modelling approach using the seagrass *Zostera noltii* in the Ria Formosa (RIASCAPEGEN) Mar 2010-Feb 2013 PI F Alberto (160.473 €)
12. PTDC/MAR/108013/2008 The sexual and asexual balance of a marine clonal plant: the case of the seagrass *Cymodocea nodosa* in the Canary islands (CANARYGRASS) Mar2010-Feb2013 PI F Alberto (157.834 €)
13. PTDC/MAR/099698/2008, Molecular taxonomy, population genetics and phylogenomics of the red algal genus *Porphyra* spp. from the Iberian peninsula (NORIGENOMICS) Apr2010-2013 PI E Varela (199.810€)

14. PTDC/BIA-BEC/103916/2008, Adaptation in action: comparing invasive and native populations to understand processes influencing species boundaries. (PERMYT) Jan2010-Jan2013 PI G Zardi (141.370 €)
15. PTDC/MAR/104477/2008, Polyandry levels in *Fucus vesiculosus* (POLYANDRY) Feb 2010-Jan 2013. PI S Teixeira (185.410 €)
16. PTDC/MAR/72630/2006, Environmental Genomics of Southern Ocean Phytoplankton Communities (SOPA), Nov 2008-Oct 2011, PI G Pearson (198.404 €)
17. PTDC/MAR/65461/2006, Molecular ecology of the giant kelp *Macrocystis pyrifera* (MEGIKELP), Oct 2008 -Sep 2011, PI F Alberto (191.441 €)
18. PTDC/MAR/70921/2006, Population genetic structure, molecular phylogeny and historical biogeography in species of the genus *Caulerpa*, present in the Mediterranean Sea and the Atlantic Ocean (CAULERPA), Nov 2008-Oct 2011. PI E Varela (182.630 €)
19. PTDC/MAR/64749/2006, The success of invasive species: exploring the joint role of biotic interactions and of founder effect in *Caulerpa* species (IBISA), Sep 2008-Aug 2011 PI S Arnaud (187.140 €)
20. POI/MAR/61105/2004. Adaptive Population Divergence, and Comparative Population Structure in the Brown Algal Genus *Fucus* (ADAPT). Feb2006–Jan2009, PI G Pearson (86 400 €)
21. POI/MAR/60179/2004. Neutral and Non-Neutral Genes: Population Diversity and Stability (DIVSTAB). Feb 2006-Jan 2009. PI S Arnaud (82 800 €)
22. POI/MAR/57342/2004. Genetic Networks and Evolution: from individuals to populations. Jul2005-Jun2007 (NETWORK). PI S Arnaud (45 000 €)
23. POI/MAR/60044/2004. Genetic diversity and differentiation in the seagrass species *Zostera noltii* and *Cymodocea nodosa* across the Atlantic-Mediterranean divide (DIVIDE). Nov 2005-Oct 2008. PI O Diekmann (41 400 €)
24. POI/BSE/48317/2002. The molecular basis for differential stress-tolerance in sympatric, ecologically similar algal species (STRESSREG), Apr 2004-Mar 2007, PI G. Pearson (105 491 €)
25. POI / 38863 / BSE / 2001 - Chloroplast gene expression in intertidal macroalgae (CHLORGEN). Sept 2002-Aug 2005. PI: G Pearson (61 632 €)

Subcontracted:

1. Dynamics of kelp forest biodiversity in northern and southern hemispheres: ecological, social and economic aspects (ECOKELP), Agence Nationale Recherche (ANR), France, Jan 2007-Dec 2009, PI: M. Valero (30 000 € for CCMAR)
2. Conservación y Gestión de Seadales, Fundación Universitaria Las Palmas, ICCM – Instituto Canario de Ciencias Marinas, funded by “Gobierno de Canarias”, Spain. 2006-2009, PI: N. González H (8500 € for CCMAR)

As partner (participation in projects coordinated by other teams):

1. MarinERA 189570. Marine phylogeographic structuring during climate change: the signature of leading and rear edge of range shifting populations (SHIFTING). 2008-2011, PI V Almada, ISPA (78 000 € for CCMAR)
2. PTDC/BIA-BDE/68730/2006. Spatial structure of amphibian metapopulations in Mediterranean farmland: implications for conservation management. Jan2008-Dec2010. PI P.Beja,CIBIO (53648 € for CCMAR)
3. POI/MAR/56149/2004. Population dynamics, geographical distribution and genetic diversity of macroalgal species at their southern distribution limits (LIMITS). Sep2006-Aug2009. PI IS Pinto (25020 € for CCMAR)
4. POI/MAR/55377/2004. The invasive theory of the pest seaweed *Sargassum muticum* in Southern Portugal (SARGASSUM). Jul 2006-Jun2009. PI A Engelen. (85 500 €)
5. EU (EVK3-CT2001-00062). “Algal introductions to European shores” (ALIENS). Jan 2002-Dec 2005, coordinator: J. Rico, Un. Oviedo, Spain, (177 205 € for Univ. Algarve)
6. PRAXIS/P/BIO/12203/1998. Molecular responses to water stress in highly salt- and desiccation-tolerant algae (ALGSTRESS). May2000-Apr2002, PI L Cancela (≈ 100 000 €).

Other:

Main partner in International Networks: CORONA (NSF, USA); MARBEF (Marine Biodiversity and Ecosystem Function, EU); MGE (Marine Genomics Europe, EU); Euromarine (EU)

Core partner in: A return to the sea: the seagrass *Zostera marina* as a new semi-model for ecological and functional genomics, PI J.Olsen, Joint Genome Institute (JGI)-Community Sequencing Program (CSP2009)
7 Bilateral agreements for joint research with Spain, France and the UK

Referee work:

Scientific Advisory Board: **Perspectives in Phycology** (2014-current; International Phycological Society).

Editorial Board Member: **Scientific Reports** (2014-current; Nature Publishing Group), **European Journal of Phycology** (2004-2007; British Phycological Society), **Journal of Phycology** (2002-2004, 2014-2017; Phycological Society of America), **Marine and Environmental Research** (2014-15), **Aquaculture and Fisheries** (2015-current).

Reviewer of manuscripts for 48 international scientific journals (see recent ones at Publons.com)

Scientific Evaluation of research proposals / grants:

EU: **H2020** Blue Growth (2014), **ERC** Starting Grants, **MSCurie**-People (2012-2016), **FP7**, **FP6**
International: **NSF** (2003-2011, USA), **ANR** (2015, France), **NERC** (2015, UK), **Conicyt** (2012, 2014, Chile), **NWO** (2015, The Netherlands), **RGC**-Research Grants Council (2016, Hong Kong)
National: **FCT** (2007; 2011-2014; Portugal).

2009-2011 National representative in the ESFRI BMS Working Group.

Academic activities:

Supervision:

Completed: 16 postdocs, 14 PhD students, 37 MSc students, 21 BSc (Honours thesis) students

Ongoing: 3 postdocs, 3 PhD students, 1 MSc student, 1 BSc student

Academic management (coordination or co-coord. of study programs at the Univ. Algarve) :

Nov2013-current: **international PhD** in Marine Ecosystem Health and Conservation (MARES).

Nov2014-current: **PhD** in Biological Sciences.

Jun 2008-current: **international MSc degree** in Marine Biodiversity and Conservation (EMBC)

Jun 2006-Oct 2009 and Oct2015-current: **MSc degree** in Marine Biology.

Jun 2006-2008: **(BSc) degree** in Marine Biology, Univ. Algarve.

Main teaching:

Undergraduate courses:

Coordination: Experimental Design, Applied Statistics, Marine Botany, Statistics, Introductory Biology, Biological Diversity, Animal Diversity, Botany, Coastal and Marine Botany, Nature Conservation, Ecosystem Dynamics, Topics in Applied Biology, Topics in Marine Biology.

Graduate courses:

Marine Population Biology, Molecular Ecology, Biodiversity of Marine Plants and Algae.

Experimental Work in Marine Biology, Laboratory Methods, Field Methods, Scientific Writing.