

## **Curriculum Vitae - Sara Isabel da Silva Martins Francisco**

Nationality: Portuguese

Date of Birth: 27<sup>th</sup> March 1979

### **Professional address**

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### **Education**

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2012 – PhD in Biology at University of Oporto, Faculty of Sciences, Portugal.

2002 – Degree in Biology at University of Lisbon, Faculty of Sciences, Portugal.

### **Research experience**

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Mar 2013 - present: Post-doctoral fellow. Project: “Interannual Fluctuations of the genetic composition: estimates of effective population size of coastal fishes” (FCT grant SFRH/BPD/84923/2012). Supervisor: Joana Robalo (ISPA-IU).

Sep 2010 – Mar 2013: researcher at the Center of Biosciences (ISPA-IU)

Jan 2010 – Jul 2012: contributor to the Project: “MarinERA - Marine phylogeographic structuring during climate change: the signature of leading and rear edge of range shifting populations”. (MARIN-ERA/MAR/0001/2008) Coordinator: Vítor Almada (ISPA-IU).

Oct 2003 – Apr 2012: PhD student. Project: “Phylogeography of western European inshore organisms”. Co-supervised by Vítor Almada (ISPA-IU) and Maria Natividade Vieira (FCUP).

Jan 2003 – Oct 2003: Collaborator at UIE, ISPA

Sep 2001 – Oct 2002: contributor to “The ProRecruit Project - Shelf processes controlling recruitment to littoral populations in an eastern oceanic boundary: using barnacles and crabs as models” (POCTI/BSE/36663/99, FCT). Coordinator: Henrique Queiroga (U. Aveiro)

## Teaching experience

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Oct 2013 - Guest Lecturer “Applied Genetics of Marine Populations” – Masters in Marine Biology and Conservation, ISPA-IU, Lisbon, Portugal

Sep 2012 – Feb 2013: Teaching Assistant “Cellular Biology and Genetics”– Masters in Psychology, ISPA-IU, Lisbon, Portugal

Feb 2012 – Sep 2012: Teaching Assistant “Developmental Biology and Evolution” – Masters in Psychology, ISPA-IU, Lisbon, Portugal

Feb 2011 – Sep 2011: Teaching Assistant “Developmental Biology and Evolution” – Masters in Psychology, ISPA-IU, Lisbon, Portugal

Oct 2010 – Jul 2011: Teaching Assistant “Cellular Biology and Genetics”– Masters in Psychology, ISPA-IU, Lisbon, Portugal

## Publications

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15. Francisco, SM; Robalo, JI; Levy, A; Almada, VC (*in press*) In search of phylogeographic patterns in the northeastern Atlantic and adjacent seas. *In: Evolutionary Biology: 17<sup>th</sup> Meeting 2013*. Pontarotti, P (Ed). Springer.

14. Robalo, JI; Lima, CS; Francisco, SM; Almada, F; Bañon, R; Villegas-Ríos, D; Almada, VC (2014) Phylogeography of the fivebeard rockling (*Ciliata mustela*, Linnaeus, 1758): a possible candidate fish to monitor climate change impact on genetic population structure. *Journal of Phylogenetics and Evolutionary Biology*. 2: 123. doi: 10.4172/2329-9002.1000123

13. Robalo, JI; Crespo, AM; Castilho, R; Francisco, SM; Amorim, MC; Almada, VC (2013) Are local extinctions and recolonizations continuing at the colder limits of marine fish distributions? *Halobatrachus didactylus* (Bloch & Schneider, 1801) a possible candidate. *Marine Biology*. 160: 2461-2467. DOI: 10.1007/s00227-013-2241-5

12. Almada, VC; Almada, F; Francisco, SM; Castilho, R; Robalo, JI (2012) Unexpected high genetic diversity at the extreme Northern geographic limit of *Taurulus bubalis* (Euphrasen, 1786). *PLoS One* 7(8): e44404. doi:10.1371/journal.pone.0044404

11. Almada, VC; Francisco, SM; Rosa, I; Domingues, V; Cabral, H; Almada, F; Henriques, M; Robalo, JI (2012) A rapid and inexpensive molecular technique to discriminate the north-eastern Atlantic and Mediterranean *Atherina* species and its potential applications in ecology and larval identification. *Biologia* 67(5): 988-991. DOI: 10.2478/s11756-012-0087-9
10. Robalo, JI; Castilho, R; Francisco, SM; Almada, F., Knutsen, H; Jorde, PE; Pereira, AM; Almada, VC (2012) Northern refugia and recent expansion in the North Sea: the case of the wrasse *Symphodus melops* (Linnaeus, 1758). *Ecology and Evolution* 2(1): 153-164. DOI: 10.1002/ece3.77
9. Francisco, SM; Gongiu, L; von der Heyden, S, Almada, VC (2011). Multilocus phylogenetic analysis of the genus *Atherina* (Pisces: Atherinidae). *Molecular Phylogenetics and Evolution* 61: 71-78.
8. Francisco, SM; Faria, C; Lengkeek, W; Vieira, MN; Velasco, EM; Almada, VC (2011). Phylogeography of the shanny *Lipophrys pholis* (Pisces: Blenniidae) in the NE Atlantic records signs of major expansion event older than the last glaciation. *Journal of Experimental Marine Biology and Ecology* 403: 14-20.
7. Francisco, SM; Castilho, R; Soares, M; Congiu, L, Brito, A; Vieira, MN; Almada, VC (2009) Phylogeography and demographic history of *Atherina presbyter* (Pisces: Atherinidae) in the North-eastern Atlantic based on mitochondrial DNA. *Marine Biology* 156: 1421-1432 (DOI: 10.1007/s00227-009-1182-5).
6. Francisco, SM; Congiu, L; Stefanni, S; Castilho, R; Brito, R; Ivanova, PP; Levy, A; Cabral, H; Kiliyas, G; Doadrio, I; Almada, VC (2008) Phylogenetic relationships of the North-eastern Atlantic and Mediterranean forms of *Atherina* (Pisces, Atherinidae). *Molecular Phylogenetics and Evolution* 48: 782-788.
5. Francisco, SM; Cabral, H; Vieira, MN; Almada, VC (2006) Contrasts in genetic structure and historical demography of marine and riverine populations of *Atherina* at similar geographical scales. *Estuarine Coastal and Shelf Science*. 69: 655-661.
4. Silva, IC; Dinis, AM; Francisco, SM; Paula, J (2006) Longitudinal distribution and lateral pattern of megalopal settlement and juvenile recruitment of *Carcinus maenas* (L.) (Brachyura, Portunidae) in Mira river estuary, Portugal. *Estuarine, Coastal and Shelf Science*. 69:179-188.
3. Francisco, SM; Vieira, MN; Almada, VC (2006) Genetic structure and historical demography of the shanny *Lipophrys pholis* in the Portuguese coast based on mitochondrial DNA analysis. *Molecular Phylogenetics and Evolution*, 39(1): 288-292.
2. Queiroga, H; Almeida, MJ, Alpuim, T; Flores, A; Francisco, S; González-Gordillo, I; Miranda, AI; Silva, I; Paula, J (2006) Tide and wind control of megalopal supply to estuarine crab populations on the Portuguese west coast. *Marine Ecology Progress Series*, 307: 21-36.

1. Paula, J; Silva, IC; Francisco, SM; Flores, A (2006) The use of artificial benthic collectors for assessment of spatial patterns of settlement of megalopae of *Carcinus maenas* (L.) (Brachyura, Portunidae) in the lower Mira Estuary, Portugal. *Hydrobiologia*. 557:69–77.

## **Fellowships**

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Mar 2013 – present: Post-doctoral grant from FCT (SFRH/BPD/84923/2012)

Oct 2003 – Mar 2009: PhD grant from FCT (SFRH/BD/12653/2003)

Sep 2001 – Sep 2002: Graduation final project grant from PRODEP (3.2/2002)

## **Scientific meetings**

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Dec 2013: IX National Meeting of Evolutionary Biology, Gulbenkian Institute of Science, Oerias, Portugal

Sep 2013: 17th Evolutionary Biology Meeting. Centre régional de Documentation Pédagogique. Marseilles, France.

Apr 2013: IV International Biogeography Symposium – Geography of Palaeoclimates and Environmental Changes. Evidences in the Ecosphere: Genes, Populations and Sediments. FLUL, Lisbon, Portugal.

Dec 2012: VIII National Meeting of Evolutionary Biology, Gulbenkian Institute of Science, Oerias, Portugal

Dec 2011: VII National Meeting of Evolutionary Biology, University of Coimbra, Coimbra, Portugal

Nov 2011: Workshop on Biogeography and Phylogeography of Atlantic Fishes, Hotel Fénix, Lisbon, Portugal

Dec 2010: VI National Meeting of Evolutionary Biology, FCUL, Lisbon, Portugal

Apr 2010: Workshop on Biogeography, Phylogeography, and the International Year of Biodiversity 2010, FLUL, Lisbon, Portugal.

Dec 2009: V National Meeting of Evolutionary Biology, ISPA, Lisbon, Portugal.

May 2009: Simposyium: “Human Frontiers”, ISPA, Lisbon, Portugal

Dec 2005: I National Meeting of Evolutionary Biology, FCUL, Lisbon, Portugal.

Oct 2004: VI Ethology National Congress, Coimbra, Portugal.

## **Communications / Posters**

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21. Francisco, SM; Robalo, JI (2013) How much is a decade? Gene pool variation and diversity indices in *Lipophrys pholis* (Blenniidae, Teleostei) in Central Portugal. IX National Meeting of Evolutionary Biology, Gulbenkian Institute of Science, Oeiras, Portugal (poster)

20. Francisco, SM; Robalo, JI; Stefanni, S; Almada, VC (2013) Phylogeny of the genus *Gaidropsarus* (Gadidae, Teleostei) in North Atlantic. IX National Meeting of Evolutionary Biology, Gulbenkian Institute of Science, Oeiras, Portugal (poster)

19. Francisco, SM; Congiu, L; von der Heyden, S; Almada, VC. (2013) Multilocus phylogenetic analysis of the genus *Atherina* (Pisces: Atherinidae). 17th Evolutionary Biology Meeting. Centre régional de Documentation Pédagogique. Marseilles, France. (invited talk)

18. Francisco, SM; Robalo, JI; Stefanni, S; Almada, VC (2013) Phylogeny of the genus *Gaidropsarus* (Gadidae, Teleostei) in North Atlantic. 17th Evolutionary Biology Meeting. Centre régional de Documentation Pédagogique. Marseilles, France. (poster)

17. Francisco, SM; Robalo, JI; Almada, VC (2013) In search of phylogeographic patterns in the northeastern Atlantic and adjacent seas. 17th Evolutionary Biology Meeting. Centre régional de Documentation Pédagogique. Marseilles, France. (poster)

16. Francisco, SM; Robalo, JI, Almada, VC (2012) In search of phylogeographic patterns in the northeastern Atlantic and adjacent seas. VIII National Meeting of Evolutionary Biology, Gulbenkian Institute of Science, Oeiras, Portugal (poster)

15. Robalo, JI; Lima, CS; Francisco, SM; Almada, F; Bañon, R; Villegas-Ríos, D; Almada, VC (2012) Phylogeography of the fivebeard rockling (*Ciliata mustela*, Linnaeus, 1758). VIII National Meeting of Evolutionary Biology, Gulbenkian Institute of Science, Oeiras, Portugal (poster)

14. Mariani, S; Sala-Bozano, M.; Robalo, JI; Francisco, SM; Santos, RS; Castilho, R; Marques, N; Brito, A; Almada, VC; Stefanni, S (2012) Recent climate-assisted colonisation of the Azores by a coastal fish. 2012 ICES Annual Science Conference, Bergen, Norway. (talk)

13. Almada, VC; Almada, F; Francisco, SM; Castilho, R; Robalo, JI (2011) Unexpected high genetic diversity at the extreme northern geographic limit of *Taurulus bubalis* (Cottidae). VII National Meeting of Evolutionary Biology, University of Coimbra, Coimbra, Portugal (poster)

12. Francisco, SM; Almada, VC (2011) Phylogeography of northeastern Atlantic coastal fishes. VII National Meeting of Evolutionary Biology, University of Coimbra, Coimbra, Portugal. (talk)

11. Robalo, JI; Crespo, AM; Castilho, R; Francisco, SM; Amorim, C; Almada, VC (2011) High level of fragmentation in a marine fish (*Halobatrachus didactylus*): a tale of low diversity and probable Holocene colonization. VII National Meeting of Evolutionary Biology, University of Coimbra, Coimbra, Portugal (poster)

10. Robalo, JI; Castilho, R; Francisco, SM; Almada, F; Knutsen, H; Jorde, PE; Pereira, AM; Almada, VC (2011) Northern refugia and recent expansion in the North Sea: the case of the wrasse *Symphodus melops* (Linnaeus, 1758). VII National Meeting of Evolutionary Biology, University of Coimbra, Coimbra, Portugal. (talk)

9. Almada, VC; Almada, F; Francisco, SM; Castilho, R; Robalo, JI (2011) Unexpected high genetic diversity at the extreme northern geographic limit of *Taurulus bubalis* (Cottidae). Workshop on Biogeography and Phylogeography of Atlantic Fishes, Lisbon, Portugal (poster)

8. Francisco, SM; Almada, VC (2011) Phylogeography of the shanny *Lipophrys pholis* (Pisces: Belontiidae) in the NE Atlantic records signs of major expansion event older than the last glaciation. Workshop on Biogeography and Phylogeography of Atlantic Fishes, Lisbon, Portugal (poster)

7. Francisco, SM; Castilho, R; Almada, VC (2011) Phylogeography and demographic history of *Atherina presbyter* (Pisces: Atherinidae) in the North-eastern Atlantic based on mitochondrial DNA. Workshop on Biogeography and Phylogeography of Atlantic Fishes, Lisbon, Portugal (poster)

6. Robalo, JI; Crespo, AM; Castilho, R; Francisco, SM; Amorim, C; Almada, VC (2011) High level of fragmentation in a marine fish (*Halobatrachus didactylus*): a tale of low diversity and probable Holocene colonization. Workshop on Biogeography and Phylogeography of Atlantic Fishes, Lisbon, Portugal (poster)

5. Robalo, JI; Castilho, R; Francisco, SM; Almada, F; Knutsen, H; Jorde, P-E; Pereira, AM; Almada, VC (2011) Northern refugia and recent expansion in the North Sea: the case of the wrasse *Symphodus melops* (Linnaeus, 1758). Workshop on Biogeography and Phylogeography of Atlantic Fishes, Lisbon, Portugal (poster) – Best poster award

4. Levy, A; Robalo, JI; Francisco, SM; Almada, VC (2011) Marine Phylogenetic Structuring during Climate Change. World Conference on Marine Biodiversity. Aberdeen, Scotland. (talk)

3. Francisco, SM; Congiu, L; von der Heyden, S.; Almada, VC (2010) Multilocus phylogenetic analysis of *Atherina* (Pisces: Atherinidae). VI National Meeting of Evolutionary Biology, Lisbon. Portugal. (poster)

2. Francisco, SM; Almada, VC (2009) Phylogeography and demographic history of *Atherina presbyter* (Pisces: Atherinidae) in the North-eastern Atlantic based on mitochondrial DNA. V National Meeting of Evolutionary Biology, Lisbon, Portugal. (poster)

1. Faria, C; Almada, VC; Francisco, SM (2004) Patterns of spatial distribution and behaviour of fish on a rocky intertidal platform at high-tide. VI Ethology National Congress, Coimbra, Portugal. (poster)

## **Organization of scientific events**

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Jul-Nov 2011: secretary for the Organizing Committee of the International Workshop on Biogeography and Phylogeography of Atlantic Fish, 26 and 27 November, Lisbon, Portugal.

## **Course participant**

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Feb 2013 - Workshop on Sample Screening and Species Identification from the Campaign EMEPC/M@rbis/Berlengas2012, ISPA-IU, Lisbon, Portugal

Oct 2012: Freshwater Portuguese native fish, ISPA-IU, Lisbon, Portugal.

Jan 2012: Mesquite: A modular system for evolutionary analysis, ISPA-IU, Lisbon, Portugal.

Mar 2009: Workshop on Scientific Writing, FCUL, Lisbon, Portugal.

Jan 2009: Workshop on Molecular Evolution Europe, Cesky Krumlov, Czech Republic.

Jun 2006: Workshop on Coalescent Theory, The Gulbenkian Training Program in Bioinformatics, Lisbon, Portugal.

Nov 2002: Introduction to Marine Mammals, Lisbon Zoo, Portugal.

Mar 2002: Workshop on Dispersal and Recruitment of Invertebrate Larvae: Sampling and Modelling Methodology, CIEMAR Sines, Portugal.

## **Languages**

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Portuguese – mother tongue

English – fluent in reading, writing and conversation

Spanish and French – good understanding and basic conversation skills

## **Other experiences**

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Referee for scientific journals: Molecular Ecology, PLoS One, Biological Journal of the Linnean Society, Journal of Experimental Marine Biology and Ecology, Marine and Coastal Fisheries.

### Outreach activities:

Jan 2013 – Article in blog of Biology Evolution – O Beagle de Darwin (<http://obeaglededarwin.wordpress.com/>) “Análise filogenética do género *Atherina* usando vários marcadores moleculares”

Feb 2013 - Activity carried out under the theme “Early evolution of evolutionary thinking: teaching biological evolution in elementary schools” at Colégio Atlântico (Pinhal de Frades, Seixal).

Executive assistant at Eco-Ethology Research Unit and Centre for Biosciences, ISPA-IU, Lisbon, Portugal (Sep 2010-Mar 2013).

Software experience in: Word, Excel, Powerpoint, EndNote, CorelDraw, InDesign, Omnipage, Statistica, Arlequin, ClustalX, DNAsp, PAUP, jModeltest, MrBayes, Network, BEAST, Lamarc, Migrate, SAMOVA, TCS, Tracer, Geodis, CodonCode Aligner, Mesquite.

Open Water Diver (PADI, 2000)