

Paula Méndez-Fernandez

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Spanish/ 15 December 1981/ Female

EDUCATION

- 2008 – 2012 **European PhD in marine ecology** at the University of La Rochelle (France) and the University of Minho (Portugal). *“Ecological segregation inferred using chemicals tracers and contamination assessment of five toothed whales in the Northwest Iberian Peninsula”*
- 2004 – 2006 **Post-graduate studies in “Biodiversity and conservation of the natural environment”** at the University of Santiago de Compostela (Spain) and LBEM (Laboratoire de Biologie et Environnement Marins, France). Final graduating study: *“The use of trace elements (Cd, Cu, Hg, Se and Zn) to assess the impact of the Prestige Oil spill in small cetaceans of the Galician waters (NW Spain)”*
- 1999 – 2004 **MsC in Marine Biology** at the University of Santiago de Compostela (Spain)

RESEARCH INTEREST

Foraging ecology of top predators, ecological niche, chemical tracers, persistent organic pollutants, bioaccumulation, transfer of contaminants

PROFESSIONAL EXPERIENCE

Positions

- Oct 2012 – present Instructor (ATER) at the University of La Rochelle
- Oct – Nov 2012 Assistant engineer at the CNRS (2 months), Centre d'Études Biologiques de Chizé (CEBC), task: *Mercury and stable isotope analyses in Black-browed Albatross (Thalassarche melanophrys) from Kerguelen Island*
- March – Aug 2012 Assistant engineer at the CNRS (2 months), Centre de Poitou-Charente, task: *Study of the feeding ecology of small cetaceans frequently recorded in the Bay of Biscay*

March – Sept 2007 Research Assistant at CEMMA (Coordinadora para o Estudo dos Mamíferos Mariños, Spain) and SGHN (Sociedade Galega de Historia Natural, Spain) NGOs, task: *Study of small cetaceans' pollution of the Galician coasts*

Other research experiences and formations

Jan – Feb 2008 Basic marine safety training, Tragsatec (Agrarian Transformation Company SA and Agricultural Technologies and Services)

Apr – Aug 2005 Internship at the Bottlenose dolphin research Institute (BDRI)
*Diving activity of a solitary wild free ranging bottlenose dolphin (*Tursiops truncatus*) in the Ria of Ferrol (NW Spain)*

Sept 2004 – 2005 Technician involved in marine mammal conservation projects at CEMMA (e.g. report writing, interviews to local fisherman, marine mammal necropsies, sighting and behavioural studies from land and from research vessels)

Oct 2003 – 2004 Internship at the Marine Biology Station A Graña, University of Santiago de Compostela (Spain). *Study of abyssal marine invertebrates of the Galician shelf*

Field experience

2012 – 2013 PELGAS annual surveys (Ifremer): Marine mammals & seabirds observer

2011 Campaign INDEMARES (EU, program LIFE): Observation, Photo-ID and acoustic monitoring at the Cañon de Avilés (Bay of Biscay)

2008 – 2010 3 PELACUS annual surveys (Ifremer): Marine mammals & seabirds observer

2009 IBTS annual surveys (Ifremer): Marine mammals & seabirds observer

Sep – Dec 2007 Field assistant on marine turtles monitoring and conservation program at PRETOMA (Programa Restauración de Tortugas Marinas, Costa Rica)

Aug 2006 Field assistant on cetaceans' sea surveys at the Strait of Gibraltar with CIRCE association (Conservación, Información y Estudios sobre los Cetáceos, Spain)

2008 – present French stranding network: regular interventions on stranded marine mammals (management and biological sampling)

Teaching experience

Since 2012 Reviewer of research dissertation of Masters of Science in French universities

Since 2009 More than 150 teaching hours (lectures and practical lessons) as teaching assistantship and instructor at the University of La Rochelle in Water Quality, Informatics, Vertebrate ecology, Physiology vegetal, Toxicology, Biology techniques

2008 – 2012 Tutoring 4 students of different graduate-levels

PROJECTS PARTICIPATION AND FUNDED GRANT PROPOSALS

European and national projects

- 2011 – 2012 DMSA (Demarcación marina Noratlántica incluidas en el catálogo Español de especies amenazadas) supported by the Minister of rural and marine environment and Biodiversity foundation
- 2009 – 2011 SAFESEA (Sustainable local fisheries and promotion of a safe sea for cetaceans) supported by grant from Iceland, Lichtenstein and Norway through the EEA financial mechanism
- 2008 – 2010 ANIMATE (Anthropogenic Impacts on the Atlantic marine Ecosystems of the Iberian Peninsula), supported by Marie-Curie excellence grant

Funded grant proposals

- 2008 – 2012 FCT doctoral fellowship, Foundation for the Science and Technology (Portugal) (80,000€)
- 2007 CONTACONELAS grant from Caixanova foundation (6,000€)
- 2005 – 2006 EUROPRACTICUM II PROJECT, UE (3,000€)
- 2003 PIC-ERASMUS, Université Pierre-et-Marie-Curie (550€)

PROFESIONAL AND PERSONAL SKILLS

Computer skills

Environments: Windows and Mac

Tools: proficiency level in Microsoft Office and equivalent Open Office, R, XLStat, Endnote; first knowledge of Brodgar, QGis and Dreamweaver

Technical and analytical skills

Proficient in the use of laboratory techniques and procedures: stable isotopes analysis (C, N and S); trace elements measurement (AAS and AMA); Lipids extraction; POPs analysis (GC-EIMS); Marine mammals necropsy, sampling and age determination (GLG); Marine mammals and seabirds observer

Languages

Spanish and **Galician:** mother tongues – **English:** fluent – **French:** fluent – **Portuguese:** beginner

PUBLICATIONS

Peer-reviewed

Aubail A, Méndez-Fernandez P, Bustamante P, Churlaud C, Ferreira M, Vingada JV, Caurant F (submitted) Use of skin and blubber tissues of small cetaceans to assess the exposure of internal organs to trace elements. Mar Poll Bull

- Méndez-Fernandez P**, Pierce GJ, Bustamante P, Chouvelon T, Ferreira M, González AF, López A, Read F, Santos MB, Spitz J, Vingada JV, Caurant F (in press) Ecological niche segregation among five toothed whale species off the NW Iberian Peninsula using ecological tracers as multi-approach. *Mar Biol*
- Méndez-Fernandez P**, Bustamante P, Bode A, Chouvelon T, Ferreira M, López A, Pierce GJ, Santos MB, Spitz J, Vingada JV, Caurant F (2012) Foraging ecology of five toothed whale species in the Northwest Iberian Peninsula, inferred using carbon and nitrogen isotope ratios. *J Exp Mar Biol Ecol* 413: 180-158
- Chouvelon T, Spitz J, Caurant F, **Méndez-Fernandez P**, Autier J, Lassus-Débat A, Bustamante P (2012) Enhanced bioaccumulation of mercury in deep-sea fauna from the Bay of Biscay (North-East Atlantic) in relation to trophic positions identified by analysis of carbon and nitrogen stable isotopes. *Deep-Sea Res I* 65: 113-124
- Chouvelon T, Spitz J, Caurant F, **Méndez-Fernandez P**, Chappuis A, Laugier F, Le Goff E, Bustamante P (2012) Revisiting the use of $\delta^{15}\text{N}$ in meso-scale studies of marine food webs by considering spatio-temporal variations in stable isotopic signatures – The case of an open ecosystem: The Bay of Biscay (North-East Atlantic). *Progr Oceanog* 101: 92-105
- Chouvelon T, Spitz J, Cherel Y, Caurant F, Sirmel R, **Méndez-Fernandez P**, Bustamante P (2011) Inter-specific and ontogenic differences in $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values and Hg and Cd concentrations in cephalopods. *Mar Ecol Progr Ser* 433: 107-120
- Diaz-Lopez B, Bernal-Shirai JA, Bilbao-Prieto A, **Méndez-Fernandez P** (2008) Diving activity of a solitary wild free ranging bottlenose dolphin (*Tursiops truncatus*). *J Mar Biol Assoc UK* 88: 1153-1157

Other scientific papers and reports

- López A, Vázquez Bonales A, Maestre Zuazua I, Marcos Ipiña E, Laria de la Maza L, Fernández Lariz M, Díaz da Silva JI, Llavona Vallina Á, Covelo Figueiredo P, Santos Moráis L, **Méndez-Fernandez P**, Fernández R (2012) Propuesta de directrices de conservación para las especies de cetáceos de la demarcación marina Noratlántica incluidas en el catálogo español de especies amenazadas. Fundación Biodiversidad
- Caurant F, Chouvelon T, Lahaye V, **Méndez-Fernandez P**, Rogan E, Spitz J, Ridoux V (2009). The use of ecological tracers for discriminating populations: the case of the short-beaked common dolphin *Delphinus delphis* in the European Atlantic waters. International Whaling Commission, SC61/SM/34: 17 p
- Méndez-Fernandez P** (2006) Informe sobre el análisis de contaminantes de los cetáceos varados en Galicia, Anexo III In: Evaluación del impacto del vertido del Prestige en las poblaciones de tortugas, focas y cetáceos de las aguas costeras de Galicia. Fundació La Caixa 57p

In preparation

- Kiszka J, **Méndez-Fernandez P**, Heithaus MR, Ridoux V (in prep) Behavioural evidence and stable isotope mixing models depict the feeding ecology of coastal bottlenose dolphins. *Mar Ecol Progr Ser*

Méndez-Fernandez P, Webster L, Chouvelon T, Bustamante P, Ferreira M, González AF, López A, Moffat CF, Pierce GJ, Read F, Russell M, Santos MB, Spitz J, Vingada JV, Caurant F (in prep). An assessment of trace element and persistent organic pollutant concentrations in toothed whale species from the NW Iberian Peninsula. *Sci Total Environ*

SCIENTIFIC MEETINGS (25 in total and 13 in first author, here only a selection)

- Workshop Joint ACCOBAMS/ASCOBANS on Cetacean Population Structure, 27th ECS Conference (2013) Viricel A, **Méndez-Fernandez P**, Ridoux V, Simon-Bouhet B, Caurant F. Combining data from multiple approaches in population structure assessments. *Oral presentation*
- 27th Annual Conference of the European Cetacean Society, Setúbal, Portugal (2013) **Méndez-Fernandez P**, Kiszka JJ, Heithaus MR, Ridoux V. Assessing the feeding ecology of coastal dolphin populations: can you make it with behavioural and biopsy sampling? *Oral presentation*
- 26th Annual Conference of the European Cetacean Society, Galway, Ireland (2012) **Méndez-Fernandez P**, Simon-Bouhet B, Bustamante P, Chouvelon T, Ferreira M, López A, Moffat CF, Pierce GJ, Russell M, Santos MB, Spitz J, Vingada JV, Webster L, Caurant F. Concentrations and patterns of polychlorinated biphenyls in five toothed whale species from the NW Iberian Peninsula. *Poster presentation*
- 47th European Marine Biology Symposium, Arendal, Norway (2012) Chouvelon T, Chappuis A, Bustamante P, Lefebvre S, Mornet F, **Méndez-Fernandez P**, Spitz J, Caurant F, Dupuy C. Combining biological and environmental variability with carbon and nitrogen stable isotope analysis for the study of marine species' trophic ecology: the case of European sardine *Sardina pilchardus* and anchovy *Engraulis encrasicolus* in the Bay of Biscay. *Oral presentation*
- 25th Annual Conference of the European Cetacean Society, Cadiz, Spain (2011) **Méndez-Fernandez P**, Bustamante P, Chouvelon T, Ferreira M, González AF, López A, Pierce GJ, Read F, Santos MB, Spitz J, Vingada JV, Caurant F. Long-term ecological segregation among the NW Iberian Peninsula odontocete species as evidenced using ecological tracers. *Oral presentation*
- ICES Annual Science Conference, Poland (2011) Louzao M, Valeiras X, García-Barcelona S, Fernández R, Acero A, Monteiro S, Araújo H, **Méndez-Fernandez P**, González-Quirós R, Santos MB. Identifying ecologically important marine areas in the NE Atlantic: preliminary results for the conservation of marine top predators. *Poster presentation*
- International Symposium on Isotopes in Hydrology, Marine Ecosystems, and Climate Change Studies, Monaco (2011) Chouvelon T, Spitz J, Caurant F, **Méndez-Fernandez P**, Bustamante P. Use of stable carbon and nitrogen isotopes for trophic levels evaluation and food webs reconstruction: the Bay of Biscay case study. *Oral presentation*

- XVI Simposio Ibérico de Estudios de Biología Marina, Alicante, Spain (2010) **Méndez-Fernandez P**, Chouvelon T, Bustamante P, Ferreira M, López A, Pierce GJ, Spitz J, Vingada JV, Caurant F. Feeding ecology and habitat use of the cetaceans community from the NW Iberian Peninsula inferred from stable isotopes. *Oral presentation*
- 24th Annual Conference of the European Cetacean Society, Stralsund, Germany (2010) **Méndez-Fernandez P**, Bustamante P, Ferreira M, López A, Pierce GJ, Spitz J, Vingada JV, Caurant F. Feeding ecology and habitat use of toothed whales cetaceans from the NW Iberian Peninsula inferred from stable isotopes. *Poster presentation*
- 18th Biennial Conference on the Biology of Marine Mammals, Québec, Canada (2009) **Méndez-Fernandez P**, Chouvelon T, Spitz J, Bustamante P, Ferreira M, López A, Pierce GJ, Richard P, Ridoux V, Rogan E, Simon-Bouhet B, Vingada JV, Caurant F. Common dolphin population structure in European Waters as inferred from stable isotopes analyses in muscle. *Poster presentation*
- 23th Annual Conference of the European Cetacean Society, Estambul, Turquía (2009) López A, Ferreira M, Guyomard S, **Méndez-Fernandez P**, Caldas M, Covelo P. Follow up of a solitary dolphin in three European countries: the case of Jean Floc'h/Gaspar. *Poster presentation*
- 22th Annual Conference of the European Cetacean Society, Egmond aan Zee, The Netherlands (2008) Gracia J, Barreiro C, Lago R, Martínez J, Covelo P, **Méndez-Fernandez P**, López A. SEDRA: a new automatic and autonomous underwater acoustic system. *Poster presentation*

ADDITIONAL INFORMATION

- Member of scientific societies and NGOs: ECS (European Cetacean Society), SMM (Seminary of Marine Mammalogy), SFIS (Société Française des Isotopes Stables), CEMMA (Coordinadora para o Estudo dos Mamíferos Mariños) and SPVS (Sociedade Portuguesa de Vida Selvagem)
- Elected member of the LIENSs (Littoral, ENvironment et Sociétés) laboratory council (2010 – 2011)
- Spokesperson of the Northern Spanish associations of cetaceans at the SEC (Sociedad Española de Cetáceos) directive (2008 - 2012)
- Volunteer for popularization actions to the general public or to school groups as a PhD candidate from the LIENSs laboratory (2008 – 2012)
- Advanced Open Water in scuba-diving (PADI)
- Driving license and boat license (coastal and off-shore navigation)
- Passions: climbing, mountain, sailing, diving, photography

REFERENCES

Dr. Florence Caurant

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