



<b>Part A. PERSONAL INFORMATION</b>		<b>CV date</b>	16/01/2019
First and Family name	ISABEL FERRERA CEADA		
Social Security, Passport, ID number	40448265M	Age	41
Researcher numbers	Researcher ID	L-7200-2014	
	Author ID	6508130108	
	ORCID code	0000-0003-3484-516X	

### A.1. Current position

Name of University/Institution	Spanish Institute of Oceanography		
Department	Oceanographic Center of Malaga		
Address and Country	Puerto Pesquero, s/n		
Phone number	952197124	E-mail	<a href="mailto:isabel.ferrera@ieo.es">isabel.ferrera@ieo.es</a>
Current position	Distinguished Investigator	From	01/01/2019
UNESCO code	241400; 251001; 241408		
Key words	Aquatic Ecology; Oceanography; Microbial Processes; Biodiversity; Genomics		

### A.2. Education

Degree/PhD	University	Year
Microbiology (PhD)	Autonomous University of Barcelona	2004
Biology (BSc)	Autonomous University of Barcelona	1999

### A.3. JCR articles, h Index, thesis supervised...

Publicacions in ISI: 46

Total publications (ISI papers, other papers, book chapters, reviews, etc): 55

Citations: 1486 (Scopus), 1788 (Google Scholar)

H index: 18 (Scopus), 21 (Google Scholar)

Master thesis supervised: 6

PhD thesis supervised: 2 (ongoing)

### Part B. CV SUMMARY (max. 3500 characters, including spaces)

As microbial ecologist, the research I have performed has always been geared to understand the diversity and function of microorganisms and the processes they carry out in different ecosystems, focusing in the ocean. I began my career at the Universitat Autònoma de Barcelona where I held a Fellowship from the Generalitat de Catalunya to perform my PhD on the characterization of complex sulfide-oxidizing biofilms, which was awarded the Best Thesis Prize of 2004. Then, I spent 5 months at the Centre d'Estudis Avançats de Blanes (CSIC) where I contributed to the development of a new method to detect and differentiate certain groups of aquatic bacteria by flow cytometry. After these years, I joined an outstanding, internationally recognized laboratory in the field of microbial ecology at Portland State University. Initially hired as Postdoctoral Associate I was later awarded with a Fellowship (MEC-Fulbright Program). There, I worked on the physiology, diversity and phylogeny of thermophilic bacteria inhabiting hot springs and deep-sea hydrothermal vents. Back in Spain since 2008 through the **Juan de la Cierva** program, I joined the **Marine Microbial Ecology Group** at the **Institut de Ciències del Mar** (CSIC) where I established a new research topic on the ecology of photoheterotrophic organisms. During these years I have actively participated in the organization and managing of two unique ocean circumnavigation expeditions, **Malaspina** and **Tara Oceans**. I was PI of a funded grant aimed at the study of photoheterotrophic organisms in the ocean in the framework of these two expeditions. Between 2011 and 2013, I held a full-time teaching position at the UAB, which I combined with my research on diversity and function of aquatic microorganisms at the ICM and at the IGB-Leibniz Institute in Berlin. Later on, I returned to the ICM as a Postdoctoral Researcher where I used my expertise in microbial diversity to explore the use of new sequencing methodologies as a tool to identify indicator species and define



descriptors of the ecological status of aquatic ecosystems. I now hold a permanent position as '**Distinguished Investigator**' at the **Spanish Institute of Oceanography in Malaga** where I have started a new research line in the Center on microbial oceanography. In summary, I have participated in 19 scientific projects (some as PI and co-PI), published 49 articles in peer-review journals, 3 review papers, 3 book chapters, 2 outreach papers and have been editor of a book. I have several contributions to international meetings and have participated in many international courses and oceanographic cruises. I have experience in teaching and supervising undergraduate and graduate students. I have performed several short stays in recognized research centers and have ongoing collaborations with national and international groups. I have been a reviewer for many specialized journals and a grant reviewer for ANEP, NASA and NSF among others, and have participated in different outreach activities, besides being a founding member of the Iberian Society of Ecology (SIBECOL). More information can be found here: [www.isabelferrera.com](http://www.isabelferrera.com)

## Part C. RELEVANT MERITS

### C.1. Publications (including books)

1. **Ferrera I**, Sánchez O, Kolářová E, Koblížek M, Gasol JM. 2017. Light enhances the growth rates of natural populations of aerobic anoxygenic phototrophic bacteria. **The ISME Journal** 11, 2391 - 2393 (IF=9.664, Q1).
2. **Ferrera I** (editor). 2016. **Climate Change and the Oceanic Carbon Cycle** (Book) Apple Academic Press, ISBN 978-1-77188-536-2
3. Alberti A, Poulain J, Engelen S, Labadie K, Romac S, **Ferrera I**, et al. 2017. Viral to metazoan marine plankton nucleotide sequences from the Tara Oceans expedition. **Nature Scientific Data** 4, 170093 (IF= 5.305, Q1).
4. **Ferrera I**, Sebastian M, Acinas SG, Gasol JM. 2015. Prokaryotic functional gene diversity in the sunlit ocean: stumbling in the dark. **Current Opinion in Microbiology** 25: 33–39 (IF= 6.635, Q1).
5. **Ferrera I**, Arístegui J, González JM, Montero MF, Fraile-Nuez E, Gasol JM. 2015. Transient changes in bacterioplankton communities induced by the submarine volcanic eruption of El Hierro (Canary Islands). **PLoS One** 10: e0118136 (IF=3.534, Q1).
6. Sunagawa S, Coelho LP, Chaffron S, Kultima JR, Labadie K, Salazar G, Djahanschiri B, Zeller G, Mende DR, Alberti A, Cornejo-Castillo FM, Costea PI, Cruaud C, d'Ovidio F, Engelen S, **Ferrera I**, Gasol JM, et al. 2015. Structure and function of the global ocean microbiome. **Science** 348: 6237, 1261359 (IF=31.477, Q1).
7. Lima-Mendez G, Faust K, Henry N, Decelle J, Colin S, Carcillo F, Chaffron S, Ignacio-Espinosa JC, Roux S, Vincent F, Bittner L, Darzi Y, Wang J, Audic S, Berline L, Bontempi G, Cabello AM, Coppola L, Cornejo-Castillo FM, d'Ovidio F, De Meester L, **Ferrera I**, Garet-Delmas MJ, et al. 2015. Determinants of community structure in the global plankton interactome. **Science** 348: 6237, 1262073. (IF=31.477, Q1).
8. **Ferrera I**, Borrego CM, Salazar G, Gasol JM. 2014. Marked seasonality of aerobic anoxygenic phototrophic bacteria in the coastal NW Mediterranean Sea as revealed by cell abundance, pigment concentration and pyrosequencing of *pufM* gene. **Environmental Microbiology**. 16: 2953–2965 (IF=6.240, Q1).
9. **Ferrera I**, Banta AB, Reysenbach AL. 2014. Spatial patterns of Aquificales in deep-sea vents along the Eastern Lau Spreading Center (SW Pacific). **Systematic and Applied Microbiology** 6, 442 – 448 (IF= 3.899, Q1).
10. **Ferrera I**, Massana R, Casamayor EO, Balagué V, Sánchez O, Pedrós-Alió C, Mas J (2004) High-diversity biofilm for the oxidation of sulfide-containing effluents. **Applied Microbiology and Biotechnology** 64: 726–734 (IF=3.811, Q1).

## C.2. Research projects and grants

REMEI: Regulación del (meta)genoma procariótico de un ambiente costero marino: factores biológicos y oceanográficos que determinan la presencia y función biogeoquímica de los procariotas planctónicos. Plan Nacional I+D+I, 2016-2018. IP: Josep M Gasol. Hired as Postdoctoral Researcher.

DEVOTES: DEVelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status. European Union. FP7-ENV-2012 308392. 2012-2016. PI: Angel Borja, AZTI, PI-partner CSIC: Esther Garcés. Participation as Postdoctoral Researcher.

ECOAAP: Diversity and distribution of aerobic anoxygenic phototrophic bacteria across contrasting aquatic systems. Leibniz Institute of Freshwater Ecology and Inland Fisheries. PI: **Isabel Ferrera**. Participation as PI.

ECOBAF: Papel ecológico de las bacterias aeróbicas anoxigénicas fototróficas marinas a escala global. CTM2010-10462-E. Ministerio de Ciencia e Innovación. 2011- 2012. PI: **Isabel Ferrera**, ICM-CSIC. Participation as PI.

MALASPINA 2010: Expedición de circunnavegación Malaspina 2010: Cambio Global y Exploración de la Biodiversidad del Océano Global. Ministerio de Ciencia e Innovación. 2009-2011. PI: Carlos Duarte, IMDEA-CSIC. **Participation as co-PI.**

Tara Oceans - TANIT: DiversiTA t i fuNcló dels bacTeris en els Oceans a través del projecte de circumnavegació global Tara-Oceans. CONES 2010-0036. Talencia-AGAUR. 2011-2012. PI: Silvia G. Acinas, ICM-CSIC. Participation as Postdoc.

TUIM05MV: Sampling and Initial Characterization of Hydrothermal Fluids, Deposits, Microfauna and Megafauna at Vent Fields along the Eastern Lau Spreading Center TUIM05MV OCE-0242038. National Science Foundation, USA. 2004-2006. PI s: Anna-Louise Reysenbach (PSU) & Margaret Tivey (WHOI). Participation as Postdoc

PEET: Enhancing expertise in bacterial taxonomy: classical and molecular-based monographic research of the *Aquificales*. NSF PEET DEB-0328326. National Science Foundation, USA. 2003-2008. PI: Anna-Louise Reysenbach, Portland State University. Participation as Postdoc

## C.3. Contracts

Postdoctoral Researcher. Dpt. of Biology, Portland State University. Nov 2004 - Nov 2005 & Nov 2007 - Apr 2008, hired on NSF grants funded to Dr. Anna-Louise Reysenbach.

Postdoctoral Fellowship, Spanish Ministry of Education – Fulbright Program. Dpt. of Biology, Portland State University. Supervisor: Dr. Anna-Louise Reysenbach. Dec 2005 – Nov 2007.

Travel Grant. MEC – Fulbright. Dpt. Biología Marina i Oceanografia, Institut de Ciències del Mar. Supervisor: Dr. Josep M. Gasol. Sep – Oct 2007.

Postdoctoral Award 'Juan de la Cierva' Program, Spanish Ministry of Science and Innovation. Dpt. Marine Biology & Oceanography. Marine Sciences Institute. Supervisor: Dr. Josep M. Gasol. May 2008 – May 2011.

IGB Postdoctoral Fellowship Program in Freshwater Science. Leibniz-Institute of Freshwater Ecology and Inland Fisheries. Supervisor: Dr. Hans-Peter Grossart. 2013

## C.4. Patents

### C.5. Teaching and Supervising experience

Master Supervision of Marta Royo-Llonch (UB, 2013), Adrià Auladell (UPF, 2017), Sergio Estruch (UB, 2017), Daniel Romano (2017, UB), Daniel Baños (2018, UB), David Funosas (2018, UPF)

PhD Supervisor of Adrià Auladell (Ongoing). Regulation of the prokaryotic metagenome: effect and quantification of biological and oceanographic factors.

PhD Supervisor of Carlota Ruiz Gazulla (Ongoing). Ecology of marine photoheterotrophic bacteria

Teaching Accreditation for the Spanish (ANECA) and Catalan (AQU) University System.

Two years (2011-2013) of teaching (400h) at undergraduate and master level (Universitat Autònoma de Barcelona).

One year (2014-2015) of teaching (70h) at undergraduate level at Universitat Internacional de Catalunya.

### C.6. Laboratory and analytical skills:

Isolation and cultivation of microbes, radiolabeled substrate uptake, flow-cytometry, epifluorescence microscopy, FISH, DNA and RNA extraction, PCR, qPCR, cloning, microarrays, DNA sequencing, metagenomics, metatranscriptomics, bioinformatics.

### C.7. Laboratories where I have worked:

Dpt. Genètica i Microbiologia, Universitat Autònoma de Barcelona, Spain (5 years, 1999-2004). PI: Jordi Mas.

Universidad Católica del Norte, Antofagasta, Chile (1 month, 2003) PI: Cecilia Demergaso.

Centre d'Estudis Avançats de Blanes, CEAB-CSIC, Blanes, Spain (5 months, 2004) PI: Emilio O. Casamayor.

Biology Department. Portland State University. Portland, OR, USA (3.5 years, 2004-2008) PI: Anna-Louise Reysenbach.

Institute of Microbiology, Czech Academy of Sciences. Trebon, Czechia (1 month, 2009) PI: Michal Koblizek.

Dpt. Marine Biology & Oceanography. Institut de Ciències del Mar, ICM-CSIC, Barcelona, Spain (8 years between 2008-2018). PIs: Josep M. Gasol and Esther Garcés

College of Earth, Ocean and Environment, University of Delaware. Lewes, DE, USA (1 month, 2010). PI: David L. Kirchman

Leibniz Institute of Freshwater Ecology and Inland Fisheries. Neuglobsow, Germany (5 months, 2012-2013). PI: Hans-Peter Grossart

### C.8. Other relevant information:

Best PhD Thesis award. Universitat Autònoma de Barcelona.

Member of 6 PhD Comities

Founding member of the Iberian Society of Ecology (SIBECOL)

Journal reviewer for *Biogeosciences*, *Environmental Microbiology*, *ISME J*, *Aquatic Microbial Ecology*, *PLOS One*, *Microbial Ecology*, *Extremophiles*, *Geobiology* and others

Grant Reviewer for NASA (USA), NSF (USA), ANEP (Spain), La Caixa (Spain), INACH (Chile), Minerva Foundation (Israel)