

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date

24/01/2025

First name	LAUREANA		
Family name	REBORDINOS GONZALEZ		
		URL Web https://produccioncientifica.uca.es/investigadores/113265/detalle	
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-6225-9449	

(*) Mandatory

A.1. Current position

Position	Full Professor		
Initial date	14/02/2010		
Institution	University of Cadiz		
Department/Center	Biomedicine	Faculty of Sea and Environmental Sciences	
Country	SPAIN		
Key words	Genetics, Genomics, Evolution, Sex determination, Aquaculture		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1983-1987	PFPI Doctorate, University of Leon (Spain)
1988-1990	Postdoc, INIA (6 months) Univ. of Birmingham (2,5 years)
1990-1992	Researcher INIA (Spain)
1993-1996	Associate Professor. UCA
1996-2010	Lecturer UCA

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Biology	University of León (Spain)	1982
PhD in Biology	University of León (Spain)	1987

Part B. CV SUMMARY (max. 5000 characters, including spaces)

I have been a Full Professor of Genetics at the UCA since 2010. I set up the Area of Genetics there in 1994 and was its first Professor. It currently comprises 8 staff Lecturers and 2 associate Professors. As Area Coordinator I have been responsible for its development.

I have 6 sexennias and 92 published articles in JCR, 3 books, and more than 20 book chapters, with an index of h= 32, 22 in Q1, with 3016 cites (Google Scholar). Author of two national patents.

I have worked on the genetic mapping of several different organisms with diverse markers to characterize their genomes and learn about their evolution. Since 1995 I have devoted my studies to marine organisms, applying cytogenetic molecular and genomics techniques to identify species. Having been in charge of the UCA Species Identification Service since 2010 I have designed an identification system for oysters, another for engraulidae, sparidae and flatfishes. We have applied structural and functional genomics techniques to characterize processes important for the target species. Hence, we have sequenced and re-sequenced genomes in *Solea senegalensis* and *Crassostrea angulata* and builded genetic integrated maps in both of them. In *S. senegalensis* the integrated map allowed us to anchor the genome to the karyotype chromosomes and locate the sex-determining gene. We have also studied chromosome evolution in a wide range of species.



Since 2006 I have been coordinator of the BIO-219 [Biology and Biotechnology] Group, attached to the Campus of International Excellence in Agrifood (CeIA3) and Campus of International Excellence of the Sea (CEIMAR).

My research has been financed under European, national and regional projects, some in collaboration with companies. Notable are CUPIMAR and the CTAQUA Technology Center. In 15 of these projects, I have been Principal Researcher. I have collaborated with CSIC centers, with IFAPA El Toruño, with the UGR and the USC. I have also maintained collaborations with the University of Jena (Germany, Thomas Liher), the CIRAD of Montpellier (France), the Universities of Concepción (Chile) and San Carlos (Brazil) with the Coiba Biological Station (Panama), and the Roslin Institute (Diego Robledo) among others. I belong to the T2T (Telomere-To-Telomere) Consortium devoted to build pangenomes of marine organisms, led by Dr. Yangzhen Li (Yellow Sea Fisheries Research Institute, China).

I have participated in more than 150 national and international conferences and in the successive editions of "Researchers' Night" and the "Day of Girls and Women in Science". I have been interviewed for the "CON-CIENCIA" program of Canal Sur and on various radio channels to publicize the results of my research. Member of the Scientific Committee of the National Congress on Aquaculture in Huelva (2015) and in Cadiz (2022). Member of the Organizing Committee of the Luso-Spanish Conference held in 1984 (Salamanca) and of the National Mycology Congress (1998, Cádiz); President of the Fifth Cytogenetics Seminar (2008, Cádiz). I have been elected, against competition, as President of the Organizing Committee of the 18th Symposium on Genetics in Aquaculture (to be held in Cádiz, 2025). Member of the UCA Publications Service Committee (2006-18).

I have been the coordinator of PD Studies in Sciences and Technologies of the UCA since 2018. I have directed 22 doctoral theses; one of the graduates is now a CU at the University of Almería, two are TU's at the UCA, one is Director of the Coiba Biological Station in Panama; others include lecturers at the Abdemalek-Essady University, Morocco, the University of Havana, Cuba, and the UPO, Spain.

I have been an ANECA expert since 2009, an evaluator and national coordinator (in various calls) of FPU Short Stay grants, "Salvador de Madariaga" and "José de Castillejo" grants, PTA, JAE-CSIC grants, for CSIC and regional government projects, and for ANEP, FIS, CDTI, the VIIth EU Framework Program (invited to the Evaluation Panel in Brussels in 2011), and FONDEFF (Chile) projects. Member of the Maryland Sea Grant's Academy Advisory Committee (USA, 2002-2010) and FONDECYT (Chile, 2007-2011). Nominated as a referee of scientific articles for publication in more than 30 journals in the fields of Genetics, Aquaculture and Evolution, among others.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

1. Ramírez, R., Anaya-Romero, M., Rodríguez, ME., Arias-Pérez, A, Mukiibi R., D'Cotta, H., Robledo, D., **Rebordinos, L.** (CA) (8/8) 2025. Insights into *Solea senegalensis* Reproduction Through Gonadal Tissue Methylation Analysis and Transcriptomic Integration. *Biomolecules* 15, 54 ISSN : 2218-273X. <https://doi.org/10.3390/biom15010054>
2. Ramírez, D., Rodríguez, ME., Mukiibi, R., Peñazola, C., D'Cotta, H., Robledo, D., **Rebordinos, L.**, (CA) (7/7) 2024. Methylation profile of the testes of the flatfish *Solea senegalensis*. *Aquaculture Reports* Volume 39, December 2024, 102405 ISSN: 23525134 <https://doi.org/10.1016/j.aqrep.2024.102405>
3. Cross, I., Rodríguez, M.E., Portela-Bens, S., Merlo, M.A., Gálvez-Salido, A., Navajas-Pérez, R., **Rebordinos, L.**, (CA) (8/) 2024. The genomic study of repetitive elements in *Solea senegalensis* reveals multiple impacts of transposable elements in the evolution and architecture of Pleuronectiformes chromosomes. *Front. Mar. Sci.* 11, 1359531. <https://doi.org/10.3389/FMARS.2024.1359531/BIBTEX>.
4. De la Herrán, R., Hermida, M., Rubiolo, J., Martínez P (CA), **Rebordinos, L.** (25/28), 2023, A chromosome-level genome assembly enables the identification of the follicle stimulating hormone receptor as the master sex determining gene in the flatfish *Solea*



- senegalensis*, Molecular Ecology Resources, ISSN:1755-098X, DOI:10.1111/1755-0998.13750.
5. Ramírez, D., Rodríguez, M.E., Cross, I., **Rebordinos, L.** (CA) (11/11), 2022, Integration of maps enables a cytogenomics analysis of the complete karyotype in *Solea senegalensis*. International Journal of Molecular Sciences, 23, 5353, ISSN:1422-0067, DOI:10.3390/ijms23105353.
 6. Cross, I., García, E., Rodríguez, M.E., **Rebordinos, L.** (CA) (7/7), 2020, The genomic structure of the highly-conserved *dmrt1* gene in *Solea senegalensis* (Kaup, 1868) shows an unexpected intragenic duplication, Plos ONE,15(11):e0241518, DOI:10.1371/journal.pone.0241518.
 7. García, E., Cross, I., Rodríguez, M.E., **Rebordinos, L.** (CA) (9/9), 2019, Integrative genetic map of repetitive DNA in the sole *Solea senegalensis* genome shows a Rex transposon located in a proto-sex chromosome, Scientific Reports, 9: 17146, DOI:10.1038/s41598-019-53673-6.
 8. Cross, I., Portela-Bens, S., Garcia-Angulo, A., Merlo, M.A., Rodriguez, M.E., Liehr, T., Rebordinos, L. (CA) (7/7), 2018. A preliminary integrated genetic map distinguishes every chromosome pair and locates essential genes related to abiotic adaptation of *Crassostrea angulata/gigas*. BMC Genet. 19, 104. <https://doi.org/10.1186/s12863-018-0689-5>
 9. Cross, I., Merlo, M.A., Rodríguez, M.E., Portela-Bens, S., Rebordinos, L. (CA) (5/5) 2014. Adaptation to abiotic stress in the oyster *Crassostrea angulata* relays on genetic polymorphisms. Fish Shellfish Immunol. 41, 618–624. <https://doi.org/10.1016/j.fsi.2014.10.011>
 10. Benzekri, H., Armesto, P., Cousin, X., Manchado, M., **Rebordinos, L.** (CA) (15/19), 2014, De novo assembly, characterization and functional 1 annotation of Senegalese sole (*Solea senegalensis*) and common sole (*Solea solea*) transcriptomes. Integration in a database and design of a microarray, BMC Genomics 15: 952, DOI:10.1186/1471-2164-15-952.

C.2. Congress

1. XIV International Symposium on Genetics in Aquaculture. De la Herrán, R., Hermida, M., Rubiolo, J., Gómez-Garrido, J., Cruz, F., Robles, F., Navajas-Pérez, R., Blanco, A., Rodríguez-Villamayor, P., Torres, D., Sánchez-Quintero, P., Ramírez, D., Rodríguez, M.E., Arias, A., Cross, I., Duncan, N., Martínez-Peña T., Ríaza, A., Millán, A., Gut, M., Bouza, C., Robledo, D., **Rebordinos, L.**, Alioto, T., Ruiz-Rejón, C., Martínez, P., A chromosome level genome assembly enables the identification of the follicle stimulating hormone receptor as the master sex determining gene in *S. senegalensis*, 27 - 02/12/22, Puerto Mont, Chile. **Oral**
2. 2nd European Symposium on Sex Determination in Vertebrates. Rodríguez, M.E., Cross, I., Ramírez, D., Sánchez, C., García, E., Merlo, M.A., Portela-Bens, S., Mendizábal, M., Arias, A., Anaya, M., Centeno, A., Martínez, P., Ruiz-Rejón, C., **Rebordinos, L.** Location of the sex determining gene rFSH in the karyotypes of *Solea senegalensis*, 16 – 20/10/22, Presquille de Giens, France. **Oral Communication**
3. XVIII Congreso Nacional de Acuicultura. I. Cross, A. Arias-Pérez, M. A. Merlo, M. E. Rodríguez, S. Portela-Bens y **L. Rebordinos**. Análisis y distribución de secuencias repetidas en el cariotipo de peces planos (Pleuronectiformes). 21-24 November 2022. **Oral communication.**
4. 6TH International Symposium on Genomics in Aquaculture, **Rebordinos, L.**, Rodríguez, M.E., Merlo, M.A., Cross, I., Portela-Bens, S., Anaya, M., Arias, A., García, E., Ramírez, D., Mendizábal, M., Centeno, A. Analysis of repetitive sequences in the *Solea senegalensis* genome and their role in the evolution of a proto sex-chromosome, 05 - 07/05/2021, Granada, Spain. **Oral Communication**
5. S. Portela-Bens, A. García-Angulo, M. A. Merlo, M. E. Rodríguez, I. Cross, **L. Rebordinos**. Further Evidences that a Robertsonian fusion originated the bigger metacentric chromosome pair in *Solea senegalensis*. *International meeting of the Portuguese Society of Genetics 2020*. Faro (Portugal). 23-24 January 2020. Poster.
6. Aquaculture Europe 2019. **Rebordinos, L.**, García-Angulo, A., García, E., Portela-Bens, S., Rodríguez, M.E., Molina, B., Merlo, M.A., Anaya, M., Arias, A., Cross, I. Construction on an integrated genetic map of benefit to the *Solea senegalensis* aquaculture, 07 - 10/10/2019, Berlín. **Oral Communication**



7. International Conference & Exposition (Aquaculture Europe). Portela-Bens, S., Rodríguez, M.E., García, E., Merlo, M.A., Cross, I., García-Angulo, A., Arias, A., Liehr, T., **Rebordinos, L.** Chromosome mapping and characterization of immune related system genes in *Solea senegalensis*, 17 – 20/10/2017, Dubrovnik, Croatia. **Oral Com.**
8. I European Symposium on Sex Determination in Vertebrates, Authors: Merlo, A., Rodríguez, M.E., Portela-Bens, S., García, E., García-Angulo, A., Arias, A., Cross, I., **Rebordinos, L.** Characterization of genes and chromosomes related to sex determination in *Solea senegalensis*, 01 – 04/03/2017, Dinard, France. **Oral Communication**
9. XV National Congress and I Iberian Congress of Aquaculture. **Rebordinos, L.**, Merlo, M. A., Rodríguez, M. E., Cross, I., Manchado, M., Kosyakova, N., Liehr, T. y Portela-Bens, S. Evidence for the existence of a sex proto-chromosome in *Solea senegalensis*, 13 - 16/10/2015, Huelva, Spain. **Oral Communication**
10. International Symposium on Genetics in Aquaculture XII. Rodríguez, M.E, Portela-Bens, S., Merlo, M.A. Cross, I., **Rebordinos, L.** Gene Mapping in the senegalese sole (*Solea senegalensis*), 21 - 27/06/2015, Santiago de Compostela, Spain. **Oral Com.**

C.3. Research projects

1. CCMM 0001, Analysis of the influence of epigenetic factors on the development of *S. senegalensis* using omics techniques. Junta de Andalucía PRTR. (**Laureana Rebordinos González**, (Co-PI, UCA) 1/1/ 2021-31/12/25, 68,000 €
2. P2000938, Integrated analysis using omics tools from genomic regions involved in sex determination in Senegalese sole. Junta de Andalucía. (**Laureana Rebordinos González**, (PI, UCA) 05/10/2021 – 30/06/2023, 95,000€
3. PYC20 RE 069 UCA, Design of a sex molecular diagnosis kit in Senegalese sole (*Solea senegalensis*), Junta de Andalucía. Alejandro Centeno Cuadros (PI, UCA), **Laureana Rebordinos González** (I) University of Cadiz, 01/01/2022 - 31/12/2022. 33,150€
4. RTI2018-096847-B-C21, Genomic and sex determination studies in sole (*Solea senegalensis*) by map integration, MICINN **Laureana Rebordinos González** (PI, UCA) 01/09/2019 - 31/12/2021. 151,250€
5. CEIJ-023, Molecular characterization, expression analysis and location of determination/differentiation and reproduction involved genes in sole (*Solea senegalensis*), CEI-MAR, Silvia Portela Bens (PI, UCA), **Laureana Rebordinos González** (I) 01/01/2020 - 31/12/2020. 4,000€
6. PR2018-044, Linkage and genetic maps integration in *Solea senegalensis* sexual protochromosome and comparative genomics with flatfish species, Programa de fomento e impulso de la investigación y de la transferencia de la Universidad de Cádiz, **Laureana Rebordinos González** (PI, UCA), 01/09/2018 - 31/12/2019. 3.000€. .
7. AGL 2014-51860-C2-1, Consolidation of the genetic map using BAC-FISH and microsatellite markers in sole (*Solea senegalensis*): Evolutionary studies and synten, MICINN, **Laureana Rebordinos González** (PI, UCA) 01/01/2015 - 31/01/2017, 95,000€
8. AGL2011-25596, Obtention of a preliminary chromosomal map of the karyotype of the senegalese sole (*Solea senegalensis*). Integration of genetic and physical genetic mapping, MICINN, **Laureana Rebordinos** (PI, UCA) 02/01/2012 - 31/01/2015. 90,000€

C.4. Management Activities

Coordinator of the Doctoral Program in Marine and Scientific Technology of the UCA since April 2018.

C.5. Institutional responsibilities

Vice-Dean of the Faculty of Environmental and Marine Sciences (University of Cádiz): 2012-2016.

C.6. Research stays

Stay at CIRAD, Montpellier, France, funded by a Salvador de Madariaga scholarship (September-December, 2019)