MINISTERIO DE CIENCIA E INNOVACIÓN

**CURRICULUM VITAE (maximum 4 pages)**

AGENCIA ESTATAL DE INVESTIGACIÓN

## Part A. PERSONAL INFORMATION

| **CV date** | 16/09/2021 |
|---|---|

| First and Family name | **PEDRO PERDIGUERO JIMÉNEZ** | | |
|---|---|---|---|
| Social Security, Passport, ID number | **70810728F** | Age | **40** |
| Researcher codes | Open Researcher and Contributor ID (ORCID**) | **0000-0002-5471-9550** | |
| | SCOPUS Author ID (*) | **45961354100** | |
| | WoS Researcher ID (*) | **H-5234-2015** | |

*(*) Optional*
*(**) Mandatory*

### A.1. Current position

| Name of University/Institution | Complutense University of Madrid (UCM). Faculty of Biological Sciences | | |
|---|---|---|---|
| Department | Genetics, Physiology and Microbiology | | |
| Address and Country | C. de José Antonio Novais, 12, 28040 Madrid | | |
| Phone number | 615484249 | E-mail | pedperdi@ucm.es |
| Current position | Assistant Professor | From | 01/09/2021 |
| Key words | Bioinformatics and computational biology, Immunology, Molecular biology, Abiotic and biotic stress response | | |

### A.2. Education

| PhD, Licensed, Graduate | University | Year |
|---|---|---|
| Master in Bioinformatics and computational biology | National School of Public Health from Institute of Health Carlos III (ENS-ISCIII) | 2017 |
| PhD in Advanced Forest Research | Technical university of Madrid (UPM) | 2013 |
| Msc Environmental Sciences | Miguel Hernández University of Elche (UMH) | 2006 |

### A.3. General indicators of quality of scientific production *(see instructions)*

The following data is compiled exclusively from documents indexed in the scopus database:
h Index: 10
Publications: 23
JCR articles: 22
Articles in Q1: 18
Articles as first author: 14 (11 only and 3 shared)
Total citations: 250 in 224 documents
Citation in the last year: 67

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

Dr. Pedro Perdiguero is an Assistant Professor working at the genetic unit of Faculty of Biological Sciences (Complutense University of Madrid, UCM). He has spent most of his scientific career studying molecular mechanisms underlying essential biological process of living organisms, with special emphasis in the molecular response by which they face pathogens or changes in their environments. Since his last years of degree in environmental sciences he showed high interest in molecular biology and genetics, so he decided to start a research career in this issue. He achieved a predoctoral fellowship within a project focused in the study of the molecular response to water stress in Mediterranean conifers. In January 2013 he got his PhD in Advanced Forest Research defending the doctoral thesis “Genes involved in the molecular response of water stress in *Pinus pinaster* Ait.” The thesis defence was evaluated as Cum Laude and the "International Doctor" Mention of Doctoral Thesis. Then the doctoral thesis obtained the extraordinary award from Universidad Politécnica de Madrid. During this predoctoral period, he developed excellent skills for research work in molecular biology, especially in transcriptomics, both in laboratory such as in conducting extensive searches of relevant literature and interpretation of results. Soon he achieved a Marie Curie position from Intraeuropean Fellowship for Career development programme (IEF 2013) with the project “PineWS-miRNA-vs-Gene: The role of small RNAs in response of maritime pine to drought stress” (147,210€). This project allowed him to carry out innovative and accomplished research related to small non-coding RNAs. During this period

he performed hard efforts to acquire full skills in bioinformatics completing the Master's degree in "Bioinformatics and computational biology" at the National School of Public Health from Institute of Health Carlos III. The acquired profile as bioinformatician awakened in him high motivation to face new challenges exploring new research fields. Thus, he decided to join to the research team of ERC consolidator project "TEMUBLYM: Teleost mucosal B1-like lymphocytes in the crossing of tolerance and immunity" lead by Carolina Tafalla and developed at the Animal Health Research Center (CISA-INIA). During this period he acquired strong knowledge in immunology mainly adaptive immune system, by adapting high-throughput sequencing technologies to analyze the molecular mechanism that underlie B cell functions in fish including the regulatory mechanisms involved in immunoglobulin formation. Currently, motivated by the recent advances of high innovative technologies for single cell genomics and its applications to study the fascinating world of immunology, he is working hard to follow this innovative research line based in high-throughput technologies applied to immunology and animal health. In summary, Pedro has published 22 papers in high quality international journals, has presented communications in 38 international congress and workshop and has been PI of one research project achieved in a high competitive call from European commission. It is worth mentioning that in the last three years he has published 9 papers directly related with fish immunology, six of them as first author and all of them in journals ranked in Q1 with IF from to 5 to 8.

**Part C. RELEVANT MERITS** *(sorted by typology)*

**C.1. Publications** *(see instructions)*

**Scientific paper**

1. Martin, D.; **Perdiguero, P.**; Morel, E.; Soleto, I; Herranz-Jusdado, J.G.; Ramón, L.A.; Abós, B.; Wang, T.; Diaz-Rosales, P.; Tafalla, C. 202X. CD38 defines a subset of B cells in rainbow trout kidney with high IgM secreting capacities. Frontiers in immunology. *Under review*. (Q1 Immunology - 24/162 - IF 7.561).
2. Abós, B.; Perez-Fernandez, E.; Morel, E.; **Perdiguero, P.**; Tafalla, C. 2021. Pro-inflammatory and B cell regulating capacities of TWEAK in rainbow trout (*Oncorhynchus mykiss*). Frontiers in immunology. (Q1 Immunology - 24/162 - IF 7.561).
3. **Perdiguero, P**.; Morel, E.; Tafalla, C. 2021. Diversity of Rainbow Trout Blood B Cells Revealed by Single Cell RNA Sequencing. *Biology*, *10*, 511. (Q1 Biology - 16/93 - IF 5.079).
4. **Perdiguero, P**.; Morel, E.; Díaz-Rosales, P.; Tafalla, C. 2021. Individual B cells express multiple immunoglobulin light chains in teleosts. iScience. (Q1 Multidisciplinary - 16/128 - IF 5.458).
5. **Perdiguero, P**.; Rodrigues, A.; Chaves, I.; et al; Miguel, C.M. 2021. Comprehensive analysis of the isomiRome in the vegetative organs of the conifer *Pinus pinaster* under contrasting water availability. Plant, cell and environment. 44-3, pp.706-728 (Q1 Plant Sciences - 11/235 - IF 7.228).
6. Rodríguez-Calcerrada, J.; Rodrigues, A. M.; António, C.; **Perdiguero, P.**; Pita, P.; Collada, C.; Li, M.; Gil, L. 2021. Stem metabolism under drought stress- a paradox of increasing respiratory substrates and decreasing respiratory rates. Physiologia Plantarum. 172, pp.391-404 (Q1 Plant Sciences - 28/235 - IF 4.5).
7. **Perdiguero, P**.; Gómez-Esparza, M.C.; Martín, D.; Bird, S.; Soleto, I.; Morel, E.; Díaz-Rosales, P.; Tafalla, C. 2020. Insights Into the Evolution of the *prdm1/Blimp1* Gene Family in Teleost Fish. Frontiers in immunology. 11, pp.2811. (Q1 Immunology - 24/162 - IF 7.561).
8. de María, N.; Guevara, M.A.; **Perdiguero, P.**; et al; Cervera, M.T. 2020. Molecular study of drought response in the Mediterranean conifer *Pinus pinaster* Ait.: Differential transcriptomic profiling reveals constitutive water deficit-independent drought tolerance mechanisms. Ecology and evolution. 10-18, pp.9788-9807. (Q2 Ecology - 25/50 - IF 2.912).
9. Picard-Sánchez, A.; Estensoro, I.; **Perdiguero, P.**; del Pozo, R.; Tafalla, C.; Piazzon, M.C.; Sitjà-Bobadilla, A. 2020. Passive Immunization Delays Disease Outcome in Gilthead Sea Bream Infected With *Enteromyxum leei* (Myxozoa), Despite the Moderate Changes in IgM and IgT Repertoire. Frontiers in immunology. 11, pp.2242. (Q1 Immunology - 24/162 - IF 7.561).
10. Lopes, S.; Sobral, D.; Costa, B.; **Perdiguero, P.**; Chaves, I.; Costa, A.; Miguel, C.M. 2020. Phellem versus xylem: genome-wide transcriptomic analysis reveals novel regulators of cork formation in cork oak. Tree physiology. 20-40, pp.129-141. (Q1 Forestry - 3/85 - IF 4.196).
11. Granja, A.G.*; **Perdiguero, P.***; Martín-Martín, A.; Díaz-Rosales, P.; Soleto, I.; Tafalla, C. 2019. Rainbow Trout $IgM^+$ B Cells Preferentially Respond to Thymus-Independent Antigens but Are Activated by CD40L Frontiers in immunology. 10-2902. (Q1 Immunology - 38/161 - IF 5.085).

12. **Perdiguero, P.***; Martín-Martín, A.*; Benedicenti, O.; et al; Tafalla, C. 2019. Teleost $IgD^{+}IgM^{-}$ B Cells Mount Clonally Expanded and Mildly Mutated Intestinal IgD Responses in the Absence of Lymphoid Follicles Cell reports. 29-13, pp.4223-4235. (Q1 Cell biology - 30/195 - IF 8.1).
13. Pérez-González, A.; Marconi, M.; Cobo-Simón, I.; Méndez-Cea, B.; **Perdiguero, P**.; Linacero, R.; Linares, J.C.; Gallego, F.J. 2018. *Abies pinsapo* Boiss. Transcriptome Sequencing and Molecular Marker Detection: A Novel Genetic Resources for a Relict Mediterranean Fir. Forest Science. 64-6, pp.609-617. (Q3 Forestry - 44/67 - IF 1.05).
14. Abos, B.*; Estensoro, I.*; **Perdiguero, P.***; et al; Tafalla, C. 2018. Dysregulation of B Cell Activity During Proliferative Kidney Disease in Rainbow Trout. Frontiers in Immunology. 9-1203. (Q2 Immunology - 44/158 - IF 4.71).
15. **Perdiguero, P.**; Sobrino-Plata, J.; Venturas, M.; Martín, J.A.; Gil, L.; Collada, C. 2018. Gene expression trade-offs between defence and growth in English elm induced by *Ophiostoma novo-ulmi*. Plant, cell and environment. 41-1, pp.198-214. (Q1 Plant Sciences - 13/228 - IF 5.62).
16. Rodriguez-Calcerrada, J.; Rodrigues, A.M.; **Perdiguero, P.**; Antionio, C.; Atkin, O.K.; Li, M.; Collada, C.; Gil, L. 2017. A molecular approach to drought-induced reduction in leaf $CO_2$ exchange in drought-resistant *Quercus ilex* Physiologia plantarum. 162-4, pp.394-408. (Q2 Plant Sciences - 56/223 - IF 2.58).
17. **Perdiguero, P.**; Soto, A.; Collada, C. 2015. Comparative analysis of *Pinus pinea* and *Pinus pinaster* dehydrins under drought stress. Tree Genetics & Genomes. 11-70. (Q1 Forestry - 7/66 - IF 2.13).
18. **Perdiguero, P.**; Venturas, M.; Cervera, M.T.; Gil, L.; Collada, C. 2015. Massive sequencing of *Ulmus minor*'s transcriptome provides new molecular tools for a genus under the constant threat of Dutch elm disease. Frontiers in plant science. 6-541. (Q1 Plant Sciences - 15/209 - IF 4.49).
19. **Perdiguero, P.**; Collada, C.; Soto, A. 2014. Novel dehydrins lacking complete K-segments in Pinaceae. The exception rather than the rule. Frontiers in plant science. 5. (Q1 Plant Sciences - 19/204 - IF 3.94).
20. **Perdiguero, P.**; Barbero, M.C.; Cervera, M.T.; Collada, C.; Soto, A. 2013. Molecular response to water stress in two contrasting Mediterranean pines (*Pinus pinaster* and *Pinus pinea*).Plant Physiology and Biochemistry. 67, pp.199-208. (Q2 Plant Sciences - 59/199 - IF 2.35).
21. **Perdiguero, P.**; Collada, C.; Barbero, M.C.; García-Casado, G.; Cervera, M.T.; Soto, A. 2012. Identification of water stress genes in *Pinus pinaster* Ait. by controlled progressive stress and suppression-subtractive hybridization. Plant Physiology and Biochemistry. 50-1, pp.44-53. (Q1 Plant Sciences - 40/197 - IF 2.77).
22. **Perdiguero, P.**; Barbero, M.C.; Cervera, M.T.; Soto, A.; Collada, C. 2012. Novel conserved segments are associated with differential expression patterns for Pinaceae dehydrins. Planta. 236-6, pp.1863-1874. (Q1 Plant Sciences - 28/197 - IF 3.34).
23. Fernández-Pozo, N.; Canales, J.; Guerrero-Fernández, D.; et al; Claros, M.G. 2011. (9/16) EuroPineDB: a high-coverage web database for maritime pine transcriptome. BMC Genomics. 12-366. (Q1 Biotechnology - 26/158 - IF 4.07).

**Scientific book or monograph**

1. Aranda, I.; Gil-Pelegrín, E.; Gascó A.; et al; Collada C. 2013. (9/12). Drought response in forest trees: From the species to the gene Plant Responses to Drought Stress: From Morphological to Molecular Features. Springer. pp.293-333.

**C.2. Participation in research projects**

1. **TEMUBLYM**: Teleost mucosal B1-like lymphocytes at the crossroad of tolerance and immunity. Funding entity: ERC Consolidator grant. Entity: CISA-INIA. Paticipation: 18/12/2017 - nowadays. Total amount: 1.866.046€. Principal investigator: Dr. C. Tafalla. Nº of researchers: 1.
2. **Green-it**: Bioresources 4 Sustainability. Funding entity: Fundação para a Ciência e a Tecnologia. Entity: iBET. Paticipation: 01/01/2016-30/09/2017. Total amount: 1.241.130 €. Principal investigator: Margarida Oliveira. Nº of researchers: More than 10
3. **PineWS-miRNA-vs-Gene**: The role of small RNAs in response of maritime pine to drought stress. Funding entity: European commission. Entity: iBET. Paticipation: 01/10/2015-30/09/2017. Total amount: 147.210 €. Principal investigator: Célia Miguel and Pedro Perdiguero. Nº of researchers: 2
4. **ProCoGen**: Promoting a functional and comparative understanding of the conifer genome-implementing applied aspects for more productive and adapted forests. Funding entity: European commission. Entity: UPM. Paticipation: 01/01/2012-31/12/2015. Total amount: 400.617 €. Principal investigator: María Teresa Cervera. Nº of researchers: More than 10.

5. **OLMOS**: Ecología de los olmos ibéricos (*Ulmus* sp.) rasgos fundamentales y estructurales determinantes de la adaptación al medio y la resistenica a la grafiosis.Funding entity: Ministry of Economy and Competitiveness. Entity: UPM. Paticipation: 01/01/2013- 30/09/2015. Total amount: 234.000 €. Principal investigator: Luis Gil. Nº of researchers: 8.
6. **REGENFOR**: Regeneración de sistemas forestales de la comunidad de Madrid. Funding entity: Autonomous Community of Madrid. Entity: UPM. Paticipation: 01/01/2010- 31/12/2013. Total amount: 316.016,33 €. Principal investigator: Luis Gil. Nº of researchers: More than 10.
7. **SUSTAINPINE**: genomic tools in maritime PINE for enhanced biomass production and SUSTAINable forest managnement. Funding entity: European commission. Entity: ITQB. Paticipation: 17/01/2011-30/04/2013. Total amount: 168.000 €. Principal investigator: Francisco Cánovas. Nº of researchers: More than 10.

**C.3 Works submitted to national or international conferences**

1. **Perdiguero, P**.; Martín-Martín, A.; Benedicenti, O.; Díaz-Rosales, P.; Morel, E.; Muñoz-Atienza, E.; García-Flores, M.; Simón, R.; Soleto, I.; Cerutti, A.; Tafalla, C. Title of the work: Evidence of IgD-secreting plasmablasts with specific molecular signatures in the intestine of teleost fish Name of the conference: Mucosal health in aquaculture MHA 2019. City of event: Oslo, Norway. 11/09/2019 - 12/09/2019
2. **Perdiguero, P.**; Martín-Martín, A.; Benedicenti, O.; Díaz-Rosales, P.; Morel, E.; Soleto, I.; Cerruti, A.; Tafalla, C. Title of the work: Evidence of IgD-secreting plasmablasts and mucosa specific IgD molecular signatures in teleost gills and gut. Name of the conference: 3rd International conference on fish & shellfish immunology. City of event: Las Palmas de Gran Canaria, Spain. 16/06/2019-29/06/2019
3. Granja, A.G. *; **Perdiguero, P. ***; Martín-Martín, A.; Díaz-Rosales, P.; Soleto, I.; Tafalla, C. Title of the work: Rainbow trout IgM+ B cells preferentially respond to thymus independent antigens but are activated by CD40L. Name of the conference: 3rd International conference on fish & shellfish immunology. City of event: Las Palmas de Gran Canaria, Spain. 16/06/2019- 20/06/2019
4. **Perdiguero, P.**; Abos, B.; Estensoro, I.; Faber, M.; Hu, Y.; Diaz Rosales, P.; Granja, A.G.; Secombes, C.; Holland, J.W.; Tafalla, C. Title of the work: Dynamic perturbations of the B-Cell receptor repertoire during proliferative kidney disease (PKD) in Oncorhynchus mykiss. Name of the conference: (ZEBRA) Fish immunology / vaccination workshop. City of event: Wageningen, Holland. 28/04/2019- 02/05/2019

**C.4 Obtained grants and scholarships**

1. Name of the grant: Juan de la Cierva Incorporacion. Aims: Post-doctoral. Awarding entity: Ministry of science and innovation. Conferral date: 15/12/2017. Duration: 2 years. Rejected
2. Name of the grant: Intra-European Fellowship for Career Development (IEF). Aims: Post-doctoral Awarding entity: European Comission. Conferral date: 15/10/2015 Duration: 2 years. End date: 30/09/2017. Entity where activity was carried out: iBET.
3. Name of the grant: Formación Personal Investigador (FPI). Aims: Pre-doctoral. Awarding entity: Ministry of Education and Science. Conferral date: 01/09/2007 Duration: 4 years. End date: 31/08/2011. Entity where activity was carried out: UPM

**C.5 Stays in public or private R&D centres**

1. iBET. (Instituto de Biologia Experimental e tecnologica). City of entity: Oeiras, Lisboa, Portugal. Period: 01/10/2015 - 30/09/2017. Duration: 2 years. Goals of the stay: Marie Curie Intraeuropean Fellowship for career development (IEF 2013).
2. ITQB (Instituto de Tecnologia Química e Biológica). Faculty, institute or centre: Forest Biotech Lab. City of entity: Oeiras, Lisboa, Portugal Period: 17/01/2011 - 15/07/2011 Duration: 6 months. Goals of the stay: Pre-doctoral stay

**C.6 Prizes, mentions and distinctions**

1. International mention of Doctoral thesis. Awarding entity: UPM. Conferral date: 11/01/2013
2. Extraordinary award of Doctoral thesis. Awarding entity: UPM. Conferral date: 28/01/2015

**C.7 Reviewer in international journals**

Reviewer for international journals: Fish and Shellfish Immunology, Developmental and Comparative immunology, Aquaculture, Scientific Reports, Tree genetics and genomes.