MINISTERIO DE CIENCIA E INNOVACIÓN
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Plan de Recuperación, Transformación y Resiliencia
AGENCIA ESTATAL DE INVESTIGACIÓN

# CURRICULUM VITAE (CVA)

## Part A. PERSONAL INFORMATION

| | | | |
|---|---|---|---|
| First name | Aurora | | |
| Family name | Yáñez-Vilches | | |
| Gender (*) | Mujer | Birth date (dd/mm/yyyy) | |
| e-mail | auroyv@gmail.com | URL Web | |
| Open Researcher and Contributor ID (ORCID) (*) | | https://orcid.org/0000-0003-3278-8560 | |

*(*) Mandatory*

### A.1. Current position

| | | | |
|---|---|---|---|
| Position | Juan de la Cierva Postdoctoral Fellow | | |
| Initial date | 01/01/2024 | | |
| Institution | University of Córdoba (UCO) | | |
| Department/Center | Genetics | | |
| Country | Spain | Teleph. number | 957 218981 |
| Key words | *Fusarium*, fungal pathogenesis, chromatin | | |

### A.2. Previous positions (research activity interruptions, see call)

| Period | Position/Institution/Country/Interruption cause |
|---|---|
| 01/02/2023 – 31/12/2023 | Postdoctoral Researcher / University of Córdoba – Genetics Department |
| 01/04/2022 – 31/01/2023 | Technician as Biology Licensed / Centro Andaluz de Biología Molecular y Medicina Regenerativa (CABIMER) |
| 16/04/2017 – 15/09/2021 | PhD fellowship / Centro Andaluz de Biología Molecular y Medicina Regenerativa (CABIMER) |

### A.3. Education

| PhD, Licensed, Graduate | University/Country | Year |
|---|---|---|
| **PhD in Molecular Biology, Biomedicine and Clinic Research** | University of Sevilla (US) / Spain | **2022** |
| **Master in in Molecular, Cellular and Genetic Biotechnology** | University of Córdoba (UCO) / Spain | **2015** |
| **Licenciatura in Biology** | University of Córdoba (UCO) / Spain | **2014** |

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

My main scientific contributions to date are:

- 2 publications in Q1 (1 of them as co-author)
- 2 participations in international congresses (both with first author poster)
- 4 participations in conferences (1 as speaker)
- Participation as researcher in 4 financed projects
- Award of national competitive grants (Juan de la Cierva 2022 and FPI 2016)
- Collaboration in the supervision of master's and undergraduate students
- Tutorization (2 finished, 5 in progress) and co-direction (1 in progress) of Master thesis
- Attendance at multiple seminars and lectures
- Attendance at science outreach events as a volunteer

**Scientific Contributions:**

Degree in Biology (2014) and with a Master's Degree in Molecular, Cellular and Genetic Biotechnology (2015), I defended my PhD thesis (2022) at the Andalusian Center for Molecular Biology and Regenerative Medicine (CABIMER, CSIC) under the supervision of Dr. Felix Prado, funded by a predoctoral contract for PhD training in 2016 (FPI).

In my PhD thesis work I have characterized the physical interaction of **MCM helicase** with the different subunits of the **ribonucleotide reductase (RNR)** protein and with other factors involved in its regulation, as well as its role in the **response to DNA damage**. This work is currently under review. To perform this study, I have used biochemical techniques such as chromatin immunoprecipitation (ChIP), co-immunoprecipitation of proteins (CoIP), endogenous chromatin cleavage studies (ChEC), protein molecular biology techniques (western blot, chromatin fractionation) and nucleic acids (analysis of molecular intermediates by two-dimensional gels, chromatin studies by nuclease sensitivity assays), and cell biology techniques (flow cytometry, immunofluorescence, fluorescence microscopy). In addition, I performed genomic integrity studies such as recombination, mutagenesis and viability assays. The development of my doctoral thesis allowed me to learn a **wide range of techniques and to generate multiple tools** for application in the field of biological research.

In addition to the main work done in my thesis related to the study of interactions between MCM and RNR, I have **participated in two additional studies** related to the mechanisms of genetic stability, **published in 2 research articles in Q1**, one of them as **co-author** in the prestigious journal Cell Reports.

The set of these works has allowed me to obtain a competitive concurrence post-doctoral fellowship (**Juan de la Cierva 2022** grant, Ministerio de Ciencia e Innovación and Agencia Estatal de Investigación) with which I will be able to continue training as a researcher and teacher from January 2024.

**Social Contributions:**

I have actively participated in **2 international congresses**, exhibiting in both posters as first author. Additionally, I have attended **4 national conferences** (1 of them as a speaker) and numerous conferences that have allowed me to expand my knowledge and disseminate the results and importance of my work as a researcher. I have also participated in **scientific dissemination** conferences that brought science closer to society (Paseo por la Ciencia, Córdoba), and in the Jornadas de Introducción al Laboratorio (Facultad de Ciencias, Universidad de Córdoba) in which the attention of high school students interested in science is captured.

**Contributions to training:**

During my pre-doctoral stage I have collaborated in the **supervision** of 2 master's thesis and 1 undergraduate thesis. In addition, as a postdoc, I have **tutored 2 Master students** at the International University of Valencia (VIU - Master U. in Epidemiology), where I currently **tutor 5 TFMs**, guiding them in the writing of a quality Master thesis (in process). Additionally, I participate as **co-director of a TFM** at the University of Cordoba in the Master U. of Biotechnology.

## Part C. RELEVANT MERITS

### C.1. Publications *(sorted by date of publication)*

1. Cano-Linares, María I*; **Yáñez-Vilches, Aurora***; García-Rodríguez, Néstor; Barrientos-Moreno, Marta; González-Prieto, Román; San-Segundo, Pedro; Ulrich, Helle D; Prado, Félix. 2021. *Non-recombinogenic roles for Rad52 in translesion synthesis during DNA damage tolerance*. EMBO reports. 22-1, pp.e50410-e50410. (*** co-first authors**) Impact Factor 2021: 9,421. Cites: 26.

2. Cabello-Lobato, María J.; González-Garrido, Cristina; Cano-Linares, María I.; Wong, Ronald P.; **Yáñez-Vilches, Aurora**; Morillo-Huesca, Macarena; Roldán-Romero, Juan M.; Vicioso, Marta; González-Prieto, Román; Ulrich, Helle D.; Prado, Félix. 2021. *Physical interactions between MCM and Rad51 facilitate replication fork lesion bypass and ssDNA gap filling by non-recombinogenic functions*. Cell Reports. Elsevier. 36-4, pp.109440-109440. ISSN 22111247. Impact Factor 2021: 9,995. Cites: 113.

3. **Yáñez-Vilches, Aurora**; Romero, Antonia M.; Barrientos-Moreno, Marta; Cruz, Esther; González-Prieto, Román; Sharma, Sushma; Vertegaal, Alfred C. O.; Prado, Félix. *The MCM helicase prevents genetic instability through physical interactions with the RNR complex.* [**Under review**]

### C.2. Congress

1. **International Congress.** Yáñez-Vilches, Aurora; Cano-Linares, María I.; García-Rodríguez, Néstor; Barrientos-Moreno, Marta; González-Prieto, Román; San-Segundo, Pedro; Ulrich, Helle; Prado, Félix. Poster: *Non-recombinogenic role for Rad52, Rad51 and Rad57 in translesion synthesis*. Chromatin dynamics and nuclear organization in genome maintenance. EMBO virtual Workshop. 2020.

2. **International Congress.** Yáñez-Vilches, Aurora; González-Prieto, Román; Vertegaal, Alfred; Prado, Félix. Poster: *Physical interactions between the MCM helicase and the RNR network*. Trends in Genome Integrity and Chromosome Dynamics. Centro Andaluz de Biología Molecular y Medicina Regenerativa. 2020. España.

3. **National Retreat.** Yáñez-Vilches, Aurora; González-Prieto, Román; Vertegaal, Alfred; Prado, Félix. Oral Communication: *Novel roles for the MCM helicase*. III Predoc and Junior Postdoc Retreat CABIMER. Centro Andaluz de Biología Molecular y Medicina Regenerativa. 2019. España

### C.3. Research projects

1. **Proyect.** BFU 2015-63698-P, Dinámica de la Cromatina Asociada a la Replicación y Estabilidad Genómica. Ministerio de Ciencia e Innovación. Félix Prado Velasco. (Centro Andaluz de Biología Molecular y Medicina Regenerativa). 196.000 €. PhD fellowship (BES-2016-078388).

2. **Proyect.** PGC2018-099182-B-I00, Estudio del Papel de la Helicasa MCM en la Respuesta a Daños en el ADN. Ministerio de Ciencia e Innovación. Félix Prado Velasco. (Centro Andaluz de Biología Molecular y Medicina Regenerativa). 179.927 €. Research Team Member.

3. **Proyect.** Papel del reciclaje de histonas parentales en la integridad genómica. Junta de Andalucía. Félix Prado Velasco. (Centro Andaluz de Biología Molecular y Medicina Regenerativa). Research Team Member.

4. **Proyect.** Descodificando el diálogo molecular entre los patógenos fúngicos y los microorganismos de la rizosfera para mejorar el biocontrol. Ministerio de Ciencia e Innovación, fondos NextGenerationEU. Antonio di Pietro y Mª del Carmen Ruiz Roldán. (Universidad de córdoba, departamento de Gnética). 316.250 €. Research Team Member.

**C.4. Competitive Grants and Scholarships**

1. **Juan de la Cierva** - 2022 (JDC2022-048568-I). University of Córdoba, Department of Genetics. 2 years.

2. **FPI Predoctoral Fellowship** - 2016 (BES-2016-078388). CSIC-Cabimer (Seville). 4 years + 5 months.

**C.5. Other outstanding merits:**

1. **Co-direction of Master's Thesis** at the University of Córdoba (UCO): Master U. in Biotechnology:
    a. García de León Rivero, Beatriz: Analysis by high-throughput flow cytometry of the expression of virulence genes in the pathogenic fungus Fusarium oxysporum.

2. **Direction of Master Thesis** at the International University of Valencia (VIU): Master U. in Epidemiology (2 directed TFMs and participation in the evaluation tribunals) (2022 - at present). Currently, tutoring of 5 TFMs in progress.

3. **Supervision** during my pre-doctoral stage of 2 master's theses and 1 bachelor's thesis.