CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	Jéssica		
Family name	Gil-Serna		
Gender (*)	Female	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-2113-1830	

(*) Mandatory

A.1. Current position

Position	Senior Lecturer (Profesora Titular)		
Initial date	February 2024		
Institution	Complutense University of Madrid (UCM)		
Department/Center	Genetics, Physiology and Microbiology		
Country	Spain	Teleph. number	
Key words	Fungi, mycotoxins, molecular detection, biocontrol		

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

Period	Position/Institution/Country/Interruption cause
June 2019 – Jan 2024	Associate Professor (Contratada Doctora) / UCM
Dec 2018 – May 2019	Assistant Professor (Ayudante Doctora) / UCM
Jan 2016 – Dec 2018	Researcher (Project-associated contract) / UCM
Apr 2014 – Dec 2015	Researcher (Project Grant) / Politechnic University of Madrid (UPM)
Jan 2012 - Dec 2013	Researcher (Danone Grant) / UCM
May 2011 – Dec 2011	Researcher (Project Grant) / UPM
May 2007 – Apr 2011	PhD Student (FPU Grant) / UCM

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD Microbiology and Parasitology	UCM	2011
Degree in Biology	UCM	2006

(Include all the necessary rows)

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

H-index: 24; **Total citations**: 1,305; **JCR articles:** 44 (33 Q1); **Thesis supervised:** 2 (+3 in progress); 3 six-year research periods (sexenios).

My career began with my PhD at UCM when I was awarded a pre-doctoral fellowship financed by the Spanish Government (FPU). My doctoral thesis was framed in a Doctorate with Mention of Quality, obtained European mention with a *cum laude* distinction, and it was awarded the Extraordinary Doctorate Prize. During my PhD, I made a short stay at Dr Geisen group in Karlsruhe where I learned protocols that I successfully applied in the UCM lab.

Afterwards, the DANONE Institute granted me a fellowship for Young Researchers in the field of food and health, allowing me to continue working at UCM. After that, I started my

second postdoctoral period in Dr Palmero's group at the Agronomic School at Polytechnic University of Madrid where I optimized the use of the Laboratory of molecular identification of phytopathogenic microorganisms increasing my knowledge on fungi of agronomic interest. During this period, I expanded my skills in fungal phylogenies during a short stay in Dr. Stępień's lab in Poznan.

My publications have increased the knowledge about the biology and control of mycotoxigenic fungi and provided reference methodologies. My most relevant contributions can be grouped into (1) rapid molecular methods for testing fungal contamination in food matrices, (2) characterization of the biosynthetic cluster of ochratoxin A in *Aspergillus* and *Penicillium* species, (3) biocontrol methods to prevent mycotoxin contamination, and (4) application of NGS sequencing for the study of microbial communities and comparative genomics of mycotoxigenic species. Due to that intense research activity, I have published 38 indexed papers (almost 80% Q1, 60% as preferent author) and 10 non-indexed papers. I have collaborated in 8 chapters and a complete book. My research group is strongly committed to multidisciplinary and collaboration in the scientific field and I have performed joint research with outstanding national and international teams which derived in high impact papers.

My research has been funded by 17 projects obtained through competitive calls granted by national or regional agencies. I would like to highlight a two-year competitive project in collaboration with Cranfield University, in which I was the PI, funded by the Talent program of the Community of Madrid. There, we optimized a metataxonomic analysis for the study of toxigenic communities in cereal fields. This highly sensitive technique allowed us to detect *Fusarium langsethiae* in oats for the first time in Spain and opened novel studies that we are currently conducting in our lab.

My leadership skills are also demonstrated in the eight teaching innovation projects I led at the UCM. These funded projects allowed me to coordinate large teams, with more than 20 people, challenging my organizational and management skills. On the other hand, I have collaborated on 16 projects funded by companies in order to transfer the knowledge generated in my research.

I am convinced that science must be communicated to both specialist and general audiences. Therefore, I have presented 92 conference communications (37 in international meetings), including 4 invited talks. In addition, scientific outreach is one of my priorities and I have participated in almost 40 activities for all audiences including talks, workshops, conferences, etc. I have also authored 7 outreach articles and, since 2022, I am the editor-in-chief of the monthly online newsletter “NoticiaSEM” published by the Spanish Society for Microbiology.

I have 3 six-year activity periods (ANECA), and I serve as evaluator for top agencies including the State Research Agency (AEI), the Polish National Science Centre, the National Agency for Scientific and Technological Promotion of Argentina, and the Sectorial Commission for Scientific Research in Uruguay. I am Review Editor of *Frontiers in Microbiology*, and I regularly participate in the review of articles in indexed journals.

I would like to highlight my commitment to training young researchers. To date, I have supervised two doctoral theses, and three other students are currently working on their theses under my supervision. I try to be available and hold frequent meetings so that they can continue their work and publish their results, while also motivating them to take their learning beyond the laboratory by taking courses or participating in outreach activities. I have also supervised 15 students in their master's theses and 14 in their bachelor's theses.

Finally, I would like to briefly mention my teaching profile. I have taught more than 1,700 hours in official degrees and master's programs being recognized as an excellent teacher by the Docentia program over the last six academic years. I have published 11 articles related to education, presented 25 communications at conferences, and participated in 17 teaching innovation projects. Since 2023, I co-coordinate the official Master in “Microbiology and Parasitology: Research and Development” at the UCM.

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

C.1. Publications

1. Melguizo C, Patiño B, Ramos AJ, Vázquez C, Gil-Serna J, 2023. Reconsidering the co-occurrence of *Aspergillus flavus* in Spanish vineyards and aflatoxins in grapes. *Agriculture* 13, 1998. IF 3.600 (Q1, Agronomy). Citations: 3. doi.

2. Gil-Serna J, Patiño B, Verheecke-Vaessen C, Vázquez C, Medina A, 2022. Searching for the *Fusarium* spp. which are responsible for trichothecene contamination in oats. Using metataxonomy to compare the distribution of toxigenic species in fields from the Spain and the UK. *Toxins* 14, 592. IF 4.200 (Q1, Toxicology). Citations: 12. doi.

3. Gómez-Albarrán C, Melguizo C, Patiño B, Vázquez C, Gil-Serna J, 2021. Diversity of Mycobiota in Spanish Grape Berries and Selection of *Hanseniaspora uvarum* U1 to Prevent Mycotoxin Contamination. *Toxins* 13, 649. IF 5.075 (Q1, Toxicology). Citations: 20. doi.

4. García-Díaz M, Patiño B, Vázquez C, Gil-Serna J, 2019. A novel niosome-encapsulated essential oil formulation to prevent *Aspergillus flavus* growth and aflatoxin contamination of maize grains during storage. *Toxins* 11, 646. IF 3.531 (Q1, Food Science and Technology). Citations: 55. doi.

5. Gil-Serna J, García-Díaz M, González-Jaén MT, Vázquez C, Patiño B, 2019. Significance of *Aspergillus niger* aggregate species as contaminants of food products in Spain regarding their occurrence and their ability to produce mycotoxins. *Food Microbiology* 82, 240-248. IF 4.115 (Q1, Food Science and Technology). Citations: 44. doi.

6. Gil-Serna J, García-Díaz M, González-Jaén MT, Vázquez C, Patiño B, 2018. Description of an orthologous cluster of ochratoxin A biosynthetic genes in *Aspergillus* and *Penicillium* species. A comparative analysis. *International Journal of Food Microbiology* 268, 35-43. IF 4.006 (Q1, Food Science and Technology). Citations: 60. doi.

7. Gil-Serna J, Patiño B, Cortés L, González-Jaén MT, Vázquez C, 2015. *Aspergillus steynii* and *Aspergillus westerdijkiae* as potential risk of OTA contamination in food products in warm climates. *Food Microbiology* 46, 168-175. IF 3.682 (Q1, Food Science and Technology). Citations: 52. doi.

8. Gil-Serna J, Mateo EM, González-Jaén MT, Jiménez M, Vázquez C, Patiño B, 2013. Contamination of barley seeds with *Fusarium* species and their toxins in Spain: an integrated approach. *Food Additives & Contaminants: Part A* 30, 372-380. IF 2.341 (Q1, Food Science and Technology). Citations: 32. doi.

9. Gil-Serna J, Patiño B, Cortés L, González-Jaén MT, Vázquez C, 2011. Mechanisms involved in reduction of ochratoxin A produced by *Aspergillus westerdijkiae* using *Debaryomyces hansenii* CYC 1244. *International Journal of Food Microbiology* 151, 113-118. IF 3.327 (Q1, Food Science and Technology). Citations: 72. doi.

10. Gil-Serna J, Vázquez C, Sardiñas N, González-Jaén MT, Patiño B, 2011. Revision of ochratoxin a production capacity by the main species of *Aspergillus* section *Circumdati*. *Aspergillus steynii* revealed as the main risk of OTA contamination. *Food Control* 22, 343-345. IF 2.656 (Q1, Food Science and Technology). Citations: 63. doi.

C.2. Congress.

Sánchez López-Varela M, Patiño B, Gil-Serna J, 2025. *In vitro* potential of *Bacillus mycoides* 7-B7 as biocontrol agent against toxigenic fungi. Poster. 46th Mycotoxin Workshop. Martina Franca, Italy.

Gil-Serna J, 2024. Microorganismos como aliados para controlar micotoxinas en alimentos. Invited conference. XXII Workshop Métodos Rápidos y Automatización en Microbiología Alimentaria. Barcelona, Spain.

Gil-Serna J, 2024. Nuevos retos en el control de hongos productores de micotoxinas en España. Invited Conference. VII Congreso Internacional Calidad y Seguridad Alimentaria ACOFESAL. Córdoba, Spain.

Gómez-Albarrán C, Patiño B, Vázquez C, Gil-Serna J, 2022. Gene editing of *Aspergillus niger* CBS 513.88 using a CRISPR-Cas9 based system. Oral presentation. 13th Conference of The World Mycotoxin Forum. Parma, Italy. Award for best oral communication.

Gil-Serna J, Patiño B, Vázquez C, Medina A, 2021. Búsqueda de la fuente de contaminación de tricotecenos tipo A en avena. Una aproximación metagenómica. ePoster. XXVIII Congreso de la Sociedad Española de Microbiología. Online. Award for best ePoster.

Gil-Serna J, García-Díaz M, Vázquez C, González-Jaén MT, Patiño B, 2018. ¿Supone *Aspergillus tubingensis* un riesgo para la seguridad alimentaria en España? Oral presentation. III Workshop Micofood. Zaragoza, Spain. Award for best oral communication.

Gil-Serna J, Vázquez C, González-Jaén MT, Patiño B, 2014. The genes involved in ochratoxin A biosynthetic pathway are located in a cluster in *Aspergillus steynii*. Poster. 12th European Conference on Fungal Genetics. Sevilla, Spain. FEMS grant to attend this conference.

Gil-Serna J, Vázquez C, González-Jaén MT, Patiño B, 2013. Unravelling the gene cluster involved in ochratoxin A biosynthesis in *Aspergillus steynii*. Oral presentation. ISI-MycoRed International Conference. Bari, Italia.

Gil-Serna J, Patiño B, García-Rubio R, Sardiñas N, Sierra L, Vázquez C, 2012. Levaduras y micotoxinas: nuevas soluciones para viejos problemas. Invited conference. XI Congreso Nacional de Micología. Cádiz, España.

Gil-Serna J, Sardiñas N, Vázquez C, González-Jaén MT, Patiño B, 2010. Effects of ecophysiological factors and matrix-based media on growth and ochratoxin A production in *A. westerdijkiae* and *A. steynii*. Oral presentation. IMC9 Biology of Fungi. Edinburgh, UK.

C.3. Research projects.

- De la espora al mercado: la historia ómica de los hongos y sus micotoxinas a lo largo del a cadena de producción de los cereales (Ref. PID2022-136803OB-I00). Financed by Ministerio de Economía y Competitividad. €225.000. Sep 2023 - Aug 2026. PIs: Patiño B, Vázquez C. *Member of the research team.*

- Búsqueda del principal agente responsable de la contaminación por tricotecenos tipo A en España y comparación con el escenario europeo (Ref. PR65/19-22428). Financed by Comunidad de Madrid. €41.000. Jul 2020 - Jun 2022. PI: Gil Serna J. *Principal investigator.*

- Efecto de las prácticas agrícolas sobre la microbiota del suelo y su relación con las especies productoras de micotoxinas. Caracterización de posibles agentes de biocontrol en suelo (PR2006_19/01). Financed by Agrobank. €12.350. Feb 2020 – Feb 2021. PI: Patiño B. *Member of the research team.*

- Evaluación del riesgo de contaminación por micotoxinas en cultivos ecológicos y desarrollo de estrategias novedosas de control basadas en CRISPR-Cas9, probióticos y envases bioactivos (Ref. RTI2018-0975593-B-C21). Financed by Ministerio de Economía y Competitividad. €211.750. Jan 2019 - Dec 2022. PI: Patiño B. *Member of the research team.*

- Apostando por la calidad y seguridad de los cereales españoles: Estrategias sostenibles para detectar y reducir el riesgo de hongos y micotoxinas emergentes (Ref. 2014-53928-C2-2-R). Financed by Ministerio de Economía y Competitividad. €187.550. Jan 2015 - Dec 2018. PIs: González-Jaén MT, Patiño B. *Hired Researcher.*

- Cambio climático y nuevos hábitos alimentarios: nuevos escenarios con impacto potencial sobre el riesgo de micotoxinas en España (Ref. AGL2010-22182-C04-01). Financed by Ministerio de Economía y Competitividad. €84.700. Jan 2011 – Dec 2013. PI: González-Jaén MT. *Member of the work team.*

- Estudio de enfermedades postcosecha en el cultivo de la zanahoria (Daucus carota L.) y estrategias de control (Ref. P1520290133). Universidad Politécnica de Madrid. Financed by HORCAOL S. COOP. Jan – Dec 2015. PI: Daniel Palmero. *Hired Researcher.*

- Hongos y Levaduras de Interés en Agroalimentación (GR58/08). Financed by Universidad Complutense and Banco Santander. €14.400. Jan 2009 – Dec 2010. PI: Vazquez C. *Member of the research team.*

- Presencia simultánea de micotoxinas en alimentos. Evaluación del peligro potencial y real (AGL 2007-66416-C05-02/ALI). Financed by Ministerio de Educación y Ciencia. €100.000. Jan 2007 - Dec 2009. PI: González-Jaén MT. *Researcher. I conducted my PhD in the context of this project.*