

CURRICULUM VITAE (CVA)

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

Part A. PERSONAL INFORMATION

CV date 26/01/2022

First name	María de la Cruz		
Family name	MUÑOZ CENTENO		
Gender (*)	Woman	Birth date (dd/mm/yyyy)	27/11/1966
Social Security, Passport, ID number	28476249H		
e-mail	mcmunoz@us.es	URL Web https://www.ibis-sevilla.es/investigacion/oncohematologia-y-genetica/expresion-genica/chavez-de-diego-sebastian.aspx	
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-9973-8931		

(*) Mandatory

A.1. Current position

Position	Assistant Professor (Profesora Titular de Universidad)		
Initial date	07/05/2012		
Institution	University of Seville		
Department/Center	Genetic	Institute of Biomedicine of Seville (IBiS) and Genetic Department	
Country	Spain	Teleph. number	+34 955923127
Key words	Genetic expression, transcription, ARN polymerases, cell cycle regulation, cell growth, <i>Saccharomyces</i>		

A.2. Previous positions (research activity interruptions, art. 14.2.b)

Period	Position/Institution/Country/Interruption cause
2004-2012	“Profesora Contratada Doctora”/ University of Seville /Spain
2001-2004	Associated profesor”/ University of Seville /Spain
1999-2001	Associated profesor”/ University of Málaga /Spain
1995-1999	Postdoctoral fellowship/Centre de Etudes de Saclay/France
1990-1995	PhD student/University of Seville /Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Degree in Biology	Faculty of Biology, University of Seville	1989



PhD in Biology	Faculty of Biology, University of Seville	1994
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Part B. CV SUMMARY (max. 5000 characters, including spaces)

I obtained the Degree in Biology from the University of Seville in 1989 with an special award for my academic record. In 1994 I got a PhD in working in the Institute for Plant Biology and Photosynthesis (CSIC). During this period, I was funded by a Spanish Government fellowship to work with bacteria on different aspects of nitrogen metabolism and of nitrate transport into the cell. To improve my research training, from 1995 to 1999, I carried out a long postdoctoral stay at the Service de Biochimie et Génétique Moléculaire del Centre d'Etudes de Saclay CEA (France), under the supervision of Dr. Carl Mann, funded by an European Union Programme Fellowship and by the Spanish Government. During these four years, I investigated several aspects of cell cycle regulation and gene expression in the yeast *Saccharomyces cerevisiae*, combining genetic and molecular analysis. During this time; I found that a component of the nuclear envelope was involved in controlling the segregation of the genetic material during the mitotic cycle. Since this stay, I developed my scientific career working on different aspects of cell proliferation and gene expression in yeast. In 1999 I joined the laboratory of Prof Eduardo Rodríguez Bejarano at the Department of Cell Biology and Genetics of the University of Malaga, first as a postdoctoral researcher and then as an associate professor. In this period I got familiar with the fission yeast *Schizosaccharomyces pombe* and began leading my own research work, focusing on the study of some regulatory genes of the cell cycle in this yeast and I was able to dissect the defects of some new mutants that activated the cell size checkpoint. In 2001, I moved to the Department of Genetics of the University of Seville, where I joined the lab of Sebastián Chávez and became Assistant Professor in 2012. In Chavez's lab I have fully assumed leadership responsibilities in the direction of different research lines, reflected in my work as supervisor of numerous Final Master's Projects, as well as 5 Doctoral Theses and two more in progress, as well as in assuming the publishing responsibility of several papers to date. Some of the most relevant results have been the characterization of cell cycle arrest in response to abnormal accumulation of free histones or free ribosomal proteins. Regulation of cell proliferation has been a key element in the different research lines that I have addressed, as well as a relevant element in the cross-talk between essential mechanisms as transcription, ribosome biogenesis and heterogeneity in clonal populations. Currently, as a consequence of Sebastian Chávez role in the Andalusian Science Evaluation Agency, I am leading the lab and became the PI of different projects funded by Spanish (Plan Estatal I+D+I 2016 and 2020) and Andalusian (Feder-US 2020) Governments, respectively.

As general indicators of quality of my scientific production: **a)** Number of 6-year-period research awards from the Spanish Government ("sexenios de investigación"): **4**, last one finished in 2018; **b)** Doctoral Theses co-supervised: **4** (since January 2010); two more in progress; **c)** JCR publications: **23** (total) and **12** (since January 2010); **d)** Total citation number: **329**. Average citation/item: **11,75**; **e)** Total number of publications in Q1: **12** (*Web of Science*). **f)** H index: **10**. **g)** Citation number of the 4 more cited publications: **47, 47, 35 y 30** citations.

Finally, I have also assumed increasing institutional and academic responsibilities as member of the Academic Commission of the PhD program "Molecular Biology, Biomedicine and Clinical Research" of the University of Seville since 2014, member of the Internal Quality Guaranty Commission of the PhD program "Molecular Biology, Biomedicine and Clinical Research" of the University of Seville since 2018 and member of the Academic Commission of the Official Master's Degree in "Molecular Genetics and Biotechnology" of the University of Seville since 2015.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

More relevant publications in the last 10 years (from January 2010): **12**: **4** of them in **D1**, **5** of them in **Q1** and **3** in **Q2**; **4** as corresponding author (with an asterisk).



- 1) Payán-Bravo L, Fontalva S, Peñate X, Casesl, Guerrero-Martínez JA, Pareja-Sánchez Y, Odriozola-Gil Y, Lara E, Jimeno-González S, Suñé C, **Muñoz-Centeno MC**, Reyes JC and Chávez S. (11/13) Human prefoldin modulates co-transcriptional pre-mRNA splicing. *Nucleic Acids Res.* **2021**, Jun 21;49(11):6267-6280. doi: 10.1093/nar/gkab446. Citations: 1. *IF:* 11,5. **D1**
- 2) Delgado-Román I and **MC Muñoz-Centeno* (2/2 and AC)**. Coupling Between Cell Cycle Progression and the Nuclear RNA Polymerases System. *Front Mol Biosci.* **2021** Aug 2;8:691636. doi: 10.3389/fmolb.2021.691636. *IF:* 5,246. **Q2**
- 3) Maya Miles D., Peñate X, Sanmartín Olmo T., Jourquin F, **Muñoz-Centeno MC.**, Mendoza M., Marie-Noelle Simon, Chavez S., Geli V. (5/9). High levels of histones promote whole-genome-duplications and trigger a Swe1^{WEE1}-dependent phosphorylation of Cdc28^{CDK1}. *eLife* 7: e35337. Published online 2018 Mar 27. doi: 10.7554/eLife.35337, **2018**. Citations: 3. *IF:* 7,6. **D1**
- 4) de la Cruz, J., Gómez-Herrerros, F., Rodríguez-Galán, O., Begley, V., **Muñoz-Centeno, M.C.** and Chávez, S. (5/6) Feedback regulation of ribosome assembly. *Curr. Genet.* **64**, 9302-9318, **2018**. Citations: 30. *IF:* 3.464. **Q2**
- 5) Gómez-Herrerros, F., Margaritis, T., Rodríguez-Galán, O., Holstege, F., Chávez, S. (8/12) The ribosome assembly gene network is controlled by the feedback regulation of transcription elongation. *Nucleic Acids Res.* **45**, 9302-9318, **2017**. Citations: 7. *IF:* 11,15. **D1**
- 6) Mena, Daniel A. Medina, José García-Martínez, Victoria Begley, Abhyudai Singh, Sebastián Chávez, **Mari C. Muñoz-Centeno**, José E. Pérez-Ortín. (7/8) Asymmetric cell division requires specific mechanisms for adjusting global transcription. *Nucleic Acids Res.* Dec 1; 45(21): 12401–12412, **2017**. Citations: 14. *IF:* 11,15. **D1**
- 7) F. Gómez-Herrerros, O. Rodríguez-Galán, M. Morillo-Huesca, D. Maya, M. Arista-Romero, J. de la Cruz, S. Chávez, and **MC Muñoz-Centeno* (8/8 and AC)**. Balanced production of ribosome components is required for proper G1/S transition in *Saccharomyces cerevisiae*. *Journal of Biological Chemistry.* Vol. 288. Pag. 31689-31700. **2013**. Citations: 29. *IF:* 4,6 **Q1**
- 8) F. Gómez-Herrerros, L. de Miguel-Jiménez, G. Millán-Zambrano, X. Peñate, L. Delgado-Ramos, **MC. Muñoz-Centeno**, S. Chávez. (6/7) One step back before moving forward: Regulation of transcription elongation by arrest and backtracking. *FEBS Letters.* Vol. 586. Pag. 2820-25 **2012**. Citations: 18. *IF:* 3,6. **Q1**
- 9) F. Gómez-Herrerros, L. de Miguel-Jiménez, M. Morillo-Huesca, L. Delgado-Ramos, **MC. Muñoz-Centeno** and S Chávez. (5/6) TFIIS is required for the balanced expression of the genes encoding ribosomal components under transcriptional stress. *Nucleic Acids Research* Vol. 40. Nº 14. Pag. 6508-19. **2012**. Citations: 21. *IF:* 8,278. **Q1**
- 10) **MC. Muñoz-Centeno* (AC)**, C. Martín-Guevara, A. Flores, and E R.Bejarano.(1/10 and AC) Mpg2 interacts and cooperates with Mpg1 to maintain yeast glycosylation. *Fems Yeast Research* Vol. 12. Núm. 5. Pag. 511-520. **2012**. Citations: 2. *IF:* 2,462. **Q2**
- 11) A. Rodríguez Gil, J. García Martínez, V. Pelechano, **MC. Muñoz Centeno**, V. Géli, JE Pérez-Ortín and S. Chávez. (4//) The Distribution of Active RNA Polymerase II Along the Transcribed Region is Gene-Specific and Controlled by Elongation Factors. *Nucleic acids Research* Vol. 38. Núm. 14. Pag. 4651-4664. **2010**. Citations: 35. *IF:* 7,836. **Q1**.
- 12) M Morillo-Huesca, D Maya, **MC Muñoz-Centeno* (AC)**, and S Chávez **(3/10 and corresponding author)**. FACT prevents the accumulation of free histones evicted from transcribed chromatin and a subsequent cell cycle delay in G1. *PLoS Genetics* Vol. 6 (5). Pag. 1-18 e1000964. **2010**. Citations: 47. *IF:* 9,54. **Q1**

C.2. Congress

More than 40 presentations to National and International meetings and workshops. some of them as an oral presentation. Member of the following National Scientific Societies: SEBBM, SEG, Yeast Spanish Network (REDiL) and Spanish Network "RNA life". A very short selection of the more recent contributions, are listed: **1)** 13TH International Meeting on Yeast A and Apoptosis. Bélgica **2018**. Oral. Moderate replicative ageing contributes to proliferation heterogeneity. Delgado, Irene; Delgado-Ramos, Lidia; **Muñoz-Centeno, Maria de la Cruz**; Chavez-De Diego, Sebastian; **2)** Joint Congress SEBC-SEG-SEBD. Gijón, **2017**. Moderate replicative ageing contributes to proliferation heterogeneity. Delgado, Irene; Delgado-Ramos, Lidia; **Muñoz-Centeno, Maria de la Cruz**; Chavez S. **3)** Congreso de la SEG, online, **2021**. Oral. Fontalva, S. Payan-Bravo, L. Penate, X/**Munoz-Centeno, M. C.** Reyes, J. C. Chavez,



S. Human prefoldin modulates co-transcriptional pre-mRNA splicing. **4)** Congreso de la SEBBM, online, **2021**. Oral. I Delgado-Román, L Delgado-Ramos, S Chávez and **Mari-Cruz Muñoz-Centeno**. Replicative age impacts proliferation capacity since early stages.

C.3. Research projects

Projects since January 2010: **8, 4 of them as PI** and 4 as Research Team.

1) Title: "RNA homeostasis in eukaryotic cells: influence on proliferative heterogeneity and role of canonical prefoldin complex in RNA polymerase II-dependent elongation". PID2020-112853GB-C32. Funding entity: Spanish Government I+D+i Ministerio de Ciencia e Innovación. Principal investigator (PI): **María de la Cruz Muñoz Centeno**. Affiliation entity: University of Seville. From 01/09/2021 to 31/08/2024. Amount: 90.000 €. Role: **PI**.

2) Title: "Contribution of Prefoldine to Gene Expression in Human Cells and its Implications in Lung Cancer". US-1256285, Funding entity: Andalusian government. Call: 2018 "Programa Operativo I+D+i FEDER Andalucía 2014-2020 y Junta de Andalucía". Principal investigator (PI): **María de la Cruz Muñoz Centeno**. Affiliation entity: University of Seville. From 01-02-2020 to 31-01-2022. Amount: 80000 €. Role: **PI**.

3) Title: "Homeostasis and molecular turnover in the central dogma". BFU2016-77728-C3-1-P. Funding entity: Spanish Government I+D+i MINECO. Principal investigator (PI): **María de la Cruz Muñoz Centeno** from January 2020. Affiliation entity: University of Seville. From 01/01/2017 to 31/12/2020. Amount: 250000 €. Role: **PI**.

4) Title: "Cross-regulation between transcription and mRNA stability: influence of chromatin and RNA pol II backtracking". BFU2013-48643-C3-1-P. Funding entity: Spanish Government MINECO. Principal investigator and coordinator (PI): **Sebastián Chávez de Diego**. Affiliation entity: University of Seville. From 01/01/2014 to 31/12/2016. Amount: 230000 €. Role: **Research team**.

5) Title: Infection latency of HIV-1: molecular mechanisms and strategies for genetic therapy by targeting nanoparticles (P12-BIO-1938). Funding entity: Andalusian government. Call: **2013** Excellence Projects. PI: S. Chávez. Affiliation entity: University of Seville. From 01/01/2014 to 31/12/2017. Amount: 273.894 €. Role: **Research team**.

6) Title: "Global regulation of gene expression: molecular mechanisms in transcription elongation". BFU2010-21975-C03-03. Funding entity: : Spanish Government I+D+i MINECO. Principal investigator and coordinator (PI): **Sebastián Chávez de Diego**. Affiliation entity: University of Seville. From 01/01/2011 to 31/07/2014. Amount: 220000 €. Role: **Research team**.

7) Title: "Competitive applications of microencapsulation of cells and microorganisms". US-1256285, Funding entity: University of Seville. Call: 2010 Aid for Technology Transfer OTRI. Principal investigator (PI): **María de la Cruz Muñoz Centeno**. Affiliation entity: University of Seville. From 01-05-2010 to 30-09-2010. Amount: 3000 €. Role: **PI**.

8) Title: "Synthesis of Ribosomes, Cancer and Hereditary Diseases. Role of Ribosomal Proteins and Ribosome Assembly Factors as Possible Regulators of Cell Proliferation". (P08-CVI-03508). Funding entity: Andalusian government. Call: **2008** Excellence Projects. PI: J. de la Cruz Díaz. Affiliation entity: University of Seville. From **13/01/2009 to 31/12/2013**. Amount: 259.923 €. Role: **Research team**.

C.4. Contracts, technological or transfer merits

Contracts in the last 10 years with impact in technology fields: **1)** "Biological study for the design and development of nebulizers with application in the microencapsulation of microorganisms". Funding Company: Ingeniatics Tecnologías, SL. Entity: Univ. of Seville and Ingeniatics Tecnologías, SL. From 01/06/2014 to 31/07/2015. Amount: 29819 €. **Research team**. **2)** "Studies on microbiological applications of encapsulation using microfluidic technologies". Funding Company: Ingeniatics Tecnologías, SL. Entity: Univ. of Seville and Ingeniatics Tecnologías, SL. From 01/02/2014 to 31/01/2015. Amount: 41745 €. **Research team**. **3)** "Microbiological applications of the encapsulation of microorganisms using Flow-Focusing technology". Funding Company: Ingeniatics Tecnologías, SL. Entity: Univ. of Seville and Ingeniatics Tecnologías, SL. From 18/10/2010 to 31/12/2012. Amount: 22000 €. **Research team**. **4)** "High-performance purification of yeast tagged proteins by affinity partitioning in two phases". Funding Company: Biomedal, SL. Entity: University of Seville and Ingeniatics Tecnologías, SL. From 01/11/2008 to 31/01/2010. Amount: 36540 €. **Research team**.

