

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	Jesús		
Family name	de la Cruz Díaz		

A.1. Current position

Position	Full Professor (Catedrático de Universidad)
Initial date	10/10/2011
Institution	University of Seville
Department/Center	Dept. of Genetics / Institute of Biomedicine of Seville (IBiS)

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

Period	Position/Institution/Country/Interruption cause
2006-2011	Profesor Titular de Universidad/ Univ. Sevilla/ Spain
2004-2006	Profesor Contratado Doctor/ Univ. Sevilla/ Spain
2000-2004	Profesor Asociado a Tiempo Completo/ Univ. Sevilla/ Spain
1998-2000	Contratado de Reincorporación MEC/ Univ. Sevilla/ Spain
1998	Postdoctoral hired HFSP/ Univ. Sevilla/ Spain
1997	Postdoctoral visitor/ ICMB, Univ. Edinburgh/ UK
1997	Postdoctoral hired UNIGE/CMU, Univ. Geneva/ Switzerland
1995-1996	Postdoctoral fellow MEC/CMU, Univ. Geneva/ Switzerland
1992	Predoctoral visitor/ LG, Univ. Ghent/ Belgium
1990-1993	Predoctoral fellow MEC/ Univ. Sevilla/ Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Degree in Biology ("Licenciado")	Faculty of Biology, University of Seville	1989
PhD in Biology	Faculty of Biology, University of Seville	1994

Part B. CV SUMMARY

I obtained the Degree in Biology in 1989 and the PhD in Biology in 1994 from the University of Seville (USE). During my doctoral Thesis, I characterised a set of antifungal enzymes of biotechnological interest from the fungus *Trichoderma harzianum*. From 1995 to 1998, I completed a post-doctoral stay at the University Medical Centre of Geneva, Switzerland, under the supervision of Prof. P. Linder, and at the laboratory of Prof. D. Tollervey at the Institute of Molecular and Cellular Biology from the University of Edinburgh, United Kingdom (UK). During these years, I specialised in the molecular analysis of ribosome synthesis and protein translation in the yeast *Saccharomyces cerevisiae*. I returned to the laboratory of Prof. A. Vioque (IBVF/CSIC-USE) to work on the characterisation of ribonucleoprotein complexes from microalgae under a Reintegration Contract for Doctors and Technologists. In 2001, I obtained a position of Associate Professor ("Profesor Asociado") in the Dept. of Genetics at USE, from 2006 to 2011, I have been Professor ("Profesor Titular"), and since 2011, I am Full Professor ("Catedrático"). In 2014, I joined the Institute of Biomedicine of Seville (IBiS) as Principal Investigator (PI) of the group "*Synthesis and Function of Ribosomes*". I have 5 "sexenios" (most recent from 2014-2019). Currently, I am Head of the Dept. of Genetics at USE.

I have been PI in 10 consecutive National Plan projects and 1 Strategic grant aimed at the ecological and digital transition from the Spanish Government, and 3 research projects funded by the Andalusian Government. I actively participate in the Andalusian Platform of Biomodels and in the *Fortalece* Program of the Carlos III Institute. I have also been member of other national, regional and local grants and of National Excellence Networks. My current research focuses on the functional study of cytoplasmic ribosome assembly and translation processes in eukaryotes, using *S. cerevisiae* and human cell lines as models. These areas are of academic interest due to their biological relevance, biotechnological interest because of their role in heterologous synthesis of commercial products, and biomedical interest given the existence of human diseases known as ribosomopathies and the importance of these

processes in cancer. Another aim of our group is to understand the peculiarities of translation in liver cancer cells treated with protein kinase inhibitors used as chemotherapeutic drugs (e.g., Sorafenib). I am the author of 79 publications, most of them in first-quartile JCR® journals, with 450 impact points, over 4600 citations, and an H-index of 39. My international reputation is evidenced by three highly cited reviews published in *Mol. Cell Biol.* (>300 citations), *Trends Biochem. Sci.* (>440 citations), and *Annu. Rev. Biochem.* (>290 citations). We have presented ca. 150 communications at national and international meetings, and I have been invited to give talks at universities and research centres in Spain and abroad, including Italy, France, Austria, UK, and Switzerland, among others. Currently, I am member of 2 European COST Networks (ProteoCure and Translacore) and the CSIC collaborative network "Conexión Genoma". I also belong to ASEICA (Spanish Association for Cancer Research), SEG (Spanish Society for Genetics), SEBBM (Spanish Society for Biochemistry and Molecular Biology), and the RNA Society.

My research group has successfully collaborated with renowned national groups, such those led by Prof. A. Aguilera (CABIMER, Seville) and Prof. J. Ariño (UAB, Barcelona), as well as international groups, including those of Prof. D. Tollervey (WCB, Edinburgh, UK), Prof. J. Woolford (Carnegie Mellon University, USA), Prof. A. Henras (LBME, Toulouse, France), and Prof. A. Warren (CIMR, Cambridge, UK). I recently completed a 3-month research stay at Prof. Warren's laboratory during the summer of 2025.

I teach courses related to Genetics in the Biology Degree and Gene Expression in the Master program in Molecular Genetics and Biomedicine at USE. I have organised summer courses for graduates at the International University of Andalusia, as well as scientific congresses and chaired scientific sessions. Our group actively participates in outreach activities (e.g., European Researchers' Night) and contributed to science popularisation magazines. I participate in academic commissions, doctorate and master's programs at other universities.

My group places strong emphasis on student training. We enrol grade and master students in our research tasks. I have supervised 12 doctoral thesis and more than 30 master theses. Most of our PhD graduates currently hold science-related positions or lead their own teams. We have attracted professionals from the Spanish Association against Cancer, and the Marie S. Curie, Maria Zambrano and Juan de la Cierva actions. I have been member of employment committees for CSIC and various universities, and I regularly peer-review national and international grants and manuscripts for leading journals. For more information, visit: <https://www.ibis-sevilla.es/en/research/oncohematology-and-genetics/synthesis-and-function-of-ribosomes/>; <https://personal.us.es/jdlcd/ribosome/>.

Part C. RELEVANT MERITS

C.1. Publications

33 publications in the last 10 years; more than 800 citations in WOS; only 10 relevant ones are listed (9 recent ones and 1 historical one); *, *corresponding author*.

1) L. Contreras, S. Ricciardi, S. Biffo, J. Muntané*, **J. de la Cruz***. The many was to inhibit translation by Sorafenib in liver cancer cells. *Mol. Cell. Biochem.* (2025). DOI: 10.1007/s11010-025-05391-z.

2) J. Fernández-Fernández, S, Martín-Villanueva, J. Perez-Fernandez*, **J. de la Cruz***. The role of ribosomal proteins eL15 and eL36 in the early steps of yeast 60S ribosomal subunit assembly. *J. Mol. Biol.* 435: 168321 (2023). DOI: 10.1016/j.jmb.2023.168321.

3) M. Jaafar, J. Contreras, C. Dominique, [...], A.K. Henras*. (**J. de la Cruz: 16/17**). Association of snR190 snoRNA chaperone with early pre-60S particles is regulated by the RNA helicase Dbp7 in yeast. *Nat. Commun.* 12: 6153 (2021). DOI: 10.1038/s41467-0221-26207-w.

4) O. Rodríguez-Galán, J.J. García-Gómez, I.V. Rosado, [...], V. Pelechano*, D. Kressler*, **J. de la Cruz***. (11/11). A functional connection between translation elongation and protein folding at the ribosome exit tunnel in *Saccharomyces cerevisiae*. *Nucleic Acids Res.* 49: 206-220 (2021). DOI: 10.1093/nar/gkaa1200.

- 5) S. Martín-Villanueva, J. Fernández-Fernández, O. Rodríguez-Galán, J. Fernández-Boraita, E. Villalobo, **J. de la Cruz***. Role of the beak ribosomal protein eS12 in ribosome biogenesis and function in *Saccharomyces cerevisiae*. *RNA Biol.* 17: 1261-1276 (2020). DOI: 10.1080/15476286.2020.1767951.
- 6) M. Olombrada, C. Peña, O. Rodríguez-Galán, [...], **J. de la Cruz***, L. García-Ortega*, V.G. Panse*. (10/12). The ribotoxin alpha-sarcin can cleave the sarcin/ricin loop on late 60S pre-ribosomes. *Nucleic Acids Res.* 48: 6210-6222 (2020). DOI: 10.1093/nar/gkaa315.
- 7) F. Espinar-Marchena, O. Rodríguez-Galán, J. Fernández-Fernández, J. Linnemann, **J. de la Cruz***. Ribosomal protein L14 contributes to the early assembly of 60S ribosomal subunits in *Saccharomyces cerevisiae*. *Nucleic Acids Res.* 46: 4715-4732 (2018). DOI: 10.1093/nar/gky123.
- 8) A. Fernández-Pevida, S. Martín-Villanueva, G. Murat, T. Lacombe, D. Kressler*, **J. de la Cruz***. The eukaryote-specific N-terminal extension of ribosomal protein S31 contributes to the assembly and function of 40S ribosomal subunits. *Nucleic Acids Res.* 44: 7777-7791 (2016). DOI: 10.1093/nar/gkw641.
- 9) **J. de la Cruz**, K. Karbstein, J.L. Woolford Jr*. Functions of ribosomal proteins in assembly of eukaryotic ribosomes *in vivo*. *Annu. Rev. Biochem.* 84: 93-129 (2015). DOI: 10.1146/annurev-biochem-060614-033917.
- 10) **J. de la Cruz***, D. Kressler, D. Tollervey, P. Linder. Dob1p (Mtr4p) is a putative ATP-dependent RNA helicase required for the 3' end formation of 5.8S rRNA in *Saccharomyces cerevisiae*. *EMBO J.* 17: 1128-1140 (1998). DOI: 10.1093 DOI:/emboj/17.4.1128. 275 citations.

C.2. Congress

More than 55 presentations to meetings in the last 10 years; only 5 relevant ones are listed:

- 1) Protein Synthesis and Translation Control, EMBL. Virtual Conference. 7-10 September 2021. Oral presentation.
- 2) The 43rd FEBS Congress: Biochemistry Forever, Prague 2018. Prague (Czech Republic). 7-12 July 2018. Oral presentation.
- 3) XXXIX Congreso de la Sociedad Española de Bioquímica y Biología Molecular. Salamanca (Spain). 5-8 September 2016. Invited speaker and symposium co-chair.
- 4) FEBS-IUBMB Workshop on Biointeractomics. From bimolecular interactions to networks. Sevilla (Spain). 17-20 May 2016. Invited speaker for a plenary session.
- 5) The 9th International Conference on Ribosome Synthesis. Banff (Canada). 22-26 August 2012. Invited oral session.

C.3. Research projects

20 research projects in the last 10 years; only 11 are listed. I would like to highlight that I am part of the research line FORTAIBiS at IBiS, which has received €2.5 million from the *Fortalece* Program of the Ministry of Science, Innovation, and Universities (Spain).

- 1) Molecular contribution of RNA helicases and ribosomal proteins in eukaryotic ribosome assembly and its consequences for mRNA translation. Research Project (I+D+i). Ministerio de Ciencia e Innovación (Spain). PID2022-136564NB-I00. 2023-2026. 175,000 €. **PI: Jesús de la Cruz.**
- 2) New strategies based on protein synthesis for an optimized fungal-based circular economy. Proyectos de Transición Ecológica y Transición Digital 2021 (I+D+i). Ministerio de Ciencia e Innovación (Spain). TED2021-129601B-I00. 2022-2025. 166,750 €. **Co-IP: Jesús de la Cruz.**
- 3) Repairosome as a radio-biomarker and therapeutic target in radioimmunotherapy. Strategic Research Project (I+D+i). Scientific Foundation AECC (Spain). PRYES235086GOME. 2023-2026. 150,000 €. PI: Daniel Gómez-Cabello. **Role:** Research Team.

- 4) Translational control in Cancer European Network (Translacore). Cost Action. European Cooperation in Science and Technology. CA21154. 2022-2026. PI: Jean Jacques Diaz. **Role:** Research Team.
- 5) Insights into ribosome biogenesis and protein synthesis in eukaryotes. Research Project (I+D+i). Ministerio de Ciencia e Innovación (Spain). PID2019-103850-I00. 2020-2023. 160,000 €. **PI: Jesús de la Cruz.**
- 6) Homeostasis of ribosome production in eukaryotes. Research Project (I+D+i). Junta de Andalucía (Spain). P20_00581. 2021-2022. 100,000 €. **PI: Jesús de la Cruz.**
- 7) Action mechanism of the ribotoxin alpha-sarcin and molecular function of the orthologue proteins Pol5 and MYBBP1A in the synthesis and function of the eukaryotic ribosome. Research Project (I+D+i). Junta de Andalucía and University of Seville (Spain). US-1380394. 2022. 80,000 €. **PI: Jesús de la Cruz.**
- 8) Eukaryotic ribosomal subunit assembly: analysis of assembly factors and ribosomal proteins. Research Project (I+D+i). Ministerio de Economía y Competitividad (Spain). BFU2016-75352-P. 2016-2020. 180,000 €. **PI: Jesús de la Cruz.**
- 9) Analysis of the principles governing assembly of eukaryotic ribosomes. Research Project (I+D+i). Ministerio de Economía y Competitividad (Spain). BFU2013-42958-P. 2014-2016. 180,000 €. **PI: Jesús de la Cruz.**
- 10) Study of ribosome assembly in *Saccharomyces cerevisiae*. Research Project (I+D+i). Ministerio de Ciencia e Innovación (Spain). BFU2010-15690. 2011-2014. 180,000 €. **IP: Jesús de la Cruz.**
- 11) Ribosome synthesis, cancer and inherited diseases. Role of the ribosomal proteins and assembly factors as possible regulators of cellular proliferation. Proyecto (I+D+i). Junta de Andalucía (Spain). P08-CVI-03508. 2009-2014. 259,923.68 €. **IP: Jesús de la Cruz.**

C.4. Contracts, technological or transfer merits

Three merits are listed:

- 1) Organization of the IV meeting for the RNALife 2 Excellence Network from the Ministerio de Ciencia, Innovación y Universidades (Spain). Sevilla. 12-13 July 2021.
- 2) Founding active member of the project: Andalusian Platform of Biomodels and Resources on genomic edition (Biotecnologías Aplicadas a la Salud-Andalucía-Biotec Salud).
- 3) Patent: M. Rey, A. Soler, H. Ait-Lahsen, J. de la Cruz, E. Monte y A. Llobell. P9901746 y PCT/ES00/00292. Proteína con actividad antifúngica. Spain (31/07/1999). USE and *New BioTechnic*, S.A. Extended to USA. Exploited *New BioTechnic*, S.A.