

CV Date	16/06/2025
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## Part A. PERSONAL INFORMATION

First Name	Andrés Avelino		
Family Name	Bueno Núñez		
Sex	Not Specified	Date of Birth	
ID number Social Security, Passport			
URL Web	https://buenolab.usal.es		
Email Address	abn@usal.es		
Open Researcher and Contributor ID (ORCID)	0000-0002-0362-4391		

### A.1. Current position

Job Title	Catedrático/Professor		
Starting date	2002		
Institution	Universidad de Salamanca		
Department / Centre	Departamento de Microbiología y Genética / Universidad de Salamanca		
Country		Phone Number	
Keywords	Cell biology; Molecular biology; Molecular genetics		

### A.2. Previous positions (Research Career breaks included)

Period	Job Title / Name of Employer / Country
1993 - 2002	Profesor Titular de Microbiología / Universidad de Salamanca / Spain
1991 -	Contratado post-doctoral senior / The Scripps Research Institute CA (USA) / United States of America
1989 -	Becario post-doctoral Fulbright / The Scripps Research Institute CA (USA) / United States of America
1989 -	Contrato post-doctoral / The Scripps Research Institute CA (USA) / United States of America
1989 -	Ayudante LRU de Facultad / Universidad de Salamanca / Spain
1988 -	Ayudante de Escuela Universitaria / Universidad de Salamanca / Spain
1984 -	Becario pre-doctoral del PFPI / Universidad de Salamanca / Spain

### A.3. Education

Degree/Master/PhD	University / Country	Year
Microbiología	Universidad de Salamanca / Spain	1988
Licenciado en Biología	Universidad de Salamanca / Spain	1983

## Part B. CV SUMMARY

- **1984-1988:** PhD student. Department of Microbiology, University of Salamanca. IMB, joint research center CSIC/University of Salamanca.
- **1989-1992:** Post-doctoral Fulbright Fellow in Paul Russell's lab (Department of Molecular and Cellular Biology) at "The Scripps Research Institute" in La Jolla, California.
- **1993-2002:** Associated Professor of Microbiology, University of Salamanca. Member of IMB, joint research center University of Salamanca/CSIC.
- **2002-present:** Professor of Microbiology, Department of Microbiology and Genetics, University of Salamanca. Member of IBMCC, joint research center University of Salamanca/CSIC.

Avelino Bueno (AB) received his Ph.D. from the Department of Microbiology at the University of Salamanca (USAL, Spain) in 1988 thanks to the support of a PFPI fellowship from the Spanish Ministry of Science and Education. His doctoral dissertation summarized the molecular characterization of genes encoding exocellular carbohydrases from *Bacillus* species, a project supervised by Professors F. del Rey, J. Rodríguez-Villanueva and T. González-Villa. From 1989 to 1991, he carried out postdoctoral training in the cell cycle field in Dr. Paul Russell's group at the Scripps Research Foundation in La Jolla (California) thanks to the support of a Fulbright Postdoctoral Fellowship. He remained there as a senior postdoc until the end of 1992 as a R+D employee of The Scripps Research Institute (TSRI). During this period of time he characterized genes involved in cell cycle regulation encoding key proteins such as the DNA replication initiator Cdc6, the G2/M kinase Swe1, and those encoding G2 and G1 cyclins Cig1 and Cig2 in yeast models (Cell 1991, EMBO Journal 1992, Mol Cell Biol 1993 and J Biol Chem 1994). Avelino Bueno developed at TSRI a strong interest in DNA replication control mechanisms in the cell cycle field before starting his own research group at the beginning of 1993.

AB formed his own lab at the University of Salamanca with a clear focus on specific DNA replication control mechanisms involving the initiator protein Cdc6/Cdc18, the Rad53/Chk2 checkpoint kinase, as well as phosphatases Cdc14/Flp1, using as experimental models both budding and fission yeast (JBC 99, JCS 99, JBC 00, Nature 01, JCS 01 and 04, Genes&Dev 05, NARes 06, MBC 08, SciRep 23), later to expand to cell cycle phosphatases Cdc14A and Cdc14B in animal cell models in collaboration with Dr. María Sacristán (JBC 05, JBC 10, CC 11, MBC 12, SR 18). Initially (1993-2000) his group was established at the IMB Research Institute (USAL-CSIC) thanks to a tenured associated professorship position to later move to the Cancer Research Institute (IBMCC USAL-CSIC), in 2001, as a full professor of Microbiology. In the last fifteen years his lab has been particularly interested in the mechanism reverting PCNA ubiquitylation. In particular, his research team has been focused in understanding the biological meaning of PCNA deubiquitylation during S-phase to uncover the consequences of altering this evolutionarily conserved eukaryotic mechanism (BST 10, PLoS Genetics 12, PLoS ONE 13, SciRep 16, Cell Rep 19, Genes 20, BioRxiv 24, Nat Comm 24, NARes 25). Of note, throughout the years, Dr. Bueno has established productive scientific collaborations with National and International Research Groups (i.e.: Sergio Moreno, IBMCC; Pedro San Segundo, IBFG; Rodrigo Bermejo, CIB; Viesturs Simanis, ISREC-Lausanne; Karim Labib, Dundee University; Luis Aragón, MRC-London). Finally, it is also noteworthy to acknowledge that, from 2012 to 2016, Avelino Bueno has been Director/Coordinator of the master's degree in Biology and Clinic of Cancer, official title of the University of Salamanca, a key part of the Postgraduate School of the Cancer Research Institute in Salamanca (IBMCC USAL-CSIC).

## Part C. RELEVANT ACCOMPLISHMENTS

### C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (n° x / n° y): position / total authors. If applicable, indicate the number of citations

- 1 Scientific paper.** Javier Zamarreño; Sergio Rodríguez; Sofía Muñoz; (4/5) Avelino Bueno; María Sacristán. 2025. Ubiquitin protease Ubp1 cooperates with Ubp10 and Ubp12 to revert Lysine-164 PCNA ubiquitylation at replication forks. *Nucleic Acids Research*. Oxford Academic, doi: 10.1093/nar/gkaf076.. 53-4, pp.gkaf076. ISSN 1362-4962.
- 2 Scientific paper.** Javier Zamarreño; Sofía Muñoz; Esmeralda Alonso-Rodríguez; Macarena Alcalá; Sergio Rodríguez; Rodrigo Bermejo; María Sacristán; (8/8) Avelino Bueno (AC). 2024. Timely lagging strand maturation relies on Ubp10 deubiquitylase-mediated PCNA dissociation from replicating chromatin. *Nature Communications*. Nature Publishing Group, doi: 10.1038/s41467-024-52542-9. 15, pp.8183. ISSN 2041-1723.

- 3 **Scientific paper.** Juan Carlos Cañas; Dolores Jurado-Santiago; Mohamed Al Mamun; et al; Rodrigo Bermejo; (9/10) Avelino Bueno (AC). 2024. Strand asymmetry of DNA damage tolerance mechanisms. *BioRxiv*. Cold Spring Harbor Laboratory, CSHL. doi: 10.1101/2024.01.21.576515. ISSN 2692-8205.
- 4 **Scientific paper.** Canete JA; Andrés S; Díaz-Cuervo H; (4/5) Bueno A (AC); Sacristán MP. 2023. Fission yeast Cdc14-like phosphatase Flp1/Clp1 modulates the transcriptional response to oxidative stress. *Scientific Reports*. doi: 10.1038/s41598-023-41869-w.. 13, pp.14677.
- 5 **Scientific paper.** Canete JA; Andrés S; Díaz-Cuervo H; (4/5) Bueno A (AC); Sacristán MP. 2022. Fission yeast Cdc14-like phosphatase Flp1 modulates the response to oxidative stress. *ResearchSquare*. doi: 10.21203/rs.3.rs-2472241/v1.
- 6 **Scientific paper.** Sara Ovejero; (2/3) Avelino Bueno; María Sacristán. 2020. Working on genomic stability: From S-phase to Mitosis. *GENES*. MDPI doi:10.3390/genes11020225. 11, pp.225.
- 7 **Scientific paper.** Vanesa Álvarez; Camilla Frattini; María Sacristán; Alfonso Gallego-Sanchez; Rodrigo Bermejo; (6/6) Avelino Bueno (AC). 2019. PCNA Deubiquitylases Control DNA Damage Bypass at Replication Forks. *Cell Reports*. CellPress doi: 10.1016/j.celrep.2019.09.054. 29, pp.1323-1335.e5.
- 8 **Scientific paper.** Alvarez; Viñas; Gallego-Sanchez; Andres; Sacristan; (6/6) Bueno (AC). 2016. Orderly progression through S-phase requires dynamic ubiquitylation and deubiquitylation of PCNA. *Scientific Reports*. NPG (Nature Publishing Group) doi:10.1038/srep25513. 6, pp.25513.
- 9 **Scientific paper.** Alfonso Gallego; Sandra Ufano; Sonia Andrés; (4/4) Avelino Bueno. 2013. Analysis of the tolerance to DNA alkylating damage in *Saccharomyces cerevisiae* MEC1 and RAD53 checkpoint mutants. *PLOS ONE*. doi:10.1371/journal.pone.0081108. 11/8 (11): e81108., pp.1-10. ISSN 1932-6203.
- 10 **Scientific paper.** Alfonso Gallego; Sonia Andrés; Francisco Conde; Pedro San Segundo; (5/5) Bueno, A. A. (AC). 2012. Reversal of PCNA ubiquitylation by Ubp10 in *Saccharomyces cerevisiae*. *PLoS Genetics*. doi:10.1371/journal.pgen.1002826. 7/8(7): e1002826. ISSN 1553-7390.
- 11 **Scientific paper.** Helena Díaz Cuervo; (2/2) Bueno, A. A. 2008. Cds1 controls the release of Cdc14-like phosphatase Flp1 from the nucleolus to drive full activation of the checkpoint response to replication stress in fission yeast. *Molecular and Cellular Biology*. doi:10.1091/mbc.e07-08-0737. 19, pp.2488-2499. ISSN 0270-7306.
- 12 **Scientific paper.** Violeta Cordón Preciado; Sandra Ufano Ortiz; (3/3) Avelino Bueno. 2006. Limiting amounts of budding yeast Rad53 S-phase checkpoint activity results in increased resistance to DNA alkylation damage. *Nucleic Acids Research*. Oxford Press doi:10.1093/nar/gkl741. 34, pp.5852-5862. ISSN 0305-1048.
- 13 **Scientific paper.** Arturo Calzada; Benjamin Hodgson; Masato Kanemaki; (4/5) Avelino Bueno; Karim Labib. 2005. Molecular anatomy and regulation of a stable replisome at a paused eukaryotic DNA replication fork. *Genes & Development*. doi:10.1101/gad.337205. 19, pp.1905-1919. ISSN 0890-9369.
- 14 **Scientific paper.** Arturo Calzada; María Sacristán; Elisa Sánchez; (4/4) Avelino Bueno. 2001. Cdc6 cooperates with Sic1 and Hct1 to inactivate mitotic cyclin-dependent kinases. *Nature*. NPG doi:10.1038/35085610. 412, pp.355-358. ISSN 0028-0836.

## C.2. Conferences and meetings

- 1 Juan Carlos Martínez-Cañas; Dolores Jurado-Santiago; Mohammed al Mamun; María Sacristan; Katsuhiko Shirahige; Avelino Bueno; Rodrigo Bermejo. Strand asymmetry of DNA damage tolerance at stalled replication forks. 2023 CSH Meeting: Eukaryotic DNA Replication and Genome Maintenance. Cold Spring Harbour Laboratory. 2023. United States of America.
- 2 Vanesa Álvarez; María P Sacristán; Rodrigo Bermejo; Avelino Bueno. DNA damage tolerance is down-regulated at replication forks in an asymmetrical manner. 2017 CSH Meeting: Eukaryotic DNA Replication & Genome Maintenance. Cold Spring Harbour Laboratory. 2017. United States of America.

- 3 Vanesa Álvarez; Laura Viñas; Alfonso Gallego-Sánchez; Avelino Bueno. Ubiquitin proteases regulating PCNA ubiquitylation in fission yeast. The 2015 IMB Conference: DNA Repair & Genome Stability in a Chromatin Environment. The 2015 IMB Conference, Mainz. 2016. Germany.
- 4 Avelino Bueno; Sara Ovejero; Laura Viñas; Vanesa Álvarez. Ubiquitin proteases regulating PCNA ubiquitylation in yeast. Ramón Areces Foundation International Symposium: Cell Proliferation and Genome Integrity. Fundación Ramón Areces. 2014. Spain.
- 5 Bueno, A. A.. Reversal of PCNA ubiquitylation in the budding yeast *Saccharomyces cerevisiae*. EMBO Workshop Interface between the ubiquitin family and the DNA damage response. EMBO. 2010. Croatia. Participatory - poster.
- 6 Avelino Bueno; Pedro San Segundo; Francisco Conde; Alfonso Gallego Sánchez. Regulation of PCNA deubiquitylation in *Saccharomyces cerevisiae*. British Yeast Group Meeting 2010 (Genetics Society). British Genetic Society. 2010. United Kingdom.
- 7 Bueno, A. A.. PCNA deubiquitylation in *Saccharomyces cerevisiae*. ICC (Idibell Cancer Conferences) on the Cell Cycle 2009. Idibell Barcelona. 2009. Spain. Participatory - invited/keynote talk.
- 8 Bueno, A. A.. Control of PCNA deubiquitylation in yeast. 4th Intracellular Proteolysis Meeting.. Biochemical Society. 2009. Spain. Participatory - invited/keynote talk.

### C.3. Research projects and contracts

- 1 **Project.** PID2019-109616GB-I00, A comprehensive molecular analysis of PCNA deubiquitylation at replication forks. Ministerio de Economía y Competitividad. Avelino Bueno Núñez. (Universidad de Salamanca). 01/06/2020-31/05/2024. 181.500 €. Principal investigator.
- 2 **Project.** SA103P20, Mechanisms of genome protection during replication. (Universidad de Salamanca). 31/10/2020-30/10/2023. 264.000 €. Principal investigator.
- 3 **Project.** SA042P17, Autophagy in cancer and inflammatory diseases. (Universidad de Salamanca). 01/01/2017-31/12/2019. 120.000 €. Principal investigator.
- 4 **Project.** BFU2015-06709-P, Procesos reversibles en el control del ciclo celular: Ubiquitinación de PCNA y fosforilación de proteínas en respuesta a daño en el DNA. Ministerio de Economía y Competitividad. Avelino Bueno Núñez. (Universidad de Salamanca). 01/01/2016-31/12/2019. 142.290 €. Principal investigator.
- 5 **Project.** BFU2012-30787, Estudio de procesos reversibles en el control del ciclo celular: Fosforilación por CDK en mitosis y ubiquitinación de PCNA. MINISTERIO DE ECONOMIA Y COMPETITIVIDAD. (Universidad de Salamanca). 01/01/2013-31/12/2015. 196.560 €. Principal investigator.
- 6 **Project.** BFU2009-06938/BMC, Mecanismos de regulación de la respuesta a estrés replicativo en levaduras. Ministerio de Ciencia e Innovación. Bueno, A. A.(Universidad de Salamanca). 01/01/2010-31/12/2012. 242.000 €. Principal investigator.
- 7 **Project.** RD06/0020/0024, Red Temática de Investigación Cooperativa de Cáncer (RTICC). Instituto de Salud Carlos III (FIS-MICINN). Bueno, A. A.(Fundación Instituto de Biología Molecular y Celular del Cáncer). 01/07/2007-30/06/2011. 149.200 €. Principal investigator.