

CV Date

24/09/2025

Part A. PERSONAL INFORMATION

First Name	Yolanda		
Family Name	Prezado Alonso		
Sex	Female	Date of Birth	30/05/1977
ID number Social Security, Passport	76726397f		
URL Web			
Email Address	yolanda.prezado@usc.es		
Open Researcher and Contributor ID (ORCID)			

A.1. Current position

Job Title	Oportunius research professor		
Starting date	2024		
Institution	Universidad Santiago de Compostela		
Department / Centre	/ Centro para la investigación en Medicina Molecular y enfermedades crónicas/New Approaches in Radiotherapy team		
Country		Phone Number	
Keywords	Natural sciences and health sciences		

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

Period	Job Title / Name of Employer / Country
2019 - 2024	Research director / Centre National de la Recherche Scientifique-Institut Curie
2011 - 2019	Permanent scientist / Centre National de la Recherche Scientifique (Laboratoire Imagerie et Modelisation en Neurobiologie et Cancerologie)
2007 - 2011	Scientist / European Synchrotron Radiation Facility
2007 - 2007	Medical Physics Expert / Hospital de Pamplona
2004 - 2007	Resident (medical physics) / Hospital de Salamanca
1999 - 2003	PhD Student / Instituto estructura de la materia, CSIC

A.3. Education

Degree/Master/PhD	University / Country	Year
Habilitation a diriger des recherches	Universite Paris Sud	2013
Medical Physics Expert	Ministerio de Sanidad	2007
Particle and non-linear physics	Universidad de Santiago de Compostela	2003
Advance studies diploma (accelerator physics)	Universidad de Darmstadt	2001
Advanced studies diploma	Universidad de Santiago de Compostela	2001
MsC in physics	Universidad de Santiago de Compostela	1999

Part B. CV SUMMARY

Y. Prezado is an Oportunius Research Professor, an exclusive programme of the Xunta de Galicia for ERC grant winners. She has followed a multidisciplinary career (radiobiology, medical physics) and has a dual profile (clinical medical physicist and researcher). After working in several clinical departments, she was recruited as beamline scientist at the Biomedical Beamline of the European Synchrotron Radiation Facility (Grenoble, France, 2007-2011).

In 2011, she obtained a permanent position as a scientist at the French National Centre for Scientific Research (CNRS). In 2013, she founded her team, called 'New approaches in radiotherapy'. In 2019, following an international competition, she became group leader in translational radiobiology at the Institut Curie, and was also promoted to research director at the French National Centre for Scientific Research (CNRS). She returned to Spain in 2024, where she leads the 'New Approaches in Radiotherapy' group at CiMUS. Some highlights:

- Conceptor of a new RT technique: proton radiotherapy with mini-beams (PROTONMBRT, Prezado et al. Med. Phys. 2013). PROTONMBRT demonstrated markedly reduced neurotoxicity and superior tumour control compared to standard RT.
- She raised more than €5 million in the last 5 years. It received an ERC CONSOLIDATOR GRANT for the project 'Spatial dose fractionation in proton therapy: a novel therapeutic approach (PROTONMBRT)' (2019-25)
- Recipient of the M and Mme Peyré Prize from the French Academy of Sciences for outstanding contributions in the field of proton therapy (2021).
- She regularly participates in prestigious evaluation panels, such as the selection committee (6 internationally renowned members) of the new director of IN2P3 (one of the main institutes of the CNRS), the HCERES (evaluation of French laboratories) or as a member of the panel (Cancer Research) of the Flanders Research Foundation (FWO).
- She has SUPERVISED 8 PhD STUDENTS, and 12 POSTDOCTORAL RESEARCHERS, including a Marie Curie Skłodowska fellowship, from different countries such as France, Germany, South Africa, Greece, etc. Several of them have become PIs and run their own laboratories in different countries. Some of them were awarded prestigious prizes such as the L'Oreal women for science, several best PhD awards, etc.
- She has played leadership roles in important international committees and organisations. For example, she acted as Chair of the Scientific Committee of the European Federation of Medical Physics (2019-21), an organisation with over 8000 members
- She was appointed president of the European Congress of Medical Physics (09/2024), with more than 1800 attendees.
- She is regularly invited to give keynote or plenary lectures at major conferences in her field (more than 40 in the last 5 years). For example, she was plenary speaker at the International Radiation Research conference 2023, the most important conference in the world in the field of radiobiology.
- She was one of the founder and coordinator of the Spanish network for translational research in Radiation Oncology in association with the Spanish Society of Radiation Oncology. Included in this CVA only the main most recent 10 papers and main invitations to conferences.

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.** Lorea Iturri; Miriam Perez-Riquelme; Pierre-Emmanuel Bonte; et al; (14/14) Yolanda Prezado (AC). 2025. Evaluation of proton minibeam radiation therapy on anti-tumor immune responses in a rat model of glioblastoma. Journal of Cancer Immunology Research. in press, pp.Q1 Cancer research, immunology.
- 2 **Scientific paper.** Yolanda Prezado; Charlotte Lamirault; Thibaut Larcher; et al; Marjorie Juchaux. 2025. On the significance of peak dose in normal tissue toxicity in spatially fractionated radiotherapy: The case of proton minibeam radiation therapy. Radiotherapy and Oncology. Elsevier. 205, pp.110769, Q1 in hematology, oncology, radiology.

- 3 **Scientific paper.** Sarah Potiron; Lorea Iturri; Marjorie Juchaux; et al; (12/12) Yolanda Prezado (AC). 2024. The significance of dose heterogeneity on the anti-tumor response of minibeam radiation Therapy. Radiotherapy and Oncology. Elsevier. 201, pp.110577, Q1 Cancer Research, Oncology.
- 4 **Scientific paper.** Bertho A; Ortiz R; Maurin M; et al; (11/11) Prezado Y (AC). 2024. Thoracic Proton Minibeam Radiation Therapy: Tissue Preservation and Survival Advantage Over Conventional Proton Therapy. International journal of radiation oncology, biology, physics. 120, pp.579, Q1 Cancer Research, Oncology. ISSN 0360-3016. <https://doi.org/10.1016/j.ijrobp.2024.04.011>
- 5 **Scientific paper.** Iturri L; Bertho A; Lamirault C; et al; (14/14) Prezado Y (AC). 2023. Oxygen supplementation in anesthesia can block FLASH effect and anti-tumor immunity in conventional proton therapy. Communications medicine. 3, pp.183, Q1 interdisciplinary. <https://doi.org/10.1038/s43856-023-00411-9>
- 6 **Scientific paper.** Lorea Iturri; Annaig Bertho; Charlotte Lamirault; et al; (12/12) Yolanda Prezado (AC). 2022. Proton FLASH radiotherapy and immune infiltration: evaluation in an orthotopic glioma rat model. International Journal Radiation Oncology, Biology and Physics. pp.Q1 Cancer Research, Oncology.
- 7 **Scientific paper.** Bertho, A.; Iturri, L.; Brisebard, E.; et al; (12/12) Prezado, Y.2022. Evaluation of the role of the immune system response following minibeam radiation therapy. Int J Radiat Oncol Biol Phys. pp.Q1 Cancer Research, Oncology. ISSN 1879-355X.
- 8 **Scientific paper.** Sotiropoulos, M.; (2/2) Prezado, Y.2021. A scanning dynamic collimator for spot-scanning proton minibeam production. Sci Rep. 11-1, pp.18321-18321, Q1 multidisciplinary. ISSN 2045-2322.
- 9 **Scientific paper.** Lamirault, C.; Doyère, V.; Juchaux, M.; et al; (13/13) Prezado, Y. (AC). 2020. Short and long-term evaluation of the impact of proton minibeam radiation therapy on motor, emotional and cognitive functions. Sci Rep. 10-1, pp.13511-13511, Q1 multidisciplinary. ISSN 2045-2322.
- 10 **Scientific paper.** (1/12) Prezado, Y. (AC); Jouvion, G.; Guardiola, C.; et al; Dendale, R.2019. Tumor Control in RG2 Glioma-Bearing Rats: A Comparison Between Proton Minibeam Therapy and Standard Proton Therapy. Int J Radiat Oncol Biol Phys. 104-2, pp.266-271, Q1 Cancer Research, Oncology. ISSN 1879-355X.

C.3. Research projects and contracts

- 1 **Project.** Protonterapia innovadora para el tratamiento de cánceres de mal pronóstico. Agencia estatal de investigación. (University of Santiago de Compostela). 01/01/2026-31/12/2029. 395.000 €.
- 2 **Project.** Improving the therapeutic index of proton therapy for medulloblastoma treatment. (CIMUS). 01/12/2024-01/12/2027. 147.000 €.
- 3 **Project.** Spatial fractionation of the dose in proton therapy: a novel therapeutic approach (ERC consolidator grant). (Centre National de la recherche Scientifique). 01/10/2019-30/09/2025. 1.997.000 €.
- 4 **Project.** Effects of the temporal fractionation of FLASH radiotherapy (INCA recherche traslacionnelle). Yolanda Prezado. (Centre National de la recherche Scientifique). 01/09/2022-31/08/2025. 500.000 €.
- 5 **Project.** Radiotherapy-Activated Immunomodulating Niches. Euronanomed. Bernard Gallez. 01/03/2022-01/03/2025. 1.435.000 €.
- 6 **Project.** Combination of radiotherapy and immunotherapy (CAR Tcells) to treat brain tumors” (VARIAN research grant). yolanda prezado alonso. (Institut Curie). 15/09/2022-15/09/2024. 362.950 €.
- 7 **Project.** Implementation of an optimized GRID therapy at the 6XFFF TrueBeam system (VARIAN research grants). prezado Alonso 1. (Hospital Universitario de Santiago de Compostela). 15/10/2020-01/03/2023. 232.530 €.
- 8 **Project.** Minibeam radiation therapy for the treatment of ocular tumors. Institut National du Cancer (SIRIC). Yolanda Prezado. (Institut Curie). 01/06/2021-31/12/2022. 50.000 €.
- 9 **Project.** Combination of radiotherapy and immunotherapy (CAR T-cells) to treat brain tumors (Institut Curie). Yolanda Prezado. (Institut Curie). 01/01/2021-31/12/2022. 150.000 €.

- 10 Project.** Treatment planning system for proton minibeam radiation therapy. Ludovic De Mazi. (Institut Curie). 01/09/2020-01/09/2022. 196.341 €.
- 11 Project.** New approaches in radiotherapy (PRACE-advanced computing in Europe). Yolanda Prezado. (Centre National de la recherche scientifique). 01/09/2016-01/09/2021. 500.000 €.
- 12 Project.** Diamond detectors for proton therapy. Yolanda Prezado. (INSERM). 01/11/2018-01/05/2021. 230.000 €.
- 13 Project.** L'etude des mecanismes biologiques impliquees dans la radiotherapie par minifaisceaux de protons (EDF research grants). Yolanda Prezado Alonso. (Institut Curie). 05/11/2019-04/11/2020. 25.000 €.
- 14 Project.** PLATEFORM FOR RESEARCH OF ELECTRON ACCELERATORS. (LABEX P2IO). 01/09/2016-01/09/2019. 800.000 €.
- 15 Project.** Proton minibeam radiation therapy: a new therapeutic approach. INCA recherche traslacionnelle.. Yolanda Prezado. (Centre National de la Recherche Scientifique). 08/04/2016-31/08/2019. 278.551 €.
- 16 Project.** Proton minibeam radiation therapy: a new therapeutic approach (ANR-ERC tremplin). (Centre National de la Recherche Scientifique). 01/09/2017-31/08/2018. 150.000 €.
- 17 Project.** TUMOR CONTROL EFFECTIVENESS IN PROTON MINIBEAM RADIATION THERAPY. Institut CArot. Yolanda Prezado. (Institut Curie). 01/09/2016-01/09/2017. 50.000 €.
- 18 Project.** Proton minibeam radiation therapy: a new therapeutic approach. Yolanda Prezado. (Centre National de la Recherche Scientifique). 01/09/2015-01/09/2017. 242.340 €.
- 19 Project.** Expanding the use of MBRT by means of cost-effective equipment. Yolanda Prezado. (Centre National de la Recherche Scientifique). 15/10/2013-15/10/2015. 155.531 €.
- 20 Project.** Protontherapy and nanoparticles. Yolanda Prezado. (Universite Paris Sud). 01/01/2013-01/01/2014. 13.872 €.
- 21 Project.** Improving the therapeutic index in proton therapy by means of nanoparticles. Yolanda Prezado. (Centre National de la recherche scientifique). 01/01/2012-31/12/2013. 18.000 €.
- 22 Project.** Radiotherapie par mini-faisceaux de protons : une nouvelle approche pour reduire les toxicites. Institut National du Cancer. Yolanda Prezado. (Institut Curie). From 11/01/2023. 1.066.818 €.

C.4. Activities of technology / knowledge transfer and results exploitation

- 1** Yolanda Prezado; Batispte Janvier; Morgane Dos Santos. 16/349,938. Minibeam Radiotherapy Device United States of America. 01/02/2022. CNRS.
- 2** Yolanda Prezado. PCT/EP2020/082766. Scanning device for proton minibeam radiation therapy 05/08/2021. Institut curie.
- 3** Tim Schneider; Annalisa Patriarca; Yolanda Prezado. 20815731.3. Proton minibeam radiation therapy 19/11/2020. Institut Curie.