

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	Dolores		
Family name	Cortina Gil		
Gender (*)	Female	Birth date	19/07/1969
ID number	52676550		
e-mail	Lola.cortina@ific.uv.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-7672-9912	

A.1. Current position

Position	Investigador Científico		
Initial date	6 October 2023		
Institution	Consejo Superior de Investigaciones Científicas		
Department/Center	Instituto de Física Corpuscular CSIC-UV		
Country	Spain	Teleph. number	
Key words			

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

Period	Position/Institution/Country/Interruption cause
2021 - 2023	Catedrático de Universidad / Universidad de Santiago de Compostela / Spain
2008 - 2021	Prof. Titular de Universidad / Universidad de Santiago de Compostela / Spain
2003 - 2008	Investigador Ramón y Cajal / Universidad de Santiago de Compostela / Spain
2002 - 2003	Prof. Titular Interino / Universidad de Santiago de Compostela / Spain
2000 - 2002	Postdoctoral fellow / Universidad de Santiago de Compostela / Spain
1996 - 2000	Postdoctoral fellow / GSI Helmholtzzentrum für Schwerionenforschung / German

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD Nuclear Physics	Université de Caen / France	1996
Licenciado en Física	Universidad de Valencia / Spain	1992

Part B. CV SUMMARY

Scientific Researcher at CSIC (IFIC) and Professor on leave (USC), expert in Experimental Nuclear Physics, focusing on nuclear reactions, nuclear astrophysics, environmental radioactivity, and radiation detector instrumentation. Recognized with 5 quinquennia, 5 research sexennia, 1 transfer sexennium. Over 20 years of teaching Quantum, Nuclear, and Particle Physics at undergraduate and master's levels, supervising 6 completed PhD theses, 6 undergraduate theses, and 2 master's thesis.

Vicedirector of Innovation and Transfer of IFIC (2025-...), Member of the CNEAI (ANECA) (2024-) Secretary of the Department of Particle Physics (USC, 2009-2014) and Secretary of the Academic Committee for the PhD program in Nuclear and Particle Physics (2015-2023).

Principal Investigator in 16 research projects and 7 networks. Author of more than 290 publications (h-index: 51). Spokesperson for the R3B/FAIR experiment (2017-2025). Vicechair of the R3B Collaboration Board (2025-). Coordinator of the "Nuclear Physics from the Lab to People Health" area (IGFAE, 2018-2023). President of the Nuclear Physics Specialized Group (RSEF 2012-2023), co-opted member of the Nuclear Physics Board (EPS 2009-2015) and member of GANIL Scientific Council (2024-).

Founder of the Spin-off Innovaciones Tecnológicas Radón S.L., co-author of a utility model (ES1247974) and a patent (ES1641.1729, 2022).

Head of the Radiation Analysis Laboratory at USC (2020-2023) and responsible for contracts with companies and administrations.

Participant in educational and outreach programs such as “A Ponte do Ensino” and Nerdnite, promoter of the “Meitner Project,” and organizer of workshops on soft skills and mental health in academia.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications Last 5 years

1. P. Morfouace, D. Cortina-Gil et al . An asymmetric fission island driven by shell effects in light fragments. *Nature* 641 (2025) 339-344
2. Kostyleva, D. et al, with Cortina-Gil, D. Observation and spectroscopy of the proton-unbound nucleus ^{21}Al . *PHYSICAL REVIEW C*. 110 - 3, AMER PHYSICAL SOC, 03/09/2024
3. Zhang, Jichao et al with Cortina-Gil, Dolores. A new approach for deducing rms proton radii from charge-changing reactions of neutron-rich nuclei and the reaction-target dependence. *SCIENCE BULLETIN*. 69 - 11, pp. 1647 - 1652. ELSEVIER, 17/06/2024
4. Ponnath, L. et al with Cortina-Gil, D. Measurement of nuclear interaction cross sections towards neutron-skin thickness determination. *PHYSICS LETTERS B*. 855, ELSEVIER, 10/06/2024.
5. Wamers, F. et al, with Cortina-Gil, D. New insight into knockout reactions from the two-proton halo nucleus ^{17}Ne . *PHYSICAL REVIEW C*. 109 - 5, AMER PHYSICAL SOC, 03/05/2024.
6. Penas, J. et al, with Cortina-Gil, D. A multi-shot target wheel assembly for high-repetition-rate, laser-driven proton acceleration. *HIGH POWER LASER SCIENCE AND ENGINEERING*. 12, CAMBRIDGE UNIV PRESS, 12/03/2024.
7. Garcia-Jimenez, G. et al, with Cortina-Gil, D. Study of scintillation properties and performance of CsI(Tl) detectors over time. *NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT*. 1059, ELSEVIER, 14/12/2023.
8. Wamers, F et al, with Cortina-Gil, D. Diverse mechanisms in proton knockout reactions from the Borromean nucleus ^{17}Ne . *EUROPEAN PHYSICAL JOURNAL A*. 59 - 7, SPRINGER, 12/07/2023.
9. Ramos, D. et al, with Cortina-Gil, D. Experimental evidence of the effect of nuclear shells on fission dissipation and time. *PHYSICAL REVIEW C*. 107 - 2, AMER PHYSICAL SOC, 13/02/2023.
10. Heil, M. et al, with Cortina-Gil, D. A new Time-of-flight detector for the R^3B setup. *EUROPEAN PHYSICAL JOURNAL A*. 58 - 12, SPRINGER, 16/12/2022.
11. Kaur, S et al, with Cortina-Gil, D. Proton Distribution Radii of $^{16-24}\text{O}$: Signatures of New Shell Closures and Neutron Skin. *PHYSICAL REVIEW LETTERS*. 129 - 14, AMER PHYSICAL SOC, 30/09/2022.
12. Chatillon, A. et al, with Cortina-Gil, D. Influence of proton and neutron deformed shells on the asymmetric fission of thorium isotopes. *PHYSICAL REVIEW C*. 106 - 2, AMER PHYSICAL SOC, 31/08/2022.
13. Rodriguez-Sanchez, J. L. et al, with Cortina-Gil, D. Systematic study of $\Delta(1232)$ resonance excitations using single isobaric charge-exchange reactions induced by medium-mass projectiles of Sn. *PHYSICAL REVIEW C*. 106 - 1, AMER PHYSICAL SOC, 25/07/2022.
14. Duer, M. et al, with Cortina-Gil, D. Observation of a correlated free four-neutron system. *NATURE*. 606 - 7915, NATURE PORTFOLIO, 23/06/2022
15. Caamano M. et al, with Cortina-Gil D. Experimental investigation of ground-state properties of ^7H with transfer reactions. *PHYSICS LETTERS B*. 829, ELSEVIER, 07/04/2022.
16. Lehr, C. et al, with Cortina-Gil, D. Unveiling the two-proton halo character of ^{17}Ne : Exclusive measurement of quasi-free proton-knockout reactions. *PHYSICS LETTERS B*. 827, ELSEVIER, 22/02/2022.

17. Boillos, J. M.; Cortina-Gil, D et al, Isotopic cross sections of fragmentation residues produced by light projectiles on carbon near 400A MeV. PHYSICAL REVIEW C. 105 - 1, AMER PHYSICAL SOC, 14/01/2022.
18. Huang, S. et al, with Cortina-Gil, D. Experimental Study of 4n by Directly Detecting the Decay Neutrons. FEW-BODY SYSTEMS. 62 - 4, SPRINGER WIEN, 01/12/2021.
19. Martin, J-F et al, with Cortina-Gil, D. Fission-fragment yields and prompt-neutron multiplicity for Coulomb-induced fission of $^{234,235}\text{U}$ and $^{237,238}\text{Np}$. PHYSICAL REVIEW C. 104 - 4, AMER PHYSICAL SOC, 04/10/2021.
20. Bhattacharyya, A. with Cortina-Gil, D. Neutron capture cross sections of light neutron-rich nuclei relevant for r -process nucleosynthesis. PHYSICAL REVIEW C. 104 - 4, AMER PHYSICAL SOC, 01/10/2021.
21. Knyazev, A et al, with Cortina-Gil, D. Simulations of light collection in long tapered CsI(Tl) scintillators using real crystal surface data and comparisons to measurement. NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT. 1003, ELSEVIER, 13/04/2021.
22. Martin, L. et al. with Cortina-Gil, D. Validation of a laser driven plasma X-ray microfocus source for high resolution radiography imaging. PHYSICA MEDICA-EUROPEAN JOURNAL OF MEDICAL PHYSICS. 82, pp. 163 - 170. ELSEVIER SCI LTD, 25/02/2021.
23. Diaz-Cortes, J. et al, with Cortina-Gil, D. Systematic reduction of the proton-removal cross section in neutron-rich medium-mass nuclei. PHYSICS LETTERS B. 811, ELSEVIER, 10/12/2020.
24. Randhawa, J. S et al, with Cortina-Gil, D. Direct Measurement of $^{22}\text{Mg}(\alpha, p)^{25}\text{Al}$ and Implications for X-Ray Burst Model-Observation Comparisons. PHYSICAL REVIEW LETTERS. 125 - 20, AMER PHYSICAL SOC, 10/11/2020.
25. Syndikus, I. et al, with Cortina-Gil, D. Probing the $Z=6$ spin-orbit shell gap with $(p,2p)$ quasi-free scattering reactions. PHYSICS LETTERS B. 809, ELSEVIER, 10/10/2020.
26. Knyazev, A. et al, with Cortina-Gil, D. TI concentration and its variation in a CsI(Tl) crystal for the CALIFA detector. NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT. 975, ELSEVIER, 21/09/2020.
27. Rodriguez-Sanchez, J. L. et al, with Cortina-Gil, D. Study of Δ excitations in medium-mass nuclei with peripheral heavy ion charge-exchange reactions. PHYSICS LETTERS B. 807, ELSEVIER, 10/08/2020. ISSN 0370-2693, ISSN 1873-2445
28. Cabanelas, P. et al, with Cortina-Gil, D. Performance recovery of long CsI(Tl) scintillator crystals with APD-based readout. NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT. 965, ELSEVIER, 11/06/2020.
29. Chatillon, A. et al, with Cortina-Gil, D. Evidence for a New Compact Symmetric Fission Mode in Light Thorium Isotopes. PHYSICAL REVIEW LETTERS. 124 - 20, AMER PHYSICAL SOC, 22/05/2020.

C.2. Congress

Invited conferences Last 10 years

1. Physics Opportunities with Relativistic Rare Ion Beams at R3B. Nucleus Nucleus NN2024. 2024 Canada.
2. Physics opportunities with relativistic rare ion beams at R3B/FAIR. Nuclear Structure and Dynamics NSD2024. 2024. Spain.
3. TRT a pixel Si-Tracker for R3B/FAIR. CPAN Network on Instrumentation and Detectors. 2024. Spain.
4. Exploring nuclear structure in exotic nuclei: Quasi-free nucleon scattering in inverse kinematics. V Topical Workshop on Modern Aspects in Nuclear Structure: "The Many Facets of Nuclear Structure" Bormio 2020. 2020. Italy.
5. Systematic investigation of $(p,2p)$ and (p,pn) . 4th International Workshop on Quasi-Free Scattering with Radioactive-Ion Beams: QFS-RB 2019. 2019. Brazil.

6. Physics opportunities with reactions induced by relativistic rare beam: Unveiling neutron-star secrets. INPC 2019. 2019. United Kingdom.
7. Unveiling the interior of neutron stars with R 3 B/FAIR experiment. X CPAN Days. 2018. Spain.
8. Overview on experimental aspects and needs for theory. ENSAR2-NuSPRASEN Workshop. 2018. Poland.
9. Single and multiple nucleon knockout processes in medium-mass systems. III Quasi-free scattering Workshop. 2017. United Kingdom.
10. Quasi-free scattering from radioactive ion beams. EuNPC 2015. 2015. Holland.

C.3. Research projects

Only as PI Last 5 years

1. R3B EARLY PHASE EXPERIMENTS @FAIR (R3B Phase 0). (Universidad de Santiago de Compostela). 01/09/2022-31/08/2025. 300.000 €.
2. DOI PET SPECT development based on scintillation detectors in phoswich configuration (GAGGPET). (Universidad de Santiago de Compostela). 01/01/2022- 31/12/2024. 100.000 €.
3. EXHAMAT: Exhalación de Radón en Materiales de construcción. (Universidad de Santiago de Compostela). 01/01/2022-31/12/2024. 92.981 €.
4. Puesta en marcha y primeros experimentos en R3B - GENERACIÓN DEL CONOCIMIENTO 2018 (2018- PN169) Ref.PGC2018-099746-B-C21. Agencia Estatal de Investigación. (Universidad Santiago de Compostela). 01/01/2019-31/12/2021. 333.960 €.
5. Deseño, construción e posta a punto dun sensor baseado en tecnoloxía de Si para o seu emprego como monitor radón, en colaboración co CNM-CSIC, (2016-PN011) Ref.RTC-2016-5627-1. Agencia Estatal de Investigación. (Universidad Santiago de Compostela). 07/03/2016-31/12/2019. 127.751 €.

C.4. Contracts, technological or transfer merits,

Relevant Contracts Last 10 years

1. Desarrollo de nuevas tecnologías para la prevención de Radón (TECRA) Conecta-Peme (2016-CE009) Ref. ATI Sistemas S.L. 18/10/2016- 06/02/2019. 72.980,72 €. And (2016-CE023) Ref. Padreiro S.L.. 18/10/2016-06/02/2019. 37.441,15 €.
2. Servizo de medida de radón e outros parámetros radiactivos en mostras ambientais (2016-SG043) Ref Varios. 06/01/2016-26/01/2019. 35.945,38 €.
3. Estudio sobre radioprotección en instalaciones de láseres pulsados orientados a la generación de haces de protones (2015-CE209) Ref. Proton Laser S.L. 01/04/2015- 31/10/2015. 11.500 €

Technological or transfer merits

1. Pablo Cabanelas Eiras, Dolores Cortina ES1247974. Co-author Modelo de Utilidad : Dispositivo de obtención de imágenes PET y SPEC Spain. 17/04/2020. Universidade de Santiago de Compostela.
2. Dolores Cortina Gil; Juan José Llerena Cristobo; José Benlliure Anaya. Co-author of the knowledge transferred to the spin-off INTERA S. L. Spain. 18/10/2018.

Patents

1. Dispositivo y procedimiento de Monitorización de Radón en aire en tiempo real
Inventores: Investigadores CNM Barcelona/ USC (D. Cortina, J. Benlliure, J.J Llerena).
Derechos compartidos. No of aplicación: ES1641.1729, País de inscripción: España Date of register: 18 de julio de 2022