

CV Date	20/10/2025
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Part A. PERSONAL INFORMATION

First Name	María Dolores		
Family Name	Caballero García		
Sex	Female	Date of Birth	
ID number Social Security, Passport			
URL Web	https://orcid.org/0000-0001-7920-4564		
Email Address			
Open Researcher and Contributor ID (ORCID)	0000-0001-7920-4564		

A.1. Current position

Job Title	Investigadores Científicos de los OPIs		
Starting date	2023		
Institution	Consejo Superior de Investigaciones Científicas		
Department / Centre	Física Estelar / Instituto de Astrofísica de Andalucía		
Country		Phone Number	
Keywords	Physics & space science		

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

Period	Job Title / Name of Employer / Country
2021 - 2023	Ramon y Cajal researcher. / Consejo Superior de Investigaciones Científicas
2018 - 2020	Senior Scientific Researcher / Astronomical Institute of the Czech Academy of Sciences
2015 - 2017	Postdoctoral. / Astronomical Institute of the Czech Academy of Sciences
2014 - 2015	Postdoctoral / Czech Technical University in Prague, Faculty of Electrical Engineering
2011 - 2013	Postdoctoral / Osservatorio Astronomico di Brera
2010 - 2011	Postdoctoral / Department of physics at University of Crete
2008 - 2009	Postdoctoral / Institute of astronomy at University of Cambridge
2003 - 2007	Predocctoral / Laboratorio de Astrofísica Espacial y Física Fundamental

A.3. Education

Degree/Master/PhD	University / Country	Year
Investigadora Científica de Organismos Públicos de Investigación	Consejo Superior de Investigaciones Científicas	2023
Ramon y Cajal fellowship	Ministerio de Ciencia e Innovación. Investigación	2021
Attestation of V5B (Senior Scientific Researcher) Academic level (within V3A-V6)	Astronomical Institute of the Czech Academy of Sciences	2017
Attestation of V5A (Scientific Researcher) Academic level (within V3A-V6)	Astronomical Institute of the Czech Academy of Sciences	2015
Tesis doctoral (PhD)	Universitat de Barcelona	2008
Astronomía y meteorología	Universitat de Barcelona	2008
Diploma de estudios avanzados (Máster en Astrofísica en el Dpto. de Astronomía y Meteorología de la UB)	Universitat de Barcelona	2003

Degree/Master/PhD	University / Country	Year
Licenciado en Ciencias Físicas	Universitat de Barcelona	2001

Part B. CV SUMMARY

I am a Research Scientist (permanent) Staff at the IAA-CSIC since 2023 ("Investigador Científico de los OPIs"). My research work (since 2006) has mainly focused in the study of X-ray emission of compact objects (i.e. black holes and neutron stars) both from an observational and a theoretical point of view. Previously, I obtained my master thesis in 2003 working in the development of the "Input Catalogue for the Optical Monitoring Camera on-board the INTEGRAL satellite". I obtained the PhD in 2008 (max. qualification Cum-Laude) working at the European Space Astronomy Centre in Madrid (ESA) by studying the hard X-ray emission from BHs (PhD thesis entitled "Study of galactic black holes with the INTEGRAL mission" with J. M. Mas-Hesse as my PhD thesis supervisor). I have developed my career through 5 postdocs at U. of Cambridge (UK, 2008-2009), U. of Crete (Greece, 2010), O. Astronomico di Brera (Italy, 2011-2013) and at Prague (Czech Republic, 2014-2020) first at the Czech Technical University and secondly at the Astronomical Institute of the Czech Academy of Sciences. During this time I have become an specialist in X-ray astronomy of accreting BHs (stellar, medium size and supermassive), with a special emphasis in the (X-ray spectroscopy and timing) analysis of their X-ray data from 2 X-ray missions (INTEGRAL and XMM-Newton) plus other (Fermi, Suzaku, Swift, etc.). Now I am extending these studies to the case of Gamma-ray Bursts (GRBs) including studies in the optical (GTC) and multi-messenger (GWs). My scientific production includes > 70 (referred) publications with a total of > 9000 citations and H-index > 30.

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**. 2025. X-ray and gamma-ray timing of GRB 180720B, GRB 181222B, GRB 211211A, and GRB 220910A observed with Fermi and ASIM. MNRASL. 538-1, pp.100-108.
- 2 **Scientific paper**. R. Sánchez-Ramírez; et al.2024. Early photometric and spectroscopic observations of the extraordinarily bright INTEGRAL-detected GRB 221009A. A&A. 692, pp.3.
- 3 **Scientific paper**. Tian-Rui Sun; et al.2024. GRB 240529A: A Tale of Two Shocks. ApJ. 976, pp.20.
- 4 **Scientific paper**. A. J. Castro-Tirado; et al.2024. Revealing the characteristics of the dark GRB 150309A: Dust extinguished or high-z?. A&A. 683, pp.55.
- 5 **Scientific paper**. I. Agudo; et al.2023. Panning for gold, but finding helium: Discovery of the ultra-stripped supernova SN 2019wxt from gravitational-wave follow-up observations. A&A. 675, pp.201.
- 6 **Scientific paper**. Y. Hu; et al.2023. The burst observer and optical transient exploring system in the multi-messenger astronomy era. FrASS. 10, pp.952887.
- 7 **Scientific paper**. M. Caballero-Garcia; et al.2023. Multiwavelength study of the luminous GRB 210619B observed with Fermi and ASIM. MNRAS. 519-3, pp.3201-3226.
- 8 **Scientific paper**. A. K. Ror; et al.2023. Prompt Emission and Early Optical Afterglow of Very-high-energy Detected GRB 201015A and GRB 201216C: Onset of the External Forward Shock. ApJ. 942, pp.34.
- 9 **Scientific paper**. E. Troja et al.2022. A long gamma-ray burst from a merger of compact objects. NATURE. (arXiv:2209.03363).
- 10 **Scientific paper**. M. D. Caballero-Garcia; et al.2022. Prompt emission analysis of luminous GRB 210619B observed with Fermi and ASIM: a transition between thermal to non-thermal outflow?. MNRAS (in press). arXiv:2205.07790.

- 11 **Scientific paper.** R. Gupta; et al.2022. Probing into emission mechanisms of GRB 190530A using time-resolved spectra and polarization studies: synchrotron origin?. MNRAS. 511-1694.
- 12 **Scientific paper.** Hou-Jun Lu; et al.2022. GRB 211227A as a Peculiar Long Gamma-Ray Burst from a Compact Star Merger. ApJ. 931-23.
- 13 **Scientific paper.** A. Castro Tirado; et al.2021. Extreme oscillations in the main peak of a magnetar giant flare. Nature. 600-621.
- 14 **Scientific paper.** R. Gupta; et al.2021. GRB 140102A: insight into prompt spectral evolution and early optical afterglow emission. MNRAS. 505-4086.
- 15 **Scientific paper.** Y. Hu; et al.2021. 10.4 m GTC observations of the nearby VHE-detected GRB 190829A/SN 2019oyw. A&A.646-50.
- 16 **Scientific paper.** et al.; Shreya Anand. 2021. Optical follow-up of the neutron star-black hole mergers S200105ae and S200115j. Nature Astronomy. 5, pp.46-53.
- 17 **Scientific paper.** E. S. Kammoun; et al.2021. UV/Optical Disk Thermal Reverberation in Active Galactic Nuclei: An In-depth Study with an Analytic Prescription for Time-lag Spectra. ApJ.907-20.

C.2. Conferences and meetings

- 1 Spanish contribution to the ESA's THESEUS mission.. LISA Spain meeting at the Institut de Ciències de l'Espai (ICE).. 2024. Spain.
- 2 M. Caballero-Garcia. Astrophysical transients and time domain astronomy. SEA symposium. 2024. Spain.
- 3 M. Caballero-Garcia. The ESA's M7 THESEUS mission and its Spanish contribution. SEA symposium. 2024. Spain.
- 4 M. Caballero-Garcia. Galactic sources with THESEUS: the case of X-ray accreting black holes. THESEUS/M7 Consortium Meeting. 2024. France.
- 5 R. de Menezes; et al.. Multi-Messenger observations of the Fermi-LAT blazar 4FGL J0658.6+0636 consistent with an IceCube high-energy neutrino. 37th International Cosmic Ray Conference. 12-23 July 2021. Berlin, Germany - Online, published March 18, 2022. 2022.
- 6 L. Amati et al.(including MCG). Experimental Astronomy. The THESEUS space mission: science goals, requirements and mission concept. 2021.
- 7 S. Mereghetti; S. Balman; Caballero-Garcia M.; et al.. Experimental Astronomy. Time domain astronomy with the THESEUS satellite. 2021.
- 8 R. Gupta; et al.. Revealing nature of GRB 210205A, ZTF21aaeyldq (AT2021any), and follow-up observations with the 4K \times 4K CCD Imager+3.6m DOT. Accepted for Special Issue of Journal of Astrophysics and Astronomy, 2022, Astrophysical jets and observational facilities: National perspective, 05 -09 April 2021, ARIES Nainital. 2021.
- 9 SST (including MCG). THESEUS ASSESSMENT STUDY REPORT (YELLOW BOOK). THESEUS Transient High-Energy Sky and Early Universe Surveyor. European Space Agency. 2021.
- 10 S. Mereghetti; et al.. Time domain astrophysics of X and gamma-ray sources with Theseus. 43rd COSPAR Scientific Assembly. 2021.
- 11 X-ray transients with THESEUS. THESEUS conference 2020. Consejo Superior de Investigaciones Científicas. 2020. Spain.
- 12 X-ray reverberation in AGN: clues onto the extended corona. 12TH INTERNATIONAL WORKSHOP ON ASTRONOMICAL X-RAY OPTICS. 2019. Czech Republic.
- 13 X-ray reverberation in AGN: towards an extended corona. FROM THE DOLOMITES TO THE EVENT HORIZON: SLEDGING DOWN THE BLACK HOLE POTENTIAL WELL. 2019. Italy.
- 14 THESEUS: synergies with next generation of large observatories. EWASS19. European Week of Astronomy and Space Science. 2019. France.
- 15 M. D. Caballero-Garcia; et al.. X-ray Reverberation Observational Modelling in Active Galactic Nuclei. Accretion Processes in Cosmic Sources II. 2018. Russia.

16 Maria Caballero-Garcia; Michal Dovciak; Vladimir Karas; Sergei Fabrika; Alberto Castro-Tirado; Michal Bursa. On the search of the elusive Intermediate Mass Black Holes. Fifth Workshop on Robotic Autonomous Observatories (ASTROROB) (<http://astrorob.iaa.es>). 2017. Spain.

C.3. Research projects and contracts

- 1 Project.** SPANISH CONTRIBUTION TO THE ESA'S M7 THESEUS MISSION. Agencia estatal de investigación (PID2023-149817OB). (Instituto de Astrofísica de Andalucía). 01/09/2024-31/08/2027. 274.000 €.
- 2 Project.** RED ESPAÑOLA DE FISICA DE ONDAS GRAVITACIONALES. C.. Sopuerta. (Consejo Superior de Investigaciones Científicas). 01/03/2025-01/03/2027. 65.000 €.
- 3 Project.** Principal Investigator (PI) of the (INTRAMURAL-CSIC) project entitled "Misión THESEUS de ESA: desarrollo del proyecto". Maria Caballero Garcia. (Spanish National Research Council). 01/09/2021-30/09/2023. 100.000 €.
- 4 Project.** Principal Investigator (PI) of the project entitled "Reverberation from black hole accretion discs". Grant Agency of the Czech Republic. Maria D. Caballero-Garcia. (Astronomical Institute of the Czech Academy of Sciences). 01/01/2018-31/12/2020. 160.000 €.
- 5 Project.** La red global BOOTES para investigación astrofísica y detección de basura espacial y participación española en la misión SVOM. Ministerio de Economía y Competitividad. (Instituto de Astrofísica de Andalucía). 01/01/2016-31/12/2018. 122.000 €.
- 6 Project.** EU FP7-SPACE research project "Strong Gravity". (Several countries/institutions across Europe and coordinated in the Czech Republic.). 01/01/2013-31/12/2017. 2.600.000 €.
- 7 Project.** European social fund within the framework of realizing the project "Support of inter-sectoral mobility and quality enhancement of research teams at Czech Technical University in Prague". European social fund.. (Czech Technical University in Prague, Faculty of Electrical Engineering). 21/04/2014-30/09/2015.
- 8 Project.** INAF International Fellowship. Maria D. Caballero Garcia. (Osservatorio Astronomico di Brera). 01/09/2011-31/08/2013. 60.000 €.
- 9 Project.** EU FP7-Capacities funded grant. (University of Crete). 01/10/2010-28/02/2011.
- 10 Project.** STFC rolling grant. (University of Cambridge). 01/03/2008-30/09/2009.
- 11 Project.** Desarrollo, operación y explotación de los satelites espaciales: INTEGRAL-OMC, BEPICOL-MIX y PLATO. (Laboratorio de Astrofísica Espacial y Física Fundamental). 01/01/2008-01/03/2008.
- 12 Project.** International Gamma-Ray Astrophysical Laboratory: Fase operacional de la Camara optica OMC (ESP2005-07714-C03-03). (Laboratorio de Astrofísica Espacial y Física Fundamental). 01/01/2005-01/01/2008.
- 13 Project.** International Gamma-Ray Astrophysical Laboratory: Fase operacional de la Camara optica OMC (ESP2002-04124-C03-01). (Laboratorio de Astrofísica Espacial y Física Fundamental). 01/09/2003-01/01/2005.
- 14 Project.** GAIA : Desarrollo del proyecto. (Universitat de Barcelona). 01/09/2001-01/01/2004.
- 15 Project.** Convenio para la definición y realización del plan piloto para la evaluación y reducción de la contaminación lumínica en Catalunya. (Universitat de Barcelona). 01/09/2001-01/01/2002.
- 16 Contract.** Member of the Science Study Team for the preselected ESA-M5 THESEUS mission representing Spain. María.