Fecha CV	1/02/2026

Part A. PERSONAL INFORMATION

Nombre	Mar		
Apellidos	Bastero Gil		
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ORCID		0000-0001-9962-5905	

A.1. Situación profesional actual

Puesto	Catedrático Universidad		
Fecha inicioo	Mayo 2022		
Institución	Universidad de Granada		
Departamento	Física Teórica y del Cosmos		
Pais	España	Teléfono	+34 958249999
Palabras clave	Cosmología, inflación, espectro primordial, materia oscura		

A.2. Situación profesional anterior

Periodo	Puesto/Institución/Pais
Nov. 2010- Abril2022	Profesor Titular, Universidad de Granada, España
Nov. 2008- Oct. 2010	Profesor Contratado Doctor, Universidad de Granada, España
Nov. 2003- Oct. 2008	Investigador Ramón y Cajal, Universidad de Granada, España
Sept 2001- Sept. 2003	Contrato postdoctoral, Universidad de Sussex, Reino Unido
Oct. 2000 – Sept. 2001	Contrato postdoctoral, INFN-Pisa, Italia
Jun 1997 – Sept. 2000	Contrato postdoctoral, Universidad de Southampton, Reino Unido
Enero. 1995- Dic. 1996	Contrato postdoctoral, SISSA, Trieste, Italia

A.3. Formación académica

Grado/Master/TEsis	Universidad	Año
Licenciatura, Física	UAM, Madrid, Spaña	1989
Doctorado Física	UAM, Madrid, Spaña	1994

Part C. Aportaciones más relevantes

C.1. Publicaciones *(últimos 10 years)*

* Neutron decay anomaly, neutron stars, and dark matter, M. Bastero-Gil, T. Huertas-Roldan and D. Santos, Phys. Rev. D110 (2024) 083003 [arXiv:2403.08666 [astro-ph.CO]].
* Schwinger dark matter production, M. Bastero-Gil, P. B. Ferraz, L. Ubaldi and R. Vega-Morales, JCAP \textbf{10} (2024) 078 [arXiv:2312.15137 [hep-ph]].
* Super heavy dark matter from inflationary Schwinger production, M. Bastero-Gil, P. B. Ferraz, L. Ubaldi and R. Vega-Morales, Phys. Rev. D110 (2024) 095019 [arXiv:2311.09475 [hep-ph]].
* Directional detection of meV dark photons with Dandelion, C. Beaufort, M. Bastero-Gil, A. Catalano, D. S. Erfani-Harami, O. Guillaudin, J. Macias-Perez, D. Santos, S. Savorgnano and F. Vezzu, JCAP06 (2024) 058 [arXiv:2310.16505 [physics.ins-det]].
* Non-thermal moduli production during preheating in alpha-attractor inflation models, K. Alam, M. Bastero-Gil, K. Dutta and H. V. Ragavendra, JCAP11 (2023) 095 [arXiv:2303.17383 [astro-ph.CO]].

* New solar x-ray constraints on keV axionlike particles, C. Beaufort, M. Bastero-Gil, T. Luce and D. Santos, Phys. Rev. D 108 (2023) L081302 [arXiv:2303.06968 [hep-ph]].
* Parity violating gravitational waves at the end of inflation, M. Bastero-Gil and A. T. Manso, JCAP 08 (2023) 001 [arXiv:2209.15572 [gr-qc]].
*Solar axions in large extra dimensions, Mar Bastero-Gil , Cyprien Beaufort , Daniel Santos, JCAP 10 (2021) 048 [2107.13337 [hep-ph]]
* Gravity waves and primordial black holes in scalar warm little inflation, Mar Bastero-Gil, Marta Subías Díaz-Blanco, JCAP 12 (2021) 052 [2105.08045 [hep-ph]].
* Dark photon dark matter from a rolling inflaton, Mar Bastero-Gil, José Santiago, Lorenzo Ubaldi, Roberto Vega-Morales, Mar Bastero-Gil (Granada U.), Jose Santiago (Granada U.), Lorenzo Ubaldi (SISSA, Trieste and INFN, Trieste), Roberto Vega-Morales (Granada U.), JCAP 02 (2022) 015 [2103.12145 [hep-ph]]
* Supersymmetric \nu-inflaton Dark Matter, Mar Bastero-Gil, António Torres Manso, JCAP 04 (2021) 037 [2011.10362 [hep-ph]]
* Towards a reliable effective field theory of inflation, Mar Bastero-Gil, Arjun Berera, Rudnei O. Ramos, Joao G. Rosa, PLB813 (2021) 136055.
* Reexamination of the warm inflation curvature perturbations spectrum, Mar Bastero-Gil, Arjun Berera, Jaime R. Calderón, JCAP 1907 (2019) 019.
* Warm inflation within a supersymmetric distributed mass model, Mar Bastero-Gil, Arjun Berera, Rafael Hernández-Jiménez, João G. Rosa, Phys.Rev. D99 (2019) 103520.
* Vector dark matter production at the end of inflation, Mar Bastero-Gil, Jose Santiago, Lorenzo Ubaldi, Roberto Vega-Morales, JCAP 1904 (2019) 015.
* Dynamical and observational constraints on the Warm Little Inflaton scenario, Mar Bastero-Gil, Arjun Berera, Rafael Hernández-Jiménez, João G. Rosa, Phys.Rev. D98 (2018) 083502.
* Adiabatic out-of-equilibrium solutions to the Boltzmann equation in warm inflation,Mar Bastero-Gil, Arjun Berera, Rudnei O. Ramos, Joao G. Rosa,JHEP 1802 (2018) 063.
* Constraining Warm Inflation with CMB data, Mar Bastero-Gil, Sukannya Bhattacharya, Koushik Dutta, Mayukh Raj Gangopadhyay,JCAP 1802 (2018) 054.
* The role of fluctuation-dissipation dynamics in setting initial conditions for inflation,Mar Bastero-Gil, Arjun Berera, Robert Brandenberger, Ian G. Moss, Rudnei O. Ramos, Joao G. Rosa,JCAP 1801 (2018) 002.
* Warm Little Inflaton, Mar Bastero-Gil, Arjun Berera, Rudnei O. Ramos, Joao G. Rosa, Phys.Rev.Lett. 117 (2016) 151301.
* Inflaton dark matter from incomplete decay, Mar Bastero-Gil, Rafael Cerezo, Joao G. Rosa, Phys.Rev. D93 (2016) 103531.
* Theory of non-Gaussianity in warm inflation, Mar Bastero-Gil, Arjun Berera, Ian G. Moss, Rudnei O. Ramos, JCAP 1412 (2014) 008.
* Observational implications of mattergenesis during inflation, Mar Bastero-Gil, Arjun Berera, Rudnei O. Ramos, João G. Rosa, JCAP 1410 (2014) 053.
* Cosmological fluctuations of a random field and radiation fluid, Mar Bastero-Gil, Arjun Berera, Ian G. Moss, Rudnei O. Ramos, JCAP 1405 (2014) 004.
* The importance of being warm (during inflation), Sam Bartrum, Mar Bastero-Gil, Arjun Berera, Rafael Cerezo, Rudnei O. Ramos, Joao G. Rosa, Phys.Lett. B732 (2014) 116.

C.2. Congresos

Título: “Warm inflation and gravitational waves” **(charla invitada)**
”Hearing beyond the Standard Model with Cosmic sources of gravitational waves”
ICTS, Tata Institute of fundamental research, Bangalore (India), 30/12/2024-10/01/2025
Título: “Neutron decay anomaly, dark matter and neutron stars”, **(charla plenaria)**
Spanish and Portuguese Relativity Meeting, EREP 2024, Coimbra (Portugal) 22-26 July 2024.
Título: “Cosmic inflation: from CMB scales to reheating”, **(charla plenaria)**
“Theoretical Particle Cosmology in the Early and Late Universe”
MITP/EISA workshop, Corfu (Greece), 1-5 May 2023.
Título: “News from warm inflation”, **(charla plenaria)**
Spanish-Portuguese Relativity Meeting (EREP 2022),
Salamanca (Spain), 29/08-2/09 2022.

Título: What's new in warm inflation **(charla plenaria)**,
APPS-DACG Workshop 2021 on Astrophysics, Cosmology and Gravitation,
Asian pacific Center for Theoretical Physics (online), 04/10-08/10 2021.
Título: Vector Dark Matter production at the end of inflation,
23rd annual International Conference on Particle Physics and Cosmology (COSMO-19), Aachen (Germany), 02/09-06/09 2019.
Título: Little Warm Inflation **(charla invitada)**,
Workshop on the Standard Model and beyond, Corfu (Greece), 31/08-09/09 2018.
Título: Adiabatic out-of-equilibrium solutions to the Boltzmann equation,
Workshop "13th Iberian Cosmology Meeting", Lisbon, 26/03-28/03 2018.
Título: Inflation and the initial condition problem; the role of fluctuacion-dissipation dynamics,
Workshop "21st annual International Conference on Particle Physics and Cosmology (COSMO-17)", Paris, 28/08-1/09 2017.
Título: Initial conditions for inflation: the role of fluctuation-dissipation dynamics,
Workshop "12th Iberian Cosmology Meeting", Valencia (España), 10/04-12/04 2017.
Título: Little warm inflation **(charla invitada**),
workshop "III Saha Theory Workshop: Aspects of Early Universe Cosmology", Kolkata (India), 16/01/2017-20/01/2017.
Título: Little Warm Inflation **(charla invitada)**,
"Exploring the Energy Ladder of the Universe", MITP, Mainz, Germany, 29/05-11/06 2016.
Título: Cosmology: Theory **(charla plenaria**),
"XLIV International Meeting on Fundamental Physics", IFT, Madrid (Spain), 04/04-07/04 2016.
Título: Dissipation during inflation: warm inflation after Planck **(charla invitada)**,
"Modern Cosmology: Early Universe, CMB and LSS, Benasque (Spain) 03/08-17/08 2014

C.3. Research projects

* Título: "Effective theories of Cosmology and Gravity" (IPD2022-140831NB-I00)
IP:Mar Bastero Gil
Entidad financiadora: MICINN; Sept. 2023- Aug. 2026. 27.300 euros
* Título: "Effective theories of Cosmology and Gravity" (IPD2019-1059436B-I00)
IP:Mar Bastero Gil
Entidad financiadora: MICINN; Jun 2020- May 2023. 38.720 euros.
* Título:"Search of BSM physics at different energy scales: theoretical and experimental aspects" (A-FQM-211-UGR-18)
IP: José Santiago
Entidad financiadora: Junta de Andalucía, January 2020- December 2021, 15.400 euros
* Título: Particle and Astroparticle Physics at the University of Granada (SOMM/17/6104/UGR)
IP: Antonio Bueno Villar
Entidad financiadora: Junta de Andalucía, January 2018- December 2020, 880.000 euros
* Título: "Effective theories of Cosmology and Gravity" (FIS2016-78198-P);
IP:Mar Bastero Gil
Entidad financiadora: MINECO; January 2017- December 2019. 32.500 euros.
* Título: "Effective theories of Cosmology and Gravity" (PP2015-03).
IP: Mar Bastero Gil
Entidad financiadora: University of Granada; January 2016- December 2016. 2575 euros.
* Título: ``String insIPred effective theories of gravity: cosmological implications and phenomenological predictions" (FIS2010-17395).
IP: Mar Bastero Gil
Entidad financiadora: MICINN; January 2011- December 2013. 19360 euros.
* Título: ``String insIPred effective theories of gravity: cosmological implications and phenomenological predictions" (FIS2007-63364).
IP: Mar Bastero Gil
Entidad financiadora: MEC; October 2007- September 2010. 48400 euros.
* Título: String insIPred effective theories of gravity and cosmology, and phenomenological predictions" (FIS2004-06823).

IP: Mar Bastero Gil
Entidad financiadora: MEC; 13/12/2004 – 12/12/2007. 17020 euros.