

Part A. PERSONAL INFORMATION

CV date

01/06/2021

First and Family name	María Luisa Sarsa Sarsa		
Social Security, Passport, ID number	25440481C	Age	53
Researcher codes	WoS Researcher ID (*)	K-6108-2014	
	SCOPUS Author ID(*)	7004037435	
	Open Researcher and Contributor ID (ORCID) **	0000-0002-7552-1228	

(*) At least one of these is mandatory

(**) Mandatory

A.1. Current position

Name of University/Institution	Universidad de Zaragoza		
Department	Depto. Física Teórica / Facultad de Ciencias		
Address and Country	C/ Pedro Cerbuna 12, 50009 Zaragoza		
Phone number	976761245	E-mail	mlsarsa@unizar.es
Current position	Catedrática	From	13/06/2019
Key words	Dark Matter, Rare Events Searches, Particle detectors		

A.2. Education

Degree	University	Year
Licenciatura en CC. Físicas	Zaragoza	1991
Doctor en Ciencias (Física)	Zaragoza	1995

A.3. JCR articles, h Index, thesis supervised...

4 six-year periods of research activity acknowledged by the CNEAI, corresponding to: 1992-1997, 1998-2003, 2004-2009 and 2010-2015.

3 PhD Thesis supervised, two of them in the last ten years, and one more ongoing.

According to WoS database:

Number of publications: 145

h-index: 26

Total number of citations: 2564, from them 2165 excluding self-citation

Average of citations per publication: 17.7

h-index in google scholar: 32

Part B. CV SUMMARY (max. 3500 characters, including spaces)

My research is framed in the field of Astroparticle Physics and Rare Events Searches, requiring underground facilities and ultra-low radioactive background environment. Because of that, I have had a deep relationship with the Canfranc Underground Laboratory (LSC).

My main research line has been from the beginning of my career the direct search for dark matter using different targets and detection techniques: ionization semiconductor devices, scintillation detectors, bolometers and scintillating bolometers. I have worked in the setting-up and tuning of the detectors, in the development and application of low-background techniques and in data analysis.

As secondary research lines, I have worked in double beta decay searches of ^{76}Ge and ^{78}Kr and the detection of solar axions.

Since 2017, I am the spokesperson and principal investigator of the ANAIS experiment, taking data at the Canfranc Underground Laboratory and aiming at the testing of the DAMA/LIBRA positive result on annual modulation.

Some other data describing my professional trajectory are:



- I have attended more than 60 conferences and workshops, most of them at international level, in 40 of them I have personally made oral presentations and I have presented 4 additional communications in poster format. I have participated in relevant conference series as Theoretical and Phenomenological Aspects of Underground Physics (TAUP), Identification of Dark Matter (IDM), Low Temperature Detectors (LTD), Low Radioactivity Techniques (LRT), Neutrino, etc.
- I have academic duties, I am teaching since 1998 in the first course of the Chemistry studies at the University of Zaragoza the subject "Physics". Moreover, I have also collaborated in teaching different courses and supervising degree theses in the Physics and Physical Technologies Master and Physics Degree.
- I had responsibilities in academic management at the Science Faculty of the University of Zaragoza from 2006 to 2018.
- I like outreach and I participate habitually and actively in many outreach events as Pint of Science, European Researchers Night, Dark Matter Day, 11F, etc.

Part C. RELEVANT MERITS

C.1. Publications (in the last 10 years)

- 1) J. Amaré, S. Cebrián, D. Cintas, I. Coarasa, C. Cuesta, E. García, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, J. Puimedón, A. Salinas, M.L. Sarsa, P. Villar.
Annual modulation results from three years exposure of ANAIS-112.
Physical Review D 103 (2021) 102005.
- 2) J. Amaré, S. Cebrián, I. Coarasa, C. Cuesta, E. García, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, J. Puimedón, A. Salinas, M.L. Sarsa, J.A. Villar, P. Villar.
First results on dark matter annual modulation from ANAIS-112 experiment.
Physical Review Letters 123 (2019) 031301.
- 3) J. Amaré, S. Cebrián, I. Coarasa, C. Cuesta, E. García, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, J. Puimedón, A. Salinas, M.L. Sarsa, J.A. Villar, P. Villar.
Performance of ANAIS-112 experiment after the first year of data taking.
European Physical Journal C 79 (2019) 228.
- 4) Coarasa, J. Amaré, S. Cebrián, C. Cuesta, E. García, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, J. Puimedón, A. Salinas, M.L. Sarsa, J.A. Villar, P. Villar.
ANAIS-112 sensitivity in the search for dark matter annual modulation.
European Physical Journal C 79 (2019) 233.
- 5) J. Amaré, S. Cebrián, I. Coarasa, C. Cuesta, E. García, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, J. Puimedón, A. Salinas, M.L. Sarsa, J.A. Villar, P. Villar.
Analysis of backgrounds for the ANAIS-112 dark matter experiment.
European Physical Journal C 79 (2019) 412.
- 6) M.A. Oliván, J. Amaré, S. Cebrián, C. Cuesta, E. García, M. Martínez, Y. Ortigoza, A. Ortiz de Solórzano, C. Pobes, J. Puimedón, M.L. Sarsa, J.A. Villar, P. Villar.
Light yield determination in large sodium iodide detectors applied in the search for dark matter, Astroparticle Physics 93 (2017) 86-95
- 7) J. Amaré, S. Cebrián, C. Cuesta, E. García, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, J. Puimedón, M.L. Sarsa, J.A. Villar, P. Villar.
Assessment of backgrounds of the ANAIS experiment for dark matter direct detection.
European Physical Journal C 76 (2016) 429.
- 8) J. Amaré, S. Cebrián, C. Cuesta, E. García, C. Ginestra, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, C. Pobes, J. Puimedón, M.L. Sarsa, J.A. Villar, P. Villar.
Cosmogenic Radionuclide Production in NaI(Tl) crystals.
Journal of Cosmology and Astroparticle Physics 02 (2015) 046.
- 9) C. Cuesta, J. Amaré, S. Cebrián, E. García, C. Ginestra, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, C. Pobes, J. Puimedón, M.L. Sarsa, J.A. Villar, P. Villar.
Bulk NaI(Tl) scintillation low energy events selection with the ANAIS-0 module.
European Physical Journal C 74 (2014) 3150.
- 10) J. Amaré, S. Borjabad, S. Cebrián, C. Cuesta, D. Fortuño, E. García, C. Ginestra, H. Gómez, D.C. Herrera, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, C. Pobes, J. Puimedón, M.L. Sarsa, J.A. Villar, P. Villar.
Study of scintillation in natural and synthetic quartz and methacrylate.

- Optical Materials 36 (2014) 1408-1417.
- 11) C. Cuesta, M.A. Oliván, J. Amaré, S. Cebrián, E. García, C. Ginestra, M. Martínez, Y. Ortigoza, A. Ortiz de Solórzano, C. Pobes, J. Puimedón, M.L. Sarsa, J.A. Villar, P. Villar. Slow scintillation time constants in NaI(Tl) for different interacting particles. Optical Materials 36 (2013) 316-320.
- 12) D.G. Cerdeño, C. Cuesta, M. Fornasa, E. García, C. Ginestra, Ji-Haeng Huh, M. Martínez, Y. Ortigoza, M. Peiró, J. Puimedón, L. Robledo, M.L. Sarsa. Complementarity of dark matter direct detection: the role of bolometric targets. Journal of Cosmological and Astroparticle Physics 07 (2013) 028.
- 13) N. Coron, C. Cuesta, E. García, C. Ginestra, T.A. Girard, P. de Marcillac, M. Martínez, Y. Ortigoza, A. Ortiz de Solórzano, C. Pobes, J. Puimedón, T. Redon, M.L. Sarsa, L. Torres, P. Valko and J.A. Villar. Study of Parylene-coated NaI(Tl) at low temperatures for bolometric applications. Astroparticle Physics 47 (2013) 31-37.
- 14) S. Cebrián, C. Cuesta, J. Amaré, S. Borjabad, D. Fortuño, E. García, C. Ginestra, H. Gómez, M. Martínez, M.A. Oliván, Y. Ortigoza, A. Ortiz de Solórzano, C. Pobes, J. Puimedón, M.L. Sarsa, J.A. Villar. Background model for a NaI(Tl) detector devoted to dark matter searches. Astroparticle Physics 37 (2012) 60-69.
- 15) Y. Ortigoza, N. Coron, C. Cuesta, E. García, C. Ginestra, J. Gironnet, P. de Marcillac, M. Martínez, C. Pobes, J. Puimedón, T. Redon, M.L. Sarsa, L. Torres, J.A. Villar. Energy partition in sapphire and BGO scintillating bolometers. Astroparticle Physics 34 (2011) 603-607.

C.2. Research projects and grants (in the last 10 years)

- 1) "El experimento ANAIS-112 y nuevas líneas de investigación para la detección de sucesos poco probables en el Laboratorio Subterráneo de Canfranc". AEI Ref. PID2019-104374GB-I00. PI: María Luisa Sarsa and María Martínez
Allocated funds: 219.010€
From 2020, June 1 to 2023, May 31.

PI

- 2) "Comprobación de la señal de DAMA/LIBRA con ANAIS-112 en el Laboratorio Subterráneo de Canfranc". MICINN Ref. FPA2017-83133-P.
Allocated funds: 96800€.
From 2018, January 1 to 2020, December 31

PI

- 3) "Red CONSOLIDER MultiDark". MICINN. Ref. FPA2017-90566-REDC. PI Carlos Muñoz López (Universidad Autónoma de Madrid)
From 2018, July 1 to 2020, June 30

Researcher

- 4) "Detectores Avanzados para identificación de Materia Oscura en el Laboratorio Subterráneo de Canfranc". Ref. FPA2014-55986-P. PI: José Ángel Villar Rivacoba & Jorge Puimedón Santolaria.
Allocated funds: 187.550 €.
From 1 - 01- 2015 to 31 - 12 - 2017

Researcher

- 5) "Detección directa de materia oscura en el Laboratorio Subterráneo de Canfranc". Ministerio de Ciencia e Innovación. Ref. FPA 2011-23749. PI: José Ángel Villar Rivacoba.
Allocated funds: 476.400 €.
From 1 - 01 - 2012 to 31 - 12 - 2015

Researcher

- 6) "Método de Multimensajeros para la Detección de la Materia Oscura". PI: Carlos Muñoz López (UAM). MICINN. Programa CONSOLIDER-INGENIO 2010. Ref. CSD2009-00064.
Allocated funds: 3200000€.
From 1 -01- 2010 to 16 - 6 - 2017
PI at Universidad de Zaragoza.



7) "Búsqueda de materia oscura en el laboratorio subterráneo de Canfranc: experimentos ANAIS y ROSEBUD". MICINN. Ref. FPA 2008-03228/FPA. PI: José Ángel Villar Rivacoba
Allocated funds: 636.400 €.

From 2009, January 1 to 2011, December 31

Researcher

C.5. Awards

Research prize 2007-2008 for the Physics Division, awarded by Real Academia de Ciencias Exactas, Físicas, Químicas y Naturales de Zaragoza

C.6. Research Stages

1) Kavli Institut for Cosmological Physics / University of Chicago, Illinois, US.

3 months (from 1 June to 31 August 2012)

Collaboration in dark matter direct searches experiments.

Funded by the Education Ministry mobility program.

2) Technische Universität München, Garching bei München, Germany

2.5 years (from 1 January 1996 to 31 July 1998)

Postdoctoral position in the CRESST experiment and the search for new detector concepts based on Superconducting Thermometers

Funded by mobility program of the Spanish Education Ministry and European Commission Training and Mobility program

C.7. Other research related merits

1) Member associated to the Laboratorio Subterráneo de Canfranc since 2010.

2) Member of the Project General Board and Steering Committee of Multidark Consolider project from 2010 to 2017.

3) Convenor of dark matter sessions and chair in three of them at the International Workshop on Topics in Astroparticle and Underground Physics (TAUP 2013), Asilomar Conference Grounds, California, US, 2013, 8-13 Sept.

4) Scientific secretary of the International workshop Theoretical and Phenomenological Aspects of Underground Physics (TAUP 95), held in Toledo, from 17 to 21 September 1995.

5) Member of the local organizing committee in several conferences and workshops: TAUP95 workshop in Toledo, 1995; 6th Multidark Consolider Workshop and RENATA meeting, Canfranc 2012; RENATA thematic meeting on Dark Matter, Canfranc 2018; Probing the dark Universe: OAJ-LSC synergies, Zaragoza 2018; 15th Multidark Consolider Workshop, Zaragoza, 2019; TAUP 2021, Valencia 2021.

6) Member of the scientific committee of the conferences Dark Matter 2016, 2018, and 2021, held in Santander.

7) Member of the organizing committee of the International School on Astroparticle Physics 2010, ISAPP 2010, held in Zaragoza.

8) Referee for the journals: Physical Review Letters, Journal of Cosmological and Astroparticle Physics, Nature communications, Astroparticle Physics, Nuclear Instruments and Methods in Physics Research, Nuclear Science and Techniques and Radiation Measurements.

9) Referee of research projects for ANEP (2006 y 2009) and NSERC (Government of Canada), discovery grants, 2016.

10) Member of the evaluation panel for the position of Associate Director of the Center for Underground Physics, Daejeon, Korea, from the Institute for Basic Science (IBS), October - December 2014.