

Dr. Silvia Martínez Núñez — CV

Instituto de Física de Cantabria (CSIC-UC) – E39005 – Santander, Spain

☎ +34 653 569444 • ✉ smartinez@ifca.unican.es

🌐 ifca.unican.es/en-us/member?exp=100 • (updated 28/01/2025).

Employment

Institute of Physics of Cantabria (CSIC-UC)

- *Senior Researcher/Postdoc Researcher* January 2024–now/March 2016–December 2023

I am the manager of the *Athena* Community Office (ACO). My work implies very diverse tasks, to mention a few of them: managing documentation; editing the synergy white papers; supporting workshops and meetings; producing the *Athena* Science Newsletter; keeping the community informed about mission activities; assisting in the dissemination of the project and developing outreach material. Apart from my ACO duties, I'm active in science within the [X-WIND collaboration](#).

Alicante University

- *External Collaborator* 2015–March 2016

I was an external collaborator of the [X-ray astronomy group](#), coordinating my ISSI research project: [A Comprehensive View of Stellar Winds in Massive X-ray Binaries](#). This project concluded with the publication of the revision paper [Towards a Unified View of Inhomogeneous Stellar Winds in Isolated Supergiant Stars and Supergiant High Mass X-Ray Binaries](#).

Alicante University

- *Post-doc Fellow* 2010–2013

I was a Post-doc Fellow at the [X-ray astronomy group](#). My research line was the study of the high-mass X-ray binaries using *XMM-Newton* and near-IR data. I was coordinating my ISSI research project: [Unified View of the Stellar Winds in Massive Star Binaries](#).

Alicante University

- *Post-doc Fellow. Juan de la Cierva* 2007–2010

I was a Juan de la Cierva Post-doc Fellow. My research line was the study of the high-mass X-ray binaries using *INTEGRAL*, *XMM-Newton* and near-IR data.

Valencia University

- *Research Assistant* 2004–June 2007

I was a research assistant within the *INTEGRAL* mission project and member of the JEM-X SDAST (Science Data Analysis Team). I was in charge of developing and maintaining the JEM-X scientific analysis scripts and one of JEM-X's representatives at ISDC (*INTEGRAL* Science Data Centre) during the Performance and Verification Phase to test and validate the JEM-X analysis software.

Education

- 1999-2005: PhD in Physics with European Honours. Valencia University. Spain.
- 1993-1998: MSc in Physics. Valencia University. Spain.

PhD Thesis

- Title: [X-Gamma Ray Imaging of High Mass X-ray Binaries with INTEGRAL](#).
Supervisors: Dr. Peter Kretschmar & Dr. Pablo Reig.

Research Experience

List of Publications (ORCID:0000-0002-5134-4191).....

- **In refereed journals:** [Complete list at ADS.](#)
- **Proceedings:** [Complete list at ADS.](#)

Conferences with oral contribution (last 10 years).....

- **2024:** Fortaleciendo la igualdad y la diversidad en el Instituto de Física de Cantabria. Igualdad, diversidad e inclusión en la SEA. XVI Scientific Meeting of the SEA. Granada. Spain.
- **2022:** High Mass X-ray Binaries as seen by INTEGRAL in the last two decades. 2022. Two Decades of High Energy Astronomy with INTEGRAL - 20th Anniversary Conference. Darmstadt. Germany.
- **2022:** Towards gender balance in the Spanish Astronomical Community: current status and the work of the Woman and Astronomy Committee of the Spanish Astronomical Society. EAS 2022: SS34a: Diversity and Inclusion in European Astronomy. Valencia, Spain.
- **2020:** Flow inhomogeneities in supergiant wind-fed systems: observational diagnostics and results. EAS 2020: SS 07: Clumpy environment around accreting compact objects: from stellar-mass accretors to AGNs.
- **2019:** Diving into the whirlpool – understanding accretion in High-Mass X-ray Binaries with Vela X-1. Spanish X-ray Astronomy 2019: present, future, synergies. Alicante. Spain.
- **2019:** *Athena* Community Office. Spanish X-ray Astronomy 2019: present, future, synergies. Alicante. Spain.
- **2018:** Our current picture of the physics of wind-fed massive X-ray binary systems. IAUS 346 High Mass X-ray Binaries: illuminating the passage from massive binaries to merging compact objects. Wien. Austria.
- **2018:** *Athena* Community Office. Exploring the Hot and Energetic Universe: The second scientific conference dedicated to the *Athena* X-ray observatory. Palermo. Italy.
- **2017:** A revision of the current knowledge on wind-fed massive X-ray binaries. EWASS 2017. Prague. Czech Republic.

Participation in R+D projects (last 10 years).....

- **2022-2025:** PID2021_122955OB-C41: Procesador de eventos de X-IFU y preparación científica para Athena. P.I.: Dr. María Teresa Ceballos & Dr. Amalia Corral. Funding Agency: Spanish R+D.
- **2019-2021:** *Athena*, fase A2/B/C. Participación científica en la misión y desarrollo del instrumento X-IFU (RTI2018-096686-B-C21). P.I.: Dr. María Teresa Ceballos & Dr. Silvia Mateos. Funding Agency: Spanish R+D.
- **2017-2019:** *Athena*, Phase A/B1. Scientific participation and development of the X-IFU instrument (ESP2016-76683). P.I.: Dr. María Teresa Ceballos. Funding Agency: Spanish R+D.

Organisation of workshops and conferences (last 10 years).....

- SOC chair: [Spanish participation in X-ray observatories: past, present and future symposium.](#) XVI Scientific Meeting of the SEA (Granada), July 2024.
- LOC chair: [Exploring the Hot and Energetic Universe: The third scientific conference dedicated to the Athena X-ray observatory](#), Nov. 2022.
- SOC member: [Towards the next generation of X-ray surveys with Athena](#), June-July 2022.
- Organiser: [2021 EAS: Black holes under the magnifying glass of XRISM and Athena](#), July 2021.

- Organisational support: [Rubin-Athena synergy workshop](#), April 2021.
- Organiser: [Athena SIXTE Webinar](#), May 2020.
- Organisational support: [The Athena Multi-messenger and High Energy Astrophysics Synergy \(AMHEAS\) Workshop II](#), May 2020.
- SOC member: [EWASS 2019: 3-D spectroscopy from sub-mm to X-ray: the promise of Athena in the 2030s multiwavelength context](#), June 2019.
- Organisational support: [SKA-Athena Synergy Workshop](#), April 2017.
- Organisational support: [ESO-Athena Synergy Workshop](#), Sept. 2016.

Member of different science working groups.....

- 2015 – present: *Athena* Multiwavelength Synergies topical panel.
- 2020 – present: eXTP working group member.
- 2016 – present: X-WIND collaboration.

Software development experience.....

- 2002-2007: Member of JEM-X SDAST (Science Data Analysis Team). Main responsibilities: Development and maintenance of ISDC JEM-X Scripts; Development of IBAS (INTEGRAL Burst Alert System) JEM-X software; JEM-X responsible at ISDC (INTEGRAL Science Data Centre) during Performance and Verification Phase to test and validate the JEM-X analysis software.
- 2020-now

Stays at International Research Centres.....

- 2010: Istituto Nazionale di Astrofisica. Rome. 1 month.
- 2002 till 2007: INTEGRAL Science Data Centre. Versoix. Short stays (one to four weeks).
- 2002: Centre d'Etude Spatiale des Rayonnements. Toulouse. 3 weeks.
- 2001-2002: Danish Space Research Institute. Copenhagen. 1 year.

Training and Workshops.....

- 2019: Athena SIXTE Workshop. IFCA. Santander (Spain).
- 2008: Multi-wavelength Astronomy and the Virtual Observatory Workshop. ESAC. Madrid (Spain).
- 2006: How to design, observe and analyse a GTC/OSIRIS observation. Granada (Spain).
- 2006: 6th ESAC SAS Workshop. Madrid (Spain).
- 2002: Mission Concept and Payload Design in X-ray and X-ray Astronomy. International Advanced School Leonardo da Vinci. Bolonia (Italy).
- 2000: Historical Development of modern Cosmology. Universidad Internacional Menendez y Pelayo. Valencia (Spain)
- 2000: Observing with INTEGRAL. INTEGRAL Spring School. Les Diablerets (Switzerland).
- 2000: High Energy Astrophysics. 30th SAAS-FEE Advanced Course. Les Diablerets (Switzerland).

Teaching Experience

- 2016-now: mentor of undergraduate students in external practices. Cantabria University.
- 2019-2020: co-advisor of a final degree project entitled "Predicting the future Pulsar Wind Nebulae population in the TeV sky". Cantabria University.
- 2009-2012: I taught Fundamental Physics to undergraduate students at the Polytechnic University College of Alicante University. The taught courses were addressed to students of the first grade of a variety of Engineering degrees from Civil Engineering to Computing Engineering.

Outreach Experience

- 2017-now: Participating in Outreach and dissemination activities for IFCA and ACO: Expanding Science, Open Days, Science Week, European Researchers Night and International Day of Women and Girls in Science.
- 2020-2021: Coordinating "Chatea con una astrónoma" together Adriana de Lorenzo-Cáceres Rodríguez and Julia Suso.
- 2018: Participation in the program: "La Universidad en tu barrio" of Cantabria University.
- 2012: Ten Years Observing the Violent Universe with INTEGRAL: Public talk within 12th Conference on Dissemination of Astronomy organised by the X-ray Astronomy Group of Alicante University. Addressed to the general public.
- 2009: Member of Spanish Outreach Working Group on Astronomical Activities for People with Special Needs: Responsible for outreach activities adapted to people with cognitive impairments; Co-author of "The Life of Stars" book addressed to mentally disabled people, available at https://issuu.com/pereblay/docs/estrellas_rxs.
- 2009: The Colours of the Universe: Public talk within 9th Conference on Dissemination of Astronomy organised by X-ray Astronomy Group of Alicante University. Addressed to the general public.

Memberships

- Member of the Spanish Astronomical Society (SEA).
- 2016-2022: Member of Women and Astronomy Commission of SEA.
- Member of European Astronomical Society.
- Member of the International Astronomical Union.
- Member of the Royal Spanish Physics Society and its women's group specialised in physics (GEMF).
- Member of the IFCA Equality and Diversity Commission.