CVN CURRÍCULUM VÍTAE NORMALIZADO

Eulalia Gallego Cano

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Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

My primary research focus is the Galactic Center, specifically the structure and star formation history of the Milky Way's nuclear stellar cluster (NSC) and its relationship to the surrounding nuclear disk. My work involves photometric and astrometric studies of stars near the supermassive black hole Sgr A*, developing new stellar classification methods using near-infrared images and improving image reduction techniques. Advanced machine learning techniques, such as neural networks and Bayesian analysis, have been applied to analyze data, providing crucial insights into star formation processes and the Milky Way's central history. The Galactic Center serves as a high-resolution template for similar galactic nuclei, and I aim to extend my research to NSCs in nearby galaxies using dynamical modelling and spectroscopy for detailed studies of stellar populations and mass distribution.

Since 2016, I have actively collaborated with the UCLA Galactic Center group, led by Prof. A. Ghez, analysing NIRC/Keck speckle data to measure stellar orbits around Sagittarius A* (Sgr A*) and related phenomena. This collaboration has resulted in several co-authored papers, including significant contributions to the detection of general relativity effects in the orbit of the star S2/S0-2 around Sgr A*.

A key result of my research is the study of the density of the faintest stars detectable at the Galactic Center, supporting the existence of a stellar cusp around Sgr A*— a long-standing prediction of stellar dynamics in dynamically relaxed dense clusters around massive black holes (Gallego-Cano et al. 2018; Schödel et al. 2018). My work on the overall size and structure of the NSC, utilizing deep star counts from the GALACTICNUCLEUS survey to refine the 3D structure of the cluster, has provided significant insights into these stellar distributions (Gallego-Cano et al. 2020).

In one of my recent studies (Gallego-Cano et al., 2024), we addressed the presence of young massive stars in the Galactic Center, raising questions about star formation near Sgr A* and the initial mass function (IMF) in this region. Using intermediate-band photometry combined with Bayesian inference, neural networks, and gradient-boosted trees algorithms, we identified candidates for massive young stars, providing a more detailed understanding of their distribution and IMF. Currently, we are studying the outer regions around 1-3 pc from the SMBH using the same methods (Gallego-Cano et al., in preparation).

Since 2019, I have collaborated with researchers at the Dark Center, University of Copenhagen, on observational projects involving integral-field spectra of galaxies hosting type-Ic broad-lined supernovae, using IFU detectors at Calar Alto Observatory (PMAS) and other telescopes (MaNGA, MUSE at ESO/VLT). I am the principal investigator for several observational proposals successfully conducted with PMAS. Moreover, I am involved in the SN2 project, a monitoring programme of nearby (d < 350 Mpc) type Ia supernovae from the Observatory of Sierra Nevada (Granada, Spain). A recent publication (Gallego-Cano et al. 2022), explores the advantages of having two "sibling" Type Ia supernovae in the same galaxy for estimating the Hubble constant, H0. By analysing optical and UV photometry, as well as spectra of SN 2021J and comparing

with SN 1974G, we reported a refined value of H0 = 72.19 ± 2.32 (stat.) ±3.42 (syst.) km s−1 Mpc−1.

From December 1, 2021, to August 31, 2022, I collaborated with the CASTLE Science and Engineering teams, defining the commissioning Scientific Plan, participating in AIV, telescope commissioning, detector characterisation, and developing a pipeline for reducing scientific data. I also contributed to CASTLE's supernova observation project. As detailed in my CV and publication list, I possess extensive expertise in observations, data reduction, and analysis. My work includes high angular resolution imaging data from WFC3/HST, NACO/VLT, and HAWK-I/VLT. I have extensive experience in speckle holography for high-quality post-processing of speckle and AO imaging data, optimal PSF fitting photometry methods, and precise uncertainty estimation via bootstrapping. Additionally, I have over 150 nights of observational experience at various telescopes.

I have also engaged in numerous outreach activities, including participation in the 2022 and 2023 Researchers' Nights, a lecture at the Science Museum of Seville, and outreach activities at the Albolote Penitentiary (Granada) for two years. Additionally, I support women in science through participation in the 11F Day of the Woman and Girl in Science for several years and contribute to the IAA scientific culture and community integration project for young adult and teenage migrants in 2024.

Eulalia Gallego Cano

Surname(s):   **Gallego Cano**
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Current professional situation

Employing entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

Professional category: 1

Start date: 01/09/2022

Type of contract: Grant-assisted student (pre or post-doctoral, others)   **Dedication regime:** Full time

Performed tasks: Tasks: - Conducted photometric, astrometric, and spectroscopic studies of the Galactic Centre, developing innovative stellar classification methods using intermediate-band and H-band photometry, along with K-band spectroscopic data, to identify and characterize young stars. Applied Bayesian inference, neural networks, and gradient-boosted trees to analyze star formation near Sgr A*. - Developed and implemented advanced image reduction and analysis tools, including improvements in PSF photometry and image alignment, achieving more accurate and deeper analyses than previous studies (e.g., Buchholz et al., 2009). This contract is funded under budget program 54A "Scientific Research and Innovation" of the Ministry of Economic Transformation, Industry, Knowledge, and Universities of the Regional Government of Andalusia, through grant POSTDOC_21_00049.

Previous positions and activities

	Employing entity	Professional category	Start date
1	Instituto de Astrofísica de Andalucía	1	01/12/2021
2	Instituto de Astrofísica de Andalucía	1	16/01/2021
3	Observatorio Astronómico Hispano-Alemán de Calar Alto	2	01/04/2019
4	Instituto de Astrofísica de Andalucía	1	16/07/2014
5	Manpower Team E.T.T.	7	17/02/2014
6	Asociación cívica ambientalista SUSTENTA	1	01/02/2013
7	ASSYCE FOTOVOLTAICA, S.L.	2	14/09/2007
8	Andaluza de sistemas y control energético S.L.	2	08/02/2007
9	Academia Universitaria Platón	1	01/10/2004
10	ONG AMUS	1	01/06/2000

1 **Employing entity:** Instituto de Astrofísica de Andalucía

Type of entity: State agency

Professional category: 1

Leadership and management (Y/N): Yes

Start-End date: 01/12/2021 - 31/08/2022

Duration: 9 months

Type of contract: Temporary employment contract

Dedication regime: Full time

Performed tasks: Part of the Calar Alto Schmidt-Lemaitre Telescope (CASTLE) project, a technology demonstrator for curved detectors, where I contributed to the following tasks: - Collaborated with Science and Engineering teams on the CASTLE project. - Defined and planned the Scientific Commissioning Plan for the telescope. - Participated in Assembly, Integration, and Verification (AIV) and telescope commissioning. - Performed astronomical characterization of the curved detector. - Developed a data reduction pipeline for scientific data processing. - Contributed to the supernova observation program for the CASTLE project. Principal Investigator of SN2 project. Tasks: - Monitoring program of nearby (d < 350 Mpc) type Ia SNe - Building a statistically significant and homogeneous photometric sample of about 70 type-Ia SNe with host galaxy spectra (SDSS & DESI) - Dark Center, University of Copenhagen.

2 **Employing entity:** Instituto de Astrofísica de Andalucía

Type of entity: State agency

City employing entity: Granada, Andalusia, Spain

Professional category: 1

Start-End date: 16/01/2021 - 15/07/2021

Duration: 6 months

Type of contract: Temporary employment contract

Dedication regime: Full time

Performed tasks: 1) Organization of the GALACTICNUCLEUS catalog data for easy and efficient access and to be able to include new similar data or other observations of the region (radio, X-rays, NICMOS Paschen-alpha survey). 2) Developing a new method of stellar classification based on the intermediate-band (IB) photometry and H-band, to be able to identify faint early-type and late-type candidate stars in the extended vicinity of the central massive black hole. Then I will use the new information of the stellar population to study the structure and formation history of the MWNSC. 3) Creation of a new website for the group with the aim of a homogeneous representation of the Stellar Systems group and the project PGC2018-095049-B-C21 that facilitates the scientific and public dissemination of our work. 4) Outreach activities.

3 **Employing entity:** Observatorio Astronómico Hispano-Alemán de Calar Alto

Type of entity: publica

Professional category: 2

Start-End date: 01/04/2019 - 15/01/2021

Duration: 1 year - 9 months - 15 days

Type of contract: Temporary employment contract

Dedication regime: Full time

Performed tasks: Technical astronomer responsible for telescope night operations, data collection and processing for scientific purposes: Telescope operation and management. This also includes solving common issues as well as calibrating the instruments, fine-tuning the data acquisition and managing the acquired data. Interaction with astrophysical SQL databases for data validation, cross-correlation and general analysis. Extensive use of different Unix environments, including developing shell scripts for general purpose data management and organisation.

4 **Employing entity:** Instituto de Astrofísica de Andalucía

Type of entity: State agency

Department: Radioastronomy and galactic structure department

Professional category: 1

Leadership and management (Y/N): No

Start-End date: 16/07/2014 - 31/01/2019

Type of contract: Temporary employment contract

Performed tasks: Completion of the doctoral thesis in the Galactic Center Group of Dr. Rainer Schödel at the IAA-CSIC in Granada (Spain). Experience in observations, data reduction and data analysis. In my work I use high angular resolution imaging data from WFC3/HST, NACO/VLT and HAWK-I/VLT. I have great experience in speckle holography for high-quality post processing of speckle and AO imaging data and have developed and tested optimal methods for high-precision PSF fitting photometry and for accurate uncertainty estimation via bootstrapping.

5 **Employing entity:** Manpower Team E.T.T.

Department: CONSORCIO PARQUE DE LAS CIENCIAS

Professional category: 7

Start-End date: 17/02/2014 - 12/06/2014

Performed tasks: Monitor of astronomy. Duties: Monitor of Planetarium, workshops teach physics and astronomy in Parque de las Ciencias (Granada).

6 **Employing entity:** Asociación cívica ambientalista SUSTENTA   **Type of entity:** Associations and Groups

Professional category: 1

Start-End date: 01/02/2013 - 01/09/2013

Type of contract: Collaboration

Performed tasks: Project Manager. Duties: Manager of "Renewable by the Sahara" Project: design and installation of wind turbines for irrigation of gardens adapted to the conditions of the refugee camps in the Sahara.

7 **Employing entity:** ASSYCE FOTOVOLTAICA, S.L.   **Type of entity:** Business

Professional category: 2   **Leadership and management (Y/N):** Yes

Start-End date: 14/09/2007 - 12/06/2012

Type of contract: Permanent employment contract

Performed tasks: Researcher / Department of research, development and innovation. Duties: PV systems modelling: management and development of modelling PV arrays project. Field assembly test. Collaboration with the University of Jaen. Analysis of photovoltaic projects to study their viability: 3D simulations trackers and fixed installations. Control of PV systems: production analysis. Analysis of large amount of data. Audit installations. Integration and analysis of data from different sources. Search defects. Reduce costs, optimise resources. Maintenance department: field measurements with PVPM, pyrometers, temperature sensors. Reports PV plant performance, programme design for engineers using department. Teaching courses for company formation: PVsyst course, "Estimation Energy" course, "Photovoltaic grid connection projects" course.

8 **Employing entity:** Andaluza de sistemas y control energético S.L.

Professional category: 2

Start-End date: 08/02/2007 - 13/09/2007

Type of contract: Temporary employment contract

Performed tasks: Project Engineer / Technical office. Duties: Processing of Photovoltaic Projects in roof and floor: REPE, Points of Connection, Building Permits. Offers of isolated Photovoltaic Plants and connected to grid nationally and internationally. Studies profitability. Design of Photovoltaic Projects in roof and floor: design, wiring, production, shadow studies. Visitor guide to photovoltaic installations of the company.

9

Employing entity: Academia Universitaria Platón   **Type of entity:** Business
Professional category: 1   **Leadership and management (Y/N):** Yes
Start-End date: 01/10/2004 - 01/02/2005
Type of contract: Collaboration
Performed tasks: Teacher. Duties: Teaching University courses: Electromagnetic Fields, Fundamentals of Physics for Engineering, Physical Foundations of Computing.

10   **Employing entity:** ONG AMUS   **Type of entity:** Associations and Groups
Professional category: 1   **Leadership and management (Y/N):** Yes
Start-End date: 01/06/2000 - 01/09/2004
Type of contract: Collaboration
Performed tasks: Monitor of astronomy. Duties: Management and development of the course "Night Out": contemplation and interpretation of the sky, watching the moon and planets, mythological history, origin of names of stars and constellations.

Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

University degree: Higher degree
Name of qualification: Degree in Physics
Degree awarding entity: Universidad de Granada   **Type of entity:** University
Date of qualification: 05/09/2005

Doctorates

Doctorate programme: Doctor in Physics and Space Science
Degree awarding entity: Universidad de Granada   **Type of entity:** University
City degree awarding entity: Granada, Andalusia, Spain
Date of degree: 10/05/2019
European doctorate: Yes   **Date of certificate:** 10/05/2019
Thesis title: The structure, stellar population, and formation history of the Milky Way's nuclear star cluster
Thesis director: Rainer Schoedel
Obtained qualification: Cum Laude

Other postgraduate university studies

Postgraduate qualification: Complex Systems Physics.
Degree awarding entity: Universidad de Granada   **Type of entity:** University
Date of qualification: 01/09/2004

Specialised, lifelong, technical, professional and refresher training (other than formal academic and healthcare studies)

1 **Training title:** Writing and Communicating your Science
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 08/11/2024   **Duration in hours:** 25 hours

2 **Training title:** English for Academic Purposes
Awarding entity: University of Leipzig
End date: 23/02/2024   **Duration in hours:** 15 hours

3 **Training title:** IAA-CSIC Severo Ochoa Basics of Neural Networks Wokshop
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 17/11/2023   **Duration in hours:** 10 hours

4   **Training title:** DRUPAL 9: CREACION DE WEBS INTERACTIVAS Y EFICIENTES
Awarding entity: Consejo Superior de Investigaciones Científicas   **Type of entity:** State agency
End date: 16/06/2023   **Duration in hours:** 30 hours

5   **Training title:** 2nd IAA-CSIC Severo Ochoa Advanced School on Star Formation
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 01/12/2022   **Duration in hours:** 32 hours

6   **Training title:** INICIACION A LA PROGRAMACION EN PYTHON
Awarding entity: Consejo Superior de Investigaciones Científicas   **Type of entity:** State agency
End date: 10/06/2022   **Duration in hours:** 35 hours

7   **Training title:** Scientific writing and presentation in astronomy
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 25/06/2021   **Duration in hours:** 12 hours

8   **Training title:** An Introduction to IFU Spectroscopy
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 14/06/2021   **Duration in hours:** 5 hours

9   **Training title:** Scientific Writing and Presentation in Astronomy
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 10/06/2021   **Duration in hours:** 6 hours

10   **Training title:** Linux Administration Bootcamp: Go from Beginner to Advanced
Awarding entity: Udemy & Jason Cannon, Instructor
End date: 06/05/2021   **Duration in hours:** 9 hours

11   **Training title:** IAA-CSIC Severo Ochoa School on Machine Learning, Big Data, and Deep Learning in Astronomy (SOMACHINE 2021)
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 23/04/2021   **Duration in hours:** 24 hours

12   **Training title:** Matplotlib for beginners: a brief Severo Ochoa workshop
Awarding entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
End date: 07/04/2021   **Duration in hours:** 5 hours

13   **Training title:** English presentations (intermediate and advanced)
Awarding entity: Consejo Superior de Investigaciones Científicas   **Type of entity:** State agency
End date: 02/11/2018   **Duration in hours:** 30 hours

14   **Training title:** Introduction to the statistics applied with R software on line
Awarding entity: Consejo Superior de Investigaciones Científicas   **Type of entity:** State agency
End date: 25/05/2018   **Duration in hours:** 20 hours

15   **Training title:** Initiation to PYTHON 3
      Awarding entity: Consejo Superior de Investigaciones **Type of entity:** State agency
      Científicas
      End date: 16/03/2018   **Duration in hours:** 25 hours

16   **Training title:** English for Meetings (intermediate and advanced)
      Awarding entity: Consejo Superior de Investigaciones **Type of entity:** State agency
      Científicas
      End date: 03/11/2017   **Duration in hours:** 30 hours

17   **Training title:** Python applied to engineering and scientific research on line
      Awarding entity: Asociación Darwin Eventur   **Type of entity:** Asociación
      End date: 11/09/2017   **Duration in hours:** 100 hours

18   **Training title:** Specific English: Attention to the public in English on line (Level B1)
      Awarding entity: Consejo Superior de Investigaciones **Type of entity:** State agency
      Científicas
      End date: 26/05/2017   **Duration in hours:** 30 hours

19   **Training title:** English for Presentations (advanced)
      Awarding entity: Consejo Superior de Investigaciones **Type of entity:** State agency
      Científicas
      End date: 04/11/2016   **Duration in hours:** 30 hours

20   **Type of training:** Course
      Training title: Data Analysis and Statistics Workshop
      Awarding entity: AGENCE SPATIALE EUROPEENE ESA - ESAC
      End date: 28/10/2016   **Duration in hours:** 30 hours

21   **Training title:** ICCUB School Machine Learning and Data Mining in Physics
      Awarding entity: Universitat de Barcelona   **Type of entity:** University
      End date: 21/10/2016   **Duration in hours:** 40 hours

22   **Training title:** Scientific writing (intermediate and advanced)
      Awarding entity: Consejo Superior de Investigaciones **Type of entity:** State agency
      Científicas
      End date: 27/05/2016   **Duration in hours:** 30 hours

23   **Training title:** Creation of websites with Drupal 7. Initial level.
      Awarding entity: Consejo Superior de Investigaciones **Type of entity:** State agency
      Científicas
      End date: 15/04/2016   **Duration in hours:** 27 hours

24   **Training title:** Asterics VO School
      Awarding entity: Centro de Astrobiología   **Type of entity:** State agency
      End date: 17/12/2015   **Duration in hours:** 20 hours

25   **Training title:** Scientific workshop competence in English-Advanced
      Awarding entity: Consejo Superior de Investigaciones **Type of entity:** State agency
      Científicas
      End date: 19/06/2015   **Duration in hours:** 60 hours

26 **Training title:** Associated Infrastructure Power Photovoltaic Installations
Awarding entity: Technological Institute of Energy (ITE) **Type of entity:** Associations and Groups
End date: 01/10/2010 **Duration in hours:** 30 hours

27 **Training title:** Lightning and excess voltage protection for photovoltaic systems
Awarding entity: Dehn iberica **Type of entity:** Business
End date: 04/05/2010 **Duration in hours:** 8 hours

28 **Type of training:** Residencies
Training title: Central Inverters Photovoltaic Projects
City awarding entity: Kolitzheim, Germany
Awarding entity: Belectric **Type of entity:** Business
End date: 15/11/2009

29 **Training title:** Overhead and underground lines for the transmission and distribution of electricity in high voltage
Awarding entity: Foundation for the Promotion of **Type of entity:** Foundation
Industrial Innovation
End date: 14/05/2009 **Duration in hours:** 15 hours

30 **Training title:** Master in Renewable Energy
Awarding entity: Institute for Ecological Research of **Type of entity:** Business
Malaga
End date: 26/07/2007 **Duration in hours:** 600 hours

31 **Training title:** Galactic Astrophysics
Awarding entity: Universidad Internacional de **Type of entity:** University
Andalucía
End date: 20/09/2002 **Duration in hours:** 30 hours

32 **Training title:** English University
Awarding entity: Universidad de Sevilla **Type of entity:** University
End date: 30/06/2000

33 **Type of training:** Residencies
Training title: Summer Educational Courses
City awarding entity: Cork, Ireland
Awarding entity: Summer educational courses in Ireland
End date: 01/09/1996

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English	C1	C1	C1	C1	C1

Teaching experience

Courses and seminars given

1 **Type of event:** Seminar
Name of the event: Peering at the heart of our Galaxy
Organising entity: Instituto de Astrofísica e Ciências do   **Type of entity:** University Research Institute
Espaço (IA)
Hours of teaching: 2
Teaching date: 25/09/2024
Theme: Otra Temáctica

2 **Type of event:** Seminar
Name of the event: Middle-East and Africa School on Large Galaxy Surveys for Cosmology
City organizing entity: Cairo, Egypt
Organising entity: National Research Institute of Astronomy And GeoDhysic
Aims of the course: Scientific Organizing Committee for the 'Middle-East and Africa School on Large Galaxy Surveys for Cosmology,' held at Kottamia Observatory, Egypt, from February 15–23, 2023. Responsibilities included delivering lectures and conducting exercises for school students.
Hours of teaching: 4   **Teaching language:** English
Teaching date: 23/02/2023
Theme: Otra Temáctica

3 **Type of event:** Seminar
Name of the event: Peering in to the heart of our Galaxy
Organising entity: Niels Bohr Institute   **Type of entity:** University Research Institute
Hours of teaching: 2
Teaching date: 06/12/2022
Theme: Otra Temáctica

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

Name of the project: The Fingerprint of a Galactic Nucleus: A Multi-Wavelength, High- Angular Resolution, Near-Infrared Study of the Centre of the Milky Way

Entity where project took place: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

City of entity: Granada, Granada

Name principal investigator (PI, Co-PI....): Rainer Schoedel

Nº of researchers: 7

Funding entity or bodies:

European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013)

R&D non-competitive contracts, agreements or projects with public or private entities

1 **Name of the project:** Calar Alto Schmidt-Lemaitre Telescope (CASTLE)
   Degree of contribution: Researcher
   Start date: 01/12/2022   **Duration:** 10 months

2 **Name of the project:** The SN2 Project: type-Ia SNe from Sierra Nevada, building a spectro-photometric sample of nearby type-Ia SN
   Name principal investigator (PI, Co-PI....): Eulalia Gallego Cano
   Start date: 01/01/2020

3 **Name of the project:** With or without jet - the environment of GRB-less Ic-BL SNe as revealed with IFU detectors
   Degree of contribution: Researcher
   Name principal investigator (PI, Co-PI....): Luca Izzo; Eulalia Gallego Cano
   Nº of researchers: 6
   Participating entity/entities: DARK Center; Instituto de Astrofísica de Andalucía ; Niels Bohr Institute; Observatorio Astronómico Hispano-Alemán de Calar Alto
   Funding entity or bodies:
   The Velux foundations- Villum Fonden   **Type of entity:** Foundation
   City funding entity: Søborg, Denmark

   Start date: 01/02/2019

4 **Name of the project:** Galactic Center Orbit Science
   Degree of contribution: Researcher
   Name principal investigator (PI, Co-PI....): Andrea Ghez
   Nº of researchers: 29
   Funding entity or bodies:
   Heising-Simons Foundation   **Type of entity:** Foundation

City funding entity: Los Altos, California, United States of America

W. M. Keck Foundation   **Type of entity:** Foundation
City funding entity: Los Angeles, California, United States of America

Gordon and Betty Moore Foundation   **Type of entity:** Foundation
City funding entity: Palo Alto, California, United States of America

National Science Foundation Astronomy and   **Type of entity:** State agency
Astrophysics Research Grant
City funding entity: Virginia, United States of America

Start date: 15/02/2017

5   **Name of the project:** Modelling of photovoltaic arrays project based on neural networks
Degree of contribution: Coordinator of total project, network or consortium
Name principal investigator (PI, Co-PI....): Eulalia Gallego Cano
Nº of researchers: 4
Participating entity/entities: ASSYCE FOTOVOLTAICA, S.L.; Universidad de Jaén
Start date: 01/01/2010   **Duration:** 2 years

6   **Name of the project:** Modelling PV arrays project for detection of defective modules by monitoring system
Name principal investigator (PI, Co-PI....): Eulalia Gallego Cano
Nº of researchers: 3

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

1   Gallego-Cano, E.; Fritz, T.; Schödel, R.; Feldmeier-Krause, A.; Do, T.; Nishiyama, S.. Photometric classification of stars around the Milky Way's central black hole: I. Central parsec. Astronomy & Astrophysics (A&A). 689 - A190, 02/09/2024.
Type of production: Scientific paper   **Format:** Journal
Corresponding author: Yes

2   Schödel, R.; Nogueras-Lara, F.; Hosek, M.; Do, T.; Lu, J.; Martínez Arranz, A.; Ghez, A.; Rich, R. M.; Gardini, A.; Gallego-Cano, E.; Cano González, M.; Gallego-Calvente, A. T.. The formation history of our Galaxy's nuclear stellar disc constrained from HST observations of the Quintuplet field. Astronomy & Astrophysics (A&A). 672, pp. L8 - L8. 04/2023.
Type of production: Scientific paper   **Format:** Journal

3   Gallego-Cano, Eulalia; Izzo, Luca; Dominguez-Tagle, Carlos; Prada, Francisco; Pérez, Enrique; Khetan, Nandita; Jang, In Sung. The Hubble constant from two sibling Type Ia supernovae in the nearby galaxy NGC 4414: SN 1974G and SN 2021J. Astronomy & Astrophysics (A&A). 666, pp. A13 - A13. 10/2022.
Type of production: Scientific paper   **Format:** Journal

4   Lee Yeon Joo; García-Muñoz, Antonio; Yamazaki, Atsushi; Quémerais, Eric; Mottola, Stefano; Hellmich, Stephan; Granzer, Thomas; Bergond, Gilles; Roth, Martin; Gallego-Cano, Eulalia; Chaufray, Jean-Yves; Robidel, Rozenn; Murakami, Go; Masunaga} Kei; Kaplan, Murat; Erece, Orhan; Hueso, Ricardo; Kabáth, Petr; Špoková,Magdaléna;

Sánchez-Lavega, Agustín; Kim, Myung-Jin; Mangano, Valeria; Jessup, Kandis-Lea; Widemann, Thomas; Sugiyama, Ko-ichiro; Watanabe, Shigeto; Yamada, Manabu; Satoh, Takehiko; Nakamura, Masato; Imai, Masataka; Cabrera, Juan. Reflectivity of Venus's Dayside Disk During the 2020 Observation Campaign: Outcomes and Future Perspectives. The Planetary Science Journal. 3 - 9, pp. 209 - 209. 09/2022.
Type of production: Scientific paper   **Format:** Journal

5 Shahzamanian, B.; Schödel, R.; Nogueras-Lara, F.; Martínez-Arranz, A.; Sormani, M. C.; Gallego-Calvente, A. T.; Gallego-Cano, E.; Alburai, A.. A proper motion catalogue for the Milky Way's nuclear stellar disc. \aap. 662, pp. A11 - A11. 06/2022.
Type of production: Scientific paper   **Format:** Journal

6 Reflectivity of Venus's Dayside Disk During the 2020 Observation Campaign: Outcomes and Future Perspectives. 2022.
Type of production: Scientific paper

7 The Hubble constant from two sibling Type Ia supernovae in the nearby galaxy NGC 4414: SN 1974G and SN 2021J. 2022.
Type of production: Scientific paper

8 Gallego-Calvente, A. T.; Schoedel, R.; Alberdi, A.; Herrero-Illana, R.; Najarro, F.; Yusef-Zadeh, F.; Dong, H.; Sanchez-Bermudez, J.; Shahzamanian, B.; Nogueras-Lara, F.; Gallego-Cano, E.. Radio observations of massive stars in the Galactic centre: The Arches Cluster. Astronomy & Astrophysics (A&A). 647 - A110, 17/03/2021.
Type of production: Scientific paper   **Format:** Journal

9 Nogueras-Lara, F.; Schoedel, R.; Neumayer, N.; Gallego-Cano, E.; Shahzamanian, B.; Gallego-Calvente, A.T.; Najarro, F.. GALACTICNUCLEUS: A high angular-resolution JHKs imaging survey of the Galactic centre III. Evidence for wavelength-dependence of the extinction curve in the near-infrared. Astronomy & Astrophysics (A&A). 641 - A141, 24/09/2020.
Type of production: Scientific paper   **Format:** Journal

10 Schoedel, R.; Nogueras-Lara, F.; Gallego-Cano, E.; Shahzamanian, B.; Gallego-Calvente, A.T.; Gardini, A.. The Milky Way's nuclear star cluster: Old, metal-rich, and cuspy Structure and star formation history from deep imaging. Astronomy & Astrophysics (A&A). 641 - A102, 15/09/2020.
Type of production: Scientific paper   **Format:** Journal

11 J.F. Agui Fernandez; M. Blazek; D.A. Kann; A. de Ugarte Postigo; C.C. Thoene; E. Gallego-Cano; A. Guijarro. GRB 200224A: Calar Alto 2.2m optical afterglow detection. GRB Coordinates Network. 27222, pp. 1 - 1. 02/2020.
Type of production: Scientific paper   **Format:** Journal

12 Gallego-Cano, E.; Schoedel, R.; Nogueras-Lara, F.; Dong, H.; Shahzamanian, B.; Fritz, T. K.; Gallego-Calvente, A. T.; Neumayer, N.. New constraints on the structure of the nuclear stellar cluster of the Milky Way from star counts and MIR imaging. Astronomy & Astrophysics (A&A). 634, pp. A71 - A71. 02/2020.
Type of production: Scientific paper   **Format:** Journal

13 Nogueras-Lara, Francisco; Schoedel, Rainer; Gallego-Calvente, Aurelia Teresa; Gallego-Cano, Eulalia; Shahzamanian, Banafsheh; Dong, Hui; Neumayer, Nadine; Hilker, Michael; Najarro, Francisco; Nishiyama, Shogo; Feldmeier-Krause, Anja; Girard, Julien H. V.; Cassisi, Santi. Early formation and recent starburst activity in the nuclear disk of the Milky Way. Nature Astronomy. 12/2019.
Type of production: Scientific paper   **Format:** Journal

14 Shahzamanian, B.; Schoedel, R.; Nogueras-Lara, F.; Dong, H.; Gallego-Cano, E.; Gallego-Calvente, A. T.; Gardini, A.. First results from a large-scale proper motion study of the Galactic centre. Astronomy & Astrophysics (A&A). 632, pp. A116 - A116. 12/2019.

Type of production: Scientific paper   **Format:** Journal

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15 Nogueras-Lara, F.; Schoedel, R.; Gallego-Calvente, A. T.; Dong, H.; Gallego-Cano, E.; Shahzamanian, B.; Girard, J. H. V.; Nishiyama, S.; Najarro, F.; Neumayer, N.. GALACTICNUCLEUS: A high-angular-resolution JHKs imaging survey of the Galactic centre. II. First data release of the catalogue and the most detailed CMDs of the GC. Astronomy & Astrophysics (A&A). 631, pp. A20 - A20. 11/2019.
Type of production: Scientific paper   **Format:** Journal

16 Nogueras-Lara, F.; Schoedel, R.; Najarro, F.; Gallego-Calvente, A. T.; Gallego-Cano, E.; Shahzamanian, B.; Neumayer, N.. Variability of the near-infrared extinction curve towards the Galactic centre. Astronomy & Astrophysics (A&A). 630, pp. L3 - L3. 10/2019.
Type of production: Scientific paper   **Format:** Journal

17 Chen, Zhuo; Gallego-Cano, E.; Do, T.; Witzel, G.; Ghez, A. M.; Schoedel, R.; Sitarski, B. N.; Becklin, E. E.; Lu, J.; Morris, M. R.; Dehghanfar, A.; Gautam, A. K.; Hees, A.; Hosek, M. W., Jr.; Jia, S.; Mangian, A. C.; Matthews, K.. Consistency of the Infrared Variability of SGR A* over 22 yr. The Astrophysical Journal Letters. 882 - 2, pp. L28 - L28. 09/2019.
Type of production: Scientific paper   **Format:** Journal

18 Do, Tuan; Hees, Aurelien; Ghez, Andrea; Martinez, Gregory D.; Chu, Devin S.; Jia, Siyao; Sakai, Shoko; Lu, Jessica R.; Gautam, Abhimat K.; O'Neil, Kelly Kosmo; Becklin, Eric E.; Morris, Mark R.; Matthews, Keith; Nishiyama, Shogo; Campbell, Randy; Chappell, Samantha; Chen, Zhuo; Ciurlo, Anna; Dehghanfar, Arezu; Gallego-Cano, Eulalia; Kerzendorf, Wolfgang E.; Lyke, James E.; Naoz, Smadar; Saida, Hiromi; Schoedel, Rainer; Takahashi, Masaaki; Takamori, Yohsuke; Witzel, Gunther; Wizinowich, Peter. Relativistic redshift of the star S0-2 orbiting the Galactic Center supermassive black hole. Science. 365 - 6454, pp. 664 - 668. 08/2019.
Type of production: Scientific paper   **Format:** Journal

19 Jia, Siyao; Lu, Jessica R.; Sakai, S.; Gautam, A. K.; Do, T.; Hosek, M. W., Jr.; Service, M.; Ghez, A. M.; Gallego-Cano, E.; Schoedel, R.; Hees, Aurelien; Morris, M. R.; Becklin, E.; Matthews, K.. The Galactic Center: Improved Relative Astrometry for Velocities, Accelerations, and Orbits near the Supermassive Black Hole. The Astrophysical Journal. 873 - 1, pp. 9 - 9. 03/2019.
Type of production: Scientific paper   **Format:** Journal

20 F. Nogueras-Lara; R. Schoedel; H. Dong; F. Najarro; A. T. Gallego-Calvente; M. Hilker; E. Gallego-Cano; S. Nishiyama; N. Neumayer; A. Feldmeier-Krause; J. H. V. Girard; S. Cassisi; A. Pietrinferni. Star formation history and metallicity in the Galactic inner bulge revealed by the red giant branch bump. Astronomy & Astrophysics (A&A). 620, pp. A83 - A83. 12/2018.
Type of production: Scientific paper   **Format:** Journal

21 Nogueras-Lara, F.; Gallego-Calvente, A. T.; Dong, H.; Gallego-Cano, E.; Girard, J. H. V.; Hilker, M.; de Zeeuw, P. T.; Feldmeier-Krause, A.; Nishiyama, S.; Najarro, F.; Neumayer, N.; Schoedel, R.. GALACTICNUCLEUS: A high angular resolution JHKs imaging survey of the Galactic centre. I. Methodology, performance, and near-infrared extinction towards the Galactic centre. Astronomy & Astrophysics (A&A). 610, pp. A83 - A83. 03/2018.
Type of production: Scientific paper   **Format:** Journal

22 Gallego-Cano, E.; Schoedel, R.; Dong, H.; Nogueras-Lara, F.; Gallego-Calvente, A. T.; Amaro-Seoane, P.; Baumgardt, H.. The distribution of stars around the Milky Way's central black hole. I. Deep star counts. Astronomy & Astrophysics (A&A). 609, pp. A26 - A26. 01/2018.
Type of production: Scientific paper   **Format:** Journal

23 Schoedel, R.; Gallego-Cano, E.; Dong, H.; Nogueras-Lara, F.; Gallego-Calvente, A. T.; Amaro-Seoane, P.; Baumgardt, H.. The distribution of stars around the Milky Way's central black hole. II. Diffuse light from sub-giants and dwarfs. Astronomy & Astrophysics (A&A). 609, pp. A27 - A27. 01/2018.
Type of production: Scientific paper   **Format:** Journal

24 Dong, Hui; Schoedel, Rainer; Williams, Benjamin F.; Nogueras-Lara, Francisco; Gallego-Cano, Eulalia; Gallego-Calvente, Teresa; Wang, Q. Daniel; Rich, R. Michael; Morris, Mark R.; Do, Tuan; Ghez, Andrea. Near-infrared variability study of the central 2.3 x 2.3 arcmin2 of the Galactic Centre - II. Identification of RR Lyrae stars in the Milky Way nuclear star cluster. Monthly Notices of the Royal Astronomical Society. 471 - 3, pp. 3617 - 3631. 11/2017.

Type of production: Scientific paper   **Format:** Journal

25 Yusef-Zadeh, F.; Schoedel, R.; Wardle, M.; Bushouse, H.; Cotton, W.; Royster, M. J.; Kunneriath, D.; Roberts, D. A.; Gallego-Cano, E.. ALMA and VLA observations of emission from the environment of Sgr A*. Monthly Notices of the Royal Astronomical Society. 470 - 4, pp. 4209 - 4221. 10/2017.

Type of production: Scientific paper   **Format:** Journal

26 Dong, Hui; Lacy, John H.; Schoedel, Rainer; Nogueras-Lara, Francisco; Gallego-Calvente, Teresa; Mauerhan, Jon; Wang, Q. Daniel; Cotera, Angela; Gallego-Cano, Eulalia. IRTF/TEXES observations of the H II regions H1 and H2 in the Galactic Centre. Monthly Notices of the Royal Astronomical Society. 470 - 1, pp. 561 - 575. 09/2017.

Type of production: Scientific paper   **Format:** Journal

27 Dong, Hui; Schoedel, Rainer; Williams, Benjamin F.; Nogueras-Lara, Francisco; Gallego-Cano, Eulalia; Gallego-Calvente, Teresa; Wang, Q. Daniel; Morris, Mark R.; Do, Tuan; Ghez, Andrea. Near-infrared variability study of the central 2.3 arcmin x 2.3 arcmin of the Galactic Centre - I. Catalogue of variable sources. Monthly Notices of the Royal Astronomical Society. 470 - 3, pp. 3427 - 3452. 09/2017.

Type of production: Scientific paper   **Format:** Journal

28 Hees, A.; Ghez, A. M.; Do, T.; Lu, J. R.; Morris, M. R.; Becklin, E. E.; Witzel, G.; Boehle, A.; Chappell, S.; Chen, Z.; Chu, D.; Ciurlo, A.; Dehghanfar, A.; Gallego-Cano, E.; Gautam, A.; Jia, S.; Kosmo, K.; Martinez, G. D.; Matthews, K.; Naoz, S.; Sakai, S.; Schoedel, R.. Testing the gravitational theory with short-period stars around our Galactic Center. arXiv e-prints. pp. arXiv:1705.10792 - arXiv:1705.10792. 05/2017.

Type of production: Scientific paper   **Format:** Journal

29 Yusef-Zadeh, F.; Bushouse, H.; Schoedel, R.; Wardle, M.; Cotton, W.; Roberts, D. A.; Nogueras-Lara, F.; Gallego-Cano, E.. Compact Radio Sources within 30' of Sgr A*: Proper Motions,Stellar Winds, and the Accretion Rate onto Sgr A*. The Astrophysical Journal. 809 - 1, pp. 10 - 10. 08/2015.

Type of production: Scientific paper   **Format:** Journal

Works submitted to national or international conferences

1 **Title of the work:** New insights into the population of young, massive stars near Sagittarius A*
Name of the conference: XV Scientific Meeting of the Spanish Astronomical Society
City of event: Granada, Andalusia, Spain
Date of event: 15/07/2024
End date: 19/07/2024
Organising entity: Spanish Astronomical Society

2 **Title of the work:** Unveiling the host extinction of type Ia supernovae with NOTCam
Name of the conference: NOT - A Telescope For the Future,
Corresponding author: Yes
City of event: La Palma, Canary Islands, Spain
Date of event: 07/06/2022
End date: 10/06/2022
Gallego-Cano, E.; Izzo, L.; Prada, F.; Dominguez-Tagle, C.; Pérez. E.

3   **Title of the work:** The stellar cusp around the Milky Way's central black hole
Name of the conference: Highlights on Spanish Astrophysics X, XIII Scientific Meeting of the Spanish Astronomical Society
Type of event: Conference
Type of participation: Participatory - oral communication
City of event: Salamanca, Spain
Date of event: 16/07/2018
End date: 20/07/2018
Organising entity: Spanish Astronomical Society

Gallego-Cano, E.; Schoedel, R.; Shahzamanian, B.; Dong, H.; Nogueras-Lara, F.; Gallego-Calvente, A. T."Highlights on Spanish Astrophysics X". En: Conference proceeding. pp. 314 - 321. 03/2019.

4   **Title of the work:** Identification of RR Lyrae Stars in the Milky Way Nuclear Star Cluster
Name of the conference: The RR Lyrae 2017 Conference. Revival of the Classical Pulsators: from Galactic Structure to Stellar Interior Diagnostics
Type of event: Conference
City of event: Niepołomice, Poland
Date of event: 17/09/2017
End date: 21/09/2017
Organising entity: Polish Astronomical Society

Dong, Hui; Schoedel, Rainer; Williams, Benjamin; Do, Tuan; Ghez, Andrea; Morris, Mark; Rich, Michael; Nogueras-Lara, Francisco; Gallego-Cano, Eulalia; Gallego-Calvente, Teresa; Wang, Daniel; Li, Zhiyuan. "The RR Lyrae 2017 Conference. Revival of the Classical Pulsators: from Galactic Structure to Stellar Interior Diagnostics". En: Conference proceeding. 6, pp. 63 - 67. 06/2018.

5   **Title of the work:** The stellar cusp around the Milky Way's central black hole
Name of the conference: 11th International LISA Symposium
Type of event: Conference
City of event: Zurich, Switzerland
Date of event: 05/09/2016
End date: 09/09/2016

Schoedel, R.; Gallego-Cano, E.; Amaro-Seoane, P."Journal of Physics Conference Series". En: Conference proceeding. 840, pp. 012020 - 012020. 05/2017.

6   **Title of the work:** The stellar cusp around the Milky Way's central black hole
Name of the conference: Highlights on Spanish Astrophysics IX, XII Scientific Meeting of the Spanish Astronomical Society
Type of event: Conference   **Geographical area:** National
City of event: Bilbao, Basque Country, Spain
Date of event: 18/07/2016
End date: 22/07/2016
Organising entity: Spanish Astronomical Society

Schoedel, R.; Gallego Cano, E.; Nogueras Lara, F.; Dong, H.; Gallego Calvente, T."Highlights on Spanish Astrophysics IX". En: Proceedings of the XII Scientific Meeting of the Spanish Astronomical Society. pp. 308 - 315. (Spain): 03/2017.

7   **Title of the work:** Accurate uncertainty estimation in crowded fields: adaptive optics and speckle data
Name of the conference: Fifth edition of the Adaptive Optics for Extremely Large Telescopes (AO4ELT5) meeting
Type of event: Conference
Type of participation: 'Participatory - poster
Corresponding author: Yes

City of event: Canaria Islands, Canary Islands, Spain
End date: 01/08/2017
Organising entity: Instituto de Astrofísica de Canarias (IAC).
Gallego-Cano, E.; Schödel, R.; Gallego-Calvente, T.; Ghez, A. M.En: Conference proceeding.

8   **Title of the work:** Unveiling the host extinction of type Ia supernovae with NOTCam
      Type of contribution: Scientific book or monograph
      E. {Gallego-Cano}; L. {Izzo}; F. {Prada}; C. {Dominguez-Tagle}; E. {P{\'e}rez}. "NOT - A Telescope For the Future". pp. 7 - 7. 08/2022.

Works submitted to national or international seminars, workshops and/or courses

1   **Title of the work:** Peering into the heart of our Galaxy
      Name of the event: CASTLE worshop
      Corresponding author: Yes
      City of event: Marseilles, Provence-Alpes-Côte d'Azur, France
      Date of event: 13/12/2021
      End date: 14/12/2021
      Organising entity: Laboratoire d'Astrophysique de Marseille

2   **Title of the work:** New constraints on the structure of the nuclear stellar cluster of the Milky Way from star counts
      Name of the event: Galactic Center Workshop
      Type of event: Workshop
      Geographical area: Non EU International
      City of event: Los Angeles, United States of America
      Date of event: 03/12/2018
      End date: 07/12/2018
      Organising entity: University California, Los Angeles **Type of entity:** University
      City organizing entity: Los Angeles, United States of America

3   **Title of the work:** The Stellar Cusp Around the Milky Way's Central Black Hole
      Name of the event: Workshop MODEST-18: Dense Stellar Systems in the Era of Gaia, LIGO & LISA
      Type of event: Workshop
      Corresponding author: Yes
      City of event: Santorini, Greece
      Date of event: 25/06/2018
      End date: 29/06/2018
      Organising entity: Northwestern University   **Type of entity:** University
      City organizing entity: Evanston, Illinois, United States of America

4   **Title of the work:** The stellar cusp around the Milky Way's central black hole
      Name of the event: Galactic Center Workshop
      Type of event: Workshop
      Corresponding author: Yes
      Geographical area: Non EU International
      City of event: Los Angeles, United States of America
      Date of event: 09/12/2017
      End date: 18/12/2017
      Organising entity: University California, Los Angeles **Type of entity:** University

City organizing entity: Los Angeles, United States of America

5 **Title of the work:** The stellar cusp around the Milky Way's central black hole
Name of the event: Galactic Center Workshop
Type of event: Workshop
Corresponding author: Yes
Geographical area: Non EU International
City of event: Los Angeles, United States of America
Date of event: 28/11/2016
End date: 02/12/2016
Organising entity: University California, Los Angeles **Type of entity:** University
City organizing entity: Los Angeles, United States of America

6 **Title of the work:** The stellar cusp around the Milky Way's central black hole
Name of the event: 4rd IAA-PhD workshop
Type of event: Workshop
Corresponding author: Yes
City of event: Granada, Andalusia, Spain
Date of event: 29/01/2016
Organising entity: Instituto de Astrofísica de   **Type of entity:** State agency
Andalucía
City organizing entity: Granada, Spain

Science Outreach activities

1 **Title of the work:** ESCAPE-ROAD: In search of Nobel and non-Nobel scientists
Name of the event: Parque de las Ciencias Museum
City of event: Granada, Spain
Date of event: 22/11/2024
Organising entity: Instituto de Astrofísica de   **Type of entity:** State agency
Andalucía

2 **Title of the work:** Canto cósmico: jam de poesía y jazz
Name of the event: Aula de Cultura en CP Albolote
Type of event: Conferences given
City of event: Albolote, Andalusia, Spain
Date of event: 24/06/2024
Organising entity: ONG Solidarios para el Desarrollo

3 **Title of the work:** Bajo el mismo cielo
Name of the event: IAA scientific culture and community integration project for young adult and teenage migrants
Type of event: Conferences given
Date of event: 17/05/2024
Organising entity: Instituto de Astrofísica de   **Type of entity:** State agency
Andalucía

4 **Title of the work:** Del piano a las estrellas: de la vinculación entre la música y la astronomía
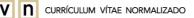**Name of the event:** Interview
Type of event: Media interviews

Date of event: 31/01/2024
Organising entity: El Despertador- Radio program

5   **Title of the work:** Interview
Name of the event: Radio Escolar
Type of event: Media interviews
City of event: Tenerife, Spain
Date of event: 09/01/2024
Organising entity: High school IES El Galeón

6   **Title of the work:** Trivial galáctico: paseando alrededor de un agujero negro supermasivo
City of event: Llerena, Extremadura, Spain
Date of event: 10/11/2023
Organising entity: Experimenta: Centro Interactivo de Ciencia

7   **Title of the work:** Unveiling the Heart of Our Galaxy: Sagittarius A, the Supermassive Black Hole, and Other Mysteries
Name of the event: II ciclo de Conferencias 2023: el universo desde Sevilla
Type of event: Conferences given
Corresponding author: Yes
City of event: Seville, Andalusia, Spain
Date of event: 09/11/2023
Organising entity: Delegación Institucional del Consejo Superior de Investigaciones Científicas en Andalucía - Museo Casa de la Ciencia
City organizing entity: Seville, Spain

8   **Title of the work:** Navegantes de los cielos- Música y Astronomía
Name of the event: European Researchers' Night 2023
City of event: Granada, Spain
Date of event: 29/09/2023
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

9   **Title of the work:** Navegantes de los cielos - Astronomía y música
Name of the event: Aula de Cultura en CP Albolote
City of event: Albolote, Andalusia, Spain
Date of event: 11/09/2023
Organising entity: ONG Solidarios para el Desarrollo

10   **Title of the work:** Organization and participation in the pint of science festival
Name of the event: Pint of Science festival
Type of event: Conferences given
City of event: Granada, Andalusia, Spain
Date of event: 24/05/2023
Organising entity: Pint of Science Spain

11   **Title of the work:** Navegantes de los cielos- Música y Astronomía
Name of the event: European Researchers' Night 2022
Type of event: Conferences given
City of event: Granada, Spain
Date of event: 30/09/2022

Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

12   **Title of the work:** Trivial Galáctico
Name of the event: 15th Astroparticle Marathon
Type of event: Conferences given
Corresponding author: Yes
City of event: Seville, Spain
Date of event: 28/04/2022
Organising entity: Space and Astroparticle Group- Alcalá University

13   **Title of the work:** The Solitude of the Navigator: Science and Resilience
Name of the event: Nursing Home "Entre Álamos"
Type of event: Conferences given
City of event: Granada, Spain
Date of event: 01/12/2021
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

14   **Title of the work:** The Scientific System
Name of the event: SdS
Type of event: Media interviews
City of event: Granada, Spain
Date of event: 30/10/2021
Organising entity: Radio Almania

15   **Title of the work:** Talk with an astrophysicist
Name of the event: International Day of Women and Girls in Science
Type of event: Conferences given
City of event: Elche, Valencian Community, Spain
Date of event: 28/04/2021
Organising entity: IES Pedro Ibarra
City organizing entity: Elche, Valencian Community, Spain

16   **Title of the work:** An astrophysicist in the heart of our galaxy
Name of the event: International Day of Women and Girls in Science
Type of event: Conferences given
City of event: Sevilla, Andalusia, Spain
Date of event: 22/03/2021
Organising entity: IES Murillo
City organizing entity: Sevilla, Andalusia, Spain

17   **Title of the work:** Virtual meeting with astrophysicist Eulalia Gallego Cano
Name of the event: International day of Women and Girls in Science
Type of event: Conferences given
City of event: Azuaga, Extremadura, Spain
Date of event: 19/02/2021
Organising entity: IES Bembézar

18   **Title of the work:** Revealing the secrets of the centre of our galaxy
Name of the event: Scenio TV
Type of event: Media interviews
City of event: Granada, Andalusia, Spain
Date of event: 29/10/2020
Organising entity: El Bosón de Twitch

19   **Title of the work:** Unraveling the mysteries of the heart of our galaxy
Name of the event: Conference
Type of event: Conferences given   **Geographical area:** National
Reasons for participation: Upon invitation
City of event: Sabadell, Catalonia, Spain
Date of event: 19/02/2020
Organising entity: Astronomical Group of Sabadell   **Type of entity:** Associations and Groups
City organizing entity: Sabadell, Catalonia, Spain

20   **Title of the work:** The secrets hidden in the center of our galaxy
Name of the event: European Researchers' Night 2019
Type of event: Conferences given
City of event: Granada, Andalusia, Spain
Date of event: 27/09/2019
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

21   **Title of the work:** Unraveling the mysteries of the heart of our galaxy
Name of the event: European Researchers' Night 2018
Type of event: Conferences given
City of event: Granada, Andalusia, Spain
Date of event: 28/09/2018
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
Gallego-Cano, E..

22   **Title of the work:** Discovering the heart of our galaxy: Sagittarius A *, the supermassive black hole, and other mysteries
Name of the event: International book week
Type of event: Conferences given
City of event: Granada, Andalusia, Spain
Date of event: 27/04/2018
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

23   **Title of the work:** Sagittarius A*: The black hole at the heart of our galaxy
Name of the event: International Day of Women and Girls in Science
Type of event: Conferences given
City of event: Granada, Andalusia, Spain
Date of event: 08/02/2018
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

24   **Title of the work:** Galactic Trivial
Name of the event: European Researchers' Night 2017
Type of event: Conferences given
City of event: Granada, Andalusia, Spain
Date of event: 29/09/2017
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

25   **Title of the work:** Black Holes. Factory Space and Time
Name of the event: The Alájar Meeting 2015: Galactic nuclei at high resolution in many dimensions
Type of event: Conferences given
City of event: Alájar, Andalusia, Spain
Date of event: 09/10/2015
Organising entity: Astro-GR

26   **Title of the work:** Sagittarius A*: the black hole at the heart of our galaxy
Name of the event: European Researchers' Night 2015
Type of event: Conferences given
City of event: Granada, Andalusia, Spain
Date of event: 25/09/2015
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency

R&D management and participation in scientific committees

National and international forums and committees

1   **Name of the forum:** Galactic Center Workshop 2023
Organising entity: Instituto de Astrofísica de Andalucía   **Type of entity:** State agency
City organizing entity: Granada, Andalusia, Spain
Start-End date: 24/04/2023 - 28/04/2023

2   **Name of the forum:** Public Surveys and new instrumentation for Calar Alto Observatory
City of entity: Spain
Organising entity: Observatorio Astronómico Hispano-Alemán de Calar Alto   **Type of entity:** Observatorio
Represented entity: Observatorio Astronómico Hispano-Alemán de Calar Alto   **Type of entity:** Observatorio
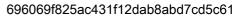**Start-End date:** 12/03/2020 - 13/03/2020

Other achievements

Stays in public or private R&D centres

1 **Entity:** Instituto de Astrofísica e Ciências do Espaço (IA) **Type of entity:** University Research Institute
Faculty, institute or centre: Faculty of Science
City of entity: Lisbon, Lisboa, Portugal
Start-End date: 09/09/2024 - 27/09/2024
Goals of the stay: Guest
Provable tasks: Collaborate on the project related to identification of young stars near the supermassive black hole at the center of our Galaxy.
Type of stay: Investigación

2 **Entity:** National Research Institute of Astronomy And Geophysics **Type of entity:** University Research Institute
City of entity: Cairo, Egypt
Start-End date: 15/02/2023 - 23/02/2023
Goals of the stay: Teacher
Provable tasks: Scientific Organizing Committee and give seminar
Type of stay: Docencia

3 **Entity:** Niels Bohr Institute
City of entity: Copenhagen, Denmark
Start-End date: 28/11/2022 - 10/12/2022
Goals of the stay: Guest
Provable tasks: Work on "The SN2 Project: type-Ia SNe from Sierra Nevada, building a spectro-photometric sample of nearby type- Ia SN'"
Type of stay: Investigación

4 **Entity:** Laboratoire d'Astrophysique de Marseille **Type of entity:** University Research Institute
Faculty, institute or centre: Université d'Aix-Marseille & Centre National de la Recherche Scientifique
City of entity: Marseilles, Provence-Alpes-Côte d'Azur, France
Start-End date: 08/12/2021 - 15/12/2021
Goals of the stay: Guest
Provable tasks: Scientific meetings for the development of the telescope project called CASTLE
Type of stay: Investigación

5 **Entity:** Max-Planck-Institut for Astronomie
City of entity: Heidelberg, Germany
Start-End date: 27/11/2017 - 30/11/2017
Goals of the stay: Guest
Provable tasks: Conference

6 **Entity:** W. M. Keck Observatory
City of entity: Hawaii, United States of America
Start-End date: 15/07/2017 - 30/07/2017
Goals of the stay: Guest

Provable tasks: Work with the Galactic Center Orbits Initiative (UCLA) at the W. M. Keck Telescopes, including observations

7   **Entity:** University California, Los Angeles   **Type of entity:** University
     City of entity: Los Angeles, United States of America
     Start-End date: 16/02/2017 - 21/03/2017
     Goals of the stay: Guest

8   **Entity:** University California, Los Angeles
     City of entity: Los Angeles, United States of America
     Start-End date: 15/07/2016 - 21/09/2016
     Goals of the stay: Contracted

9   **Entity:** European Southern Observatory   **Type of entity:** Public Research Body
     Faculty, institute or centre: Paranal Observatory
     City of entity: Paranal, Chile
     Start-End date: 23/06/2016 - 28/06/2016
     Goals of the stay: Visiting observer
     Provable tasks: Carried out the observing program ID 195.B-0283(C), using the instrument HAWKI which is located on Telescope Yepun UT4

10   **Entity:** European Southern Observatory   **Type of entity:** Public Research Body
     Faculty, institute or centre: Paranal Observatory
     City of entity: Paranal, Chile
     Start-End date: 03/06/2015 - 10/06/2015
     Goals of the stay: Visiting observer
     Provable tasks: Carried out the observing program ID 195.B-0283(A), using the instrument HAWKI which is located on Telescope Yepun UT4.

Scientific societies and professional associations

Name of the society: Spanish Society of Astronomy
City affiliation entity: Spain
Start date: 01/01/2019

Summary of other achievements

1   **Description of the achievement:** Accepted and observed proposal F20-3.5-003 as PI at CAHA/PMAS
     Accrediting entity: Observatorio Astronómico   **Type of entity:** Observatorio
     Hispano-Alemán de Calar Alto
     City accrediting entity: Almería, Andalusia, Spain
     Conferral date: 25/02/2020

2   **Description of the achievement:** Accepted proposals as Co-PI at ESO VLT (e.g., ESO program ID 195.B-0283(C))
     Accrediting entity: European Southern Observatory   **Type of entity:** Associations and Groups
     City accrediting entity: Garching, Germany