

# DR. CARLOS CIFUENTES SAN ROMÁN



*Curriculum Vitæ*

November 2024

## 1 Current position

- Postdoctoral researcher in the K-dwarfs Orbited By habitable Exoplanets ([KOBE](#)) project at the Centro de Astrobiología ([CAB](#)). European Space Astronomy Centre ([ESAC](#)) in Madrid, Spain.

For a complete list of previous positions, please refer to Appendix [A](#).

## 2 Expertise and interests

- Stellar characterisation of cool dwarfs: Fundamental parameters and stellar multiplicity.
- Detection and characterisation of exoplanets, mainly using the radial-velocity method.
- Determination of spectral parameters in the infrared.

## 3 Publication summary

- 98 publications, including: 56 refereed papers (published in 1<sup>st</sup> quartile of impact factor journals: *A&A*, *ApJ*, *Science*), 3 as a first author, 8 as a second, third, or *last* author, 31 VizieR catalogues, 1 circular.
- 16 *proceedings* of national and international meetings; 10 oral contributions, 14 poster contributions.
- 1876 citations; Hirsch *h*-index = 23 (*n* publications with  $\geq n$  citations); Hirsch *m*-index = 2.9 (*m* =  $h/(n_{2024} - n_{2018})$ ); *i*<sub>10</sub>-index = 35 (number of publications with  $\geq 10$  citations).

For more details, please refer to Appendices [B](#) and [C](#), and to the dedicated library in [ADS](#).

## 4 Observational experience

- 4 approved proposals as PI (8 full nights, 4 half nights, and 5 service nights) and 6 approved proposals as co-PI (20+ full nights).
- 13 nights on telescope as observer or co-observer at NOT, WHT, INT, 2.2-m CAHA, and 1 remote night co-observing with VLT.

For more details, please refer to Appendix [D](#).

## 5 Degrees

- **PhD Astrophysics**, UCM/CAB/MPIA, Madrid, 2023.
- **MSc Astrophysics**, UCM, Madrid, 2017.
- **MSc Renewable energies**, UAM, Madrid, 2014.
- **BSc/Lic. Physics**, USAL, Salamanca, 2013.

For more details, please refer to Appendix E.

## 6 Skills

### 6.1 Computational

BEGINNER means *used at some point*; OPERATIONAL means *extensive experience with*; PROFICIENT means *day-to-day comfort*.

	BEGINNER	OPERATIONAL	PROFICIENT
<b>Operating Systems</b>		Linux, Windows	macOS
<b>Programming</b>	C, C#	Shell Script (Unix)	Python
<b>Databases</b>		SQL (ADQL)	
<b>Collaboration &amp; Version control</b>		Git	
<b>Mathematics &amp; Statistics</b>	MATLAB, SPSS	Mathematica, R	
<b>Virtual Observatory</b>	Splat, Stilts		TOPCAT, VOSA
<b>Astronomy (Databases)</b>			CDS <sup>1</sup>
<b>Astronomy (Exoplanet analysis)</b>	exoplanet	juliet, exostriker	
<b>Astronomy (Spectra reduction)</b>	IRAF, DS9		
<b>Document preparation</b>			L <sup>A</sup> T <sub>E</sub> X <sup>2</sup> , #Markdown
<b>Web development &amp; design</b>	jQuery	html, CSS, BS5	
<b>Image, audio &amp; video edition</b>		ADOBE PS, BR	iMovie, Final Cut Pro

### 6.2 Languages

<b>Español</b>	Mother tongue
<b>English</b>	High level speaking, listening and reading (C1)
<b>Deutsch</b>	Some speaking, listening and reading ability (~A1-A2)

<sup>1</sup>Centre de Données astronomiques de Strasbourg ([CDS](#)) includes ADS, Simbad, VizieR, and Aladin.

<sup>2</sup>Additionally, office suites such as Microsoft Office (Word, Powerpoint, Excel) and macOS iWork (Pages, Keynote, Numbers). Typing speed: 47–48 wpm / 235–240 cpm ( $\geq 95\%$  accuracy) – [@keybr](#)

## 7 Personal details

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## 8 References

- Dr. Jorge Lillo Box (CAB; [jlillo@cab.inta-CSIC.es](mailto:jlillo@cab.inta-CSIC.es), [www.jlillobox.com](http://www.jlillobox.com))
- Dr. José Antonio Caballero Hernández (CAB; [caballero@cab.inta-CSIC.es](mailto:caballero@cab.inta-CSIC.es), [www.exoterra.eu](http://www.exoterra.eu))
- Dr. Jorge Sanz Forcada (CAB; [jsanz@cab.inta-CSIC.es](mailto:jsanz@cab.inta-CSIC.es))
- Dr. María Rosa Zapatero Osorio (CAB; [mosorio@cab.inta-CSIC.es](mailto:mosorio@cab.inta-CSIC.es))
- Dr. A. Schweitzer (HS; [andreas.schweitzer@hs.uni-hamburg.de](mailto:andreas.schweitzer@hs.uni-hamburg.de))
- Dr. Trifon Trifonov (MPIA; [trifonov@mpia.de](mailto:trifonov@mpia.de))
- Prof. Dr. David Montes Gutiérrez (UCM; [dmontes@cab.inta-CSIC.es](mailto:dmontes@cab.inta-CSIC.es))
- Prof. Dr. Ángel Morales Sabio (CIEMAT; [amorales@ciemat.es](mailto:amorales@ciemat.es)) → Recom. letter

CAB: Centro de Astrobiología; CIEMAT: Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas; HS: Hamburger Sternwarte; MPIA: Max-Planck-Institut für Astronomie; UCM: Universidad Complutense de Madrid.

## A Professional experience

### A.1 Research

- **Predoctoral Researcher** – [Centro de Astrobiología](#) (CAB), Madrid.  
Dr. José Antonio Caballero and Dr. Jorge Sanz Forcada. Jul 2018–Mar 2023 (**4.5 years**).
- **Predoctoral Internship** – [Max-Planck-Institut für Astronomie](#) (MPIA), Heidelberg.  
Dr. Trifon Trifonov. Sep–Dec 2021 (**3 months**).
- **Research Personnel in training** – [Universidad complutense de Madrid](#) (UCM), Madrid.  
Dr. José Antonio Caballero and Prof. David Montes. Nov 2016–Sep 2017 (**10 months**).
- **Research Personnel in training** – [Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas](#) (CIEMAT), Madrid.  
Dr. Ángel Morales Sabio and Dr. Nuria Germán Cordero. Jan–Jun 2014 (**5 months**).

### A.2 Teaching

- **Professor** – *Introduction to Astronomy* for science and non-science majors. Saint Louis University ([SLU](#)), Madrid. Jan–May 2024 (**1 semester**).
- **Professor** – *Differential Geometry*. BSc in Mathematics at Universidad Internacional de Empresa ([UNIE](#)), Madrid. Jan–Jun 2024 (**1 semester**).

### A.3 Private company

- **Energy Consultant** – [Indra Sistemas S.A.](#), Madrid. Nov 2014–Jul 2016 (**1.7 years**).

### A.4 Grants and funding

#### *Plan Nacional* projects

- **PID2023-150468NB-I00**: “Formación estelar y planetaria: la diversidad y habitabilidad según JWST Y PLATO” (CAB-INTA). co-PIs: Dr. David Barrado Navascués, Dr. Nuria Huélamo Bautista.
- **PID2019-109522GB-C51**: “Enanas marrones y planetas aislados y alrededor de estrellas” (CAB-CSIC). co-PIs: Dr. María Rosa Zapatero Osorio, Dr. José A. Caballero Hernández.
- **AYA2016-79425-C3-2-P**: “Enanas marrones y planetas aislados y como compañeros de estrellas” (CAB-CSIC). Subprograma de Formación de Personal Investigador (FPI). Granted amount: 92 843 EUR; Administered budget: 6250 EUR. co-PIs: Dr. María Rosa Zapatero Osorio, Dr. Jorge Sanz Forcada.

#### Other national projects

- **MDM-2017-0737**: Unidad de Excelencia María de Maeztu “Evaluando la emergencia de vida como un fenómeno universal mediante la exploración planetaria” (CAB).

## B Research

For publications that are not first-authored, the individual contribution is indicated in superscript, summarised as follows: (1) Writing, reviewing literature, formatting and editing; (2) Stellar characterisation and discussion of stellar features, including derivation of stellar parameters ( $\mathcal{L}$ ,  $\mathcal{M}$ ,  $\mathcal{R}$ ;  $T_{\text{eff}}$ ); (3) Data collection, manipulation and analysis; (4) Plotting and visualisation elements; (5) Other (specified).

## B.1 Publications with peer review process

54. C. Cifuentes, J. A. Caballero, J. González-Payo, P. J. Amado, V. J. S. Béjar, et al. “The CARMENES input catalogue of M dwarfs. IX. Multiplicity from close spectroscopic binaries to ultrawide systems”. *Astronomy & Astrophysics*, submitted.
53. O. Balsalobre-Ruza, J. Lillo-Box, A. M. Silva, et al. (incl. C. Cifuentes<sup>4</sup>). “The KOBE experiment: II. Two sub-Neptune-mass planets around a late K-dwarf”. *Astronomy & Astrophysics*, submitted.
52. H. L. Ruh, M. Zechmeister, A. Reiners, E. Nagel, Y. Shan, C. Cifuentes<sup>1,2</sup>, et al. “The CARMENES search for exoplanets around M dwarfs The impact of rotation and magnetic fields on the radial velocity jitter in cool stars”. *Astronomy & Astrophysics*, accepted.
51. M. Cortés-Contreras, J. A. Caballero, D. Montes, C. Cardona-Guillén, V. J. S. Béjar, C. Cifuentes<sup>1,2</sup>, et al. “CARMENES input catalogue of M dwarfs VIII. Kinematics in the solar neighbourhood”. *Astronomy & Astrophysics*, accepted.
50. J. González-Payo, J. A. Caballero, J. Gorgas, M. Cortés-Contreras, M. C. Gálvez-Ortiz, C. Cifuentes<sup>1,2</sup>. “Multiplicity of stars with planets in the solar neighbourhood”. *Astronomy & Astrophysics*, 689, A302.
49. A. von Stauffenberg, T. Trifonov, A. Quirrenbach, S. Reffert, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. Revisiting the GJ 581 multi-planetary system with new Doppler measurements from CARMENES, HARPS, and HIRES”. *Astronomy & Astrophysics*, 688, A112.
48. P. Mas-Buitrago, A. González-Marcos, E. Solano, V. M. Passegger, et al. (incl. C. Cifuentes<sup>1,2</sup>). “Using autoencoders and deep transfer learning to determine the stellar parameters of 286 CARMENES M dwarfs”. *Astronomy & Astrophysics*, 687, A205.
47. E. Goffo, P. Chaturvedi, F. Murgas, G. Morello, et al. (incl. C. Cifuentes<sup>1,2</sup>). “TOI-4438 b: a transiting mini-Neptune amenable to atmospheric characterization”. *Astronomy & Astrophysics*, 685, A147.
46. S. Dreizler, R. Luque, I. Ribas, V. Koseleva, et al. (incl. C. Cifuentes<sup>1,2</sup>). “Teegarden’s Star revisited: A nearby planetary system with at least three planets”. *Astronomy & Astrophysics*, 685, A117.
45. F. Llorente de Andrés, R. de la Reza, R., P. Cruz, D. Cuenda-Muñoz, E.J. Alfaro, C. Chavero, C. Cifuentes<sup>1,2</sup>. “The evolution of lithium in FGK dwarf stars. Influence of planets and Galactic migration”. *Astronomy & Astrophysics*, 684, A28.
44. Y. Shan, D. Revilla, S. L. Skrzypinski, S. Dreizler, et al. (incl. C. Cifuentes<sup>1,2</sup>). “CARMENES input catalog of M dwarfs: VII. New rotation periods for the survey stars and their correlations with stellar activity”. *Astronomy & Astrophysics*, 684, A9.
43. M. Mallorquí, E. Goffo, E. Pallé, N. Lodieu, et al. (incl. C. Cifuentes<sup>1,2</sup>). “TOI-1801 b: a temperate mini-Neptune around a young M0.5 dwarf”. *Astronomy & Astrophysics*, 680, A76.
42. P. Gorrini, J. Kemmer, S. Dreizler, R. Burn, T. Hirano, et al. (incl. C. Cifuentes<sup>1,2</sup>). “Planetary companions orbiting the M dwarfs GJ 724 and GJ 3988 A CARMENES and IRD collaboration”. *Astronomy & Astrophysics*, 680, A28.
41. E. Pallé, J. Orell-Miquel, M. Brady, J. Bean, A. P. Hatzes, et al. (incl. C. Cifuentes<sup>1,2</sup>). “GJ 806 (TOI-4481): A bright nearby multi-planetary system with a transiting hot, low-density super-Earth”. *Astronomy & Astrophysics*, 678, A80.
40. J. Orell-Miquel, M. Lampón, M López-Puertas, M. Mallorquí, et al. (incl. C. Cifuentes<sup>1,2</sup>). “Confirmation of an He I evaporating atmosphere around the 650-Myr-old sub-Neptune HD 235088 b (TOI-1430 b) with CARMENES”. *Astronomy & Astrophysics*, 677, A56.
39. E. González-Álvarez, M. R. Zapatero Osorio, V. J. S. Béjar, C. Cifuentes<sup>1,2</sup>, et al. “Two sub-Neptunes around the M dwarf TOI-1470”. *Astronomy & Astrophysics*, 675, A177.
38. E. González-Álvarez, J. Kemmer, P. Chaturvedi, J. A. Caballero, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. A sub-Neptunian mass planet in the habitable zone of HN Lib”. *Astronomy & Astrophysics*, 675, A141.

37. A. Bello-García, V. M. Passegger, J. Ordieres-Meré, A. Schweitzer, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs—A deep transfer learning method to determine  $T_{\text{eff}}$  and [M/H] of target stars”. *Astronomy & Astrophysics*, 673, A105.
36. R. de la Reza, C. Chavero, S. Roca-Fábregas, F. Llorente de Andrés, P. Cruz, and C. Cifuentes<sup>1,2,3</sup>. “Searching for the nature of stars with debris disks and planets”. *Astronomy & Astrophysics*, 671, A136.
35. J. Blanco-Pozo, M. Perger, M. Damasso, G. Anglada Escudé, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. A long-period planet around GJ 1151 measured with CARMENES and HARPS-N data”. *Astronomy & Astrophysics*, 671, A50.
34. I. Ribas, A. Reiners, M. Zechmeister, J. A. Caballero, et al. (incl. C. Cifuentes<sup>1,2,3</sup>). “The CARMENES search for exoplanets around M dwarfs. Guaranteed Time Observations Data Release 1 (2016–2020)”. *Astronomy & Astrophysics*, 670, A139.
33. D. Kossakowski, M. Kürster, T. Trifonov, T. Henning, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs, Wolf 1069 b: Earth-mass planet in the habitable zone of a nearby, very low-mass star”. *Astronomy & Astrophysics*, 670, A84.
32. M. Damasso, M. Perger, J. M. Almenara, D. Nardiello, et al. (incl. C. Cifuentes<sup>1,2</sup>). “A quarter century of spectroscopic monitoring of the nearby M dwarf Gl 514. A super-Earth on an eccentric orbit moving in and out of the habitable zone”. *Astronomy & Astrophysics*, 666, A187.
31. P. Chaturvedi, P. Bluhm, E. Nagel, A. P. Hatzes, et al. (incl. C. Cifuentes<sup>1,2</sup>). “TOI-1468: A system of two transiting planets, a super-Earth and a mini-Neptune, on opposite sides of the radius valley”. *Astronomy & Astrophysics*, 666, A155.
30. R. Luque, G. Nowak, T. Hirano, D. Kossakowski, et al. (incl. C. Cifuentes<sup>1,2</sup>). “Precise mass determination for the keystone sub-Neptune planet transiting the mid-type M dwarf G 9–40”. *Astronomy & Astrophysics*, 666, A154.
29. D. Kossakowski, M. Küster, Th. Henning, T. Trifonov, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. Stable radial-velocity variations at the rotation period of AD Leonis: A test case study of current limitations to treating stellar activity”. *Astronomy & Astrophysics*, 666, A143.
28. J. A. Caballero, E. González-Alvarez, M. Brady, T. Trifonov, T. G. Ellis, C. Dorn, C. Cifuentes<sup>1,2,4</sup>, et al. “A detailed analysis of the Gl 486 planetary system”. *Astronomy & Astrophysics*, 665, A120.
27. S. V. Jeffers, J. R. Barnes, P. Schöfer, A. Quirrenbach, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs: Benchmarking the impact of activity in high-precision radial velocity measurements”. *Astronomy & Astrophysics*, 663, A27.
26. J. Kemmer, S. Dreizler, D. Kossakowski, S. Stock, et al. (incl. C. Cifuentes<sup>1,2</sup>). “Discovery and mass measurement of the hot, transiting, Earth-sized planet, GJ 3929 b”. *Astronomy & Astrophysics*, 659, A17.
25. N. Espinoza, E. Pallé, J. Kemmer, R. Luque, J. A. Caballero, C. Cifuentes<sup>1,2</sup>, et al. “A Transiting, Temperate Mini-Neptune Orbiting the M Dwarf TOI-1759 Unveiled by TESS”. *The Astronomical Journal*, 163, 133.
24. E. Marfil, H. M. Tabernero, D. Montes, J. A. Caballero, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. Stellar atmospheric parameters of target stars with SteParSyn”. *Astronomy & Astrophysics*, 656, A162.
23. D. Kossakowski, J. Kemmer, P. Bluhm, S. Stock, J. A. Caballero, et al. (incl. C. Cifuentes<sup>1,2</sup>). “TOI-1201 b: A mini-Neptune transiting a bright and moderately young M dwarf”. *Astronomy & Astrophysics*, 656, A124.
22. S. Roca-Fábregas, F. Llorente de Andrés, C. Chavero, C. Cifuentes<sup>1,3</sup>, and R. de la Reza. “The bi-modal  $^7\text{Li}$  distribution of the Milky Way’s thin-disk dwarf stars. The role of Galactic-scale events and stellar evolution”. *Astronomy & Astrophysics*, 656, A24.
21. F. Llorente de Andrés, C. Chavero, R. de la Reza, S. Roca-Fábregas, C. Cifuentes<sup>1,3,4</sup>. “The evolution of lithium in FGK dwarf stars: The Li rotation connection and the Li desert”. *Astronomy & Astrophysics*, 654, A137.

20. V. Perdelwitz, M. Mittag, L. Tal-Or, J. H. M. M. Schmitt, et al. (incl. C. Cifuentes<sup>1,3</sup>). “CARMENES input catalog of M dwarfs VI. A time-resolved Ca II H&K catalog from archival data”. *Astronomy & Astrophysics*, 652, A116.
19. P. J. Amado, F. F. Bauer, C. Rodríguez López, E. Rodríguez, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. Two terrestrial planets orbiting G 264-012 and one terrestrial planet orbiting Gl 393”. *Astronomy & Astrophysics*, 650, A188.
18. T. Trifonov, J. A. Caballero, J. C. Morales, A. Seifahrt, I. Ribas, et al. (incl. C. Cifuentes<sup>1,2</sup>). “A nearby transiting rocky exoplanet that is suitable for atmospheric investigation”. *Science*, 371, 6533, 1038–1041.
17. S. Dreizler, M. Crossfield, D. Kossakowski, P. Plavchan, S. Jeffers, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs—LP 714-47b (TOI 442.01): Populating the Neptune desert”. *Astronomy & Astrophysics*, 644, A127.
16. J. Kemmer, S. Stock, D. Kossakowski, A. Kaminski, et al. (incl. C. Cifuentes<sup>1,2</sup>). “Discovery of a hot, transiting, Earth-sized planet and a second temperate, non-transiting planet around the M4 dwarf GJ 3473 (TOI-488)”. *Astronomy & Astrophysics*, 642, A236.
15. G. Nowak, R. Luque, H. Parviainen, E. Pallé, K. Molaverdikhani, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. Two planets on opposite sides of the radius gap transiting the nearby M dwarf LTT 3780”. *Astronomy & Astrophysics*, 642, A173.
14. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, et al. “The CARMENES input catalogue of M dwarfs. V. Luminosities, colours, and spectral energy distributions”. *Astronomy & Astrophysics*, 642, A115.
13. D. Baroch, J. C. Morales, I. Ribas, E. Herrero, A. Rosich, et al. (incl. C. Cifuentes<sup>1</sup>). “The CARMENES search for exoplanets around M dwarfs. Convective shift and starspot constraints from chromatic radial velocities”. *Astronomy & Astrophysics* 641, A69.
12. P. Bluhm, R. Luque, N. Espinoza, E. Pallé, J. A. Caballero, et al (incl. C. Cifuentes<sup>1,2</sup>). “Precise mass and radius of a transiting super-Earth planet orbiting the M dwarf TOI-1235: a planet in the radius gap?”. *Astronomy & Astrophysics* 639, A132.
11. E. Pallé, S. Nortmann, N. Casasayas-Barris, M. Lampón, et al. (incl. C. Cifuentes<sup>1,2</sup>). “A He I upper atmosphere around the warm Neptune in GJ 3470 b”. *Astronomy & Astrophysics* 638, A61.
10. H. Martínez-Rodríguez, J. A. Caballero, C. Cifuentes<sup>1,2,3</sup>, A. L. Piro, and R. Barnes. “Exomoons in the habitable zones of M dwarfs”. *The Astrophysical Journal*, 887, 2, 261.
9. J. C. Morales, A. J. Mustill, I. Ribas, M. B. Davies, A. Reiners, et al. (incl. C. Cifuentes<sup>1,2</sup>). “A giant exoplanet around a very low mass star challenging formation models”. *Science*, 365, 6460, 1441–1445.
8. M. Zechmeister, S. Dreizler, I. Ribas, A. Reiners, J. A. Caballero, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. Two temperate Earth-mass planet candidates around Teegardens star”. *Astronomy & Astrophysics*. 627, A49.
7. A. Schweitzer, V. M. Paszeger, C. Cifuentes<sup>1,2,3</sup>, V. J. S. Béjar, et al. “The CARMENES search for exoplanets around M dwarfs. Radii and masses of the target stars”. *Astronomy & Astrophysics* 625, A68.
6. R. González-Peinado, J. A. Caballero, D. Montes, and C. Cifuentes<sup>1,3</sup>. “Cool dwarfs in wide multiple systems: A curious quintuple system of a compact sun-like triple and a close M dwarf-white dwarf pair at a wide separation”. *The Observatory*, Vol. 138, p. 292–298.
5. A. Kaminski, T. Trifonov, J. A. Caballero, A. Quirrenbach, I. Ribas, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. A Neptune-mass planet traversing the habitable zone around HD 180617”. *Astronomy & Astrophysics*, 618, A115.
4. A. Reiners, M. Zechmeister, J. A. Caballero, I. Ribas, J. C. Morales, et al. (incl. C. Cifuentes<sup>1,3</sup>). “The CARMENES search for exoplanets around M dwarfs. High-resolution optical and near-infrared spectroscopy of 324 survey stars”. *Astronomy & Astrophysics*, 612, A49.

3. T. Trifonov, M. Kürster, M. Zechmeister, L. Tal-Or, J. A. Caballero, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. First visual-channel radial-velocity measurements and orbital parameter updates of seven M-dwarf planetary systems”. *Astronomy & Astrophysics*, 609, A117.
2. A. Reiners, I. Ribas, M. Zechmeister, J. A. Caballero, et al. (incl. C. Cifuentes<sup>1,2</sup>). “The CARMENES search for exoplanets around M dwarfs. HD 147379 b: A nearby Neptune in an early-M dwarf’s temperate zone”. *Astronomy & Astrophysics*, 609, A49.

## B.2 Publications without peer review process

11. C. Cifuentes. “Astrophysical parameters of M dwarfs with exoplanets”. PhD Thesis, Universidad Complutense de Madrid.
10. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, and the Carmenes Consortium. “Luminosities of cool stars”. The Star-Planet Connection, Online Workshop.
9. Y. Shan, A. Reiners, P. J. Amado, V. J. S. Béjar, J. A. Caballero, C. Cifuentes<sup>2</sup>, and the Carmenes Consortium. “CARMENES and the Frontiers of High-Resolution Spectroscopy for M dwarfs”. *Plato Online Mission Conference 2021*.
8. C. Cifuentes, J. A. Caballero, and S. Agustí. “One Is the Loneliest Number: Multiplicity in Cool Dwarfs”. *Research Notes of the AAS*, Vol. 5, Number 5.
7. E. Marfil, H. M. Tabernero, D. Montes, J. A. Caballero, F. J. Lázaro-Barrasa, et al. (incl. C. Cifuentes<sup>2,3</sup>). “Stellar atmospheric parameters of CARMENES GTO M dwarfs with spectral synthesis and SteParSyn”. *The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun (CS20.5)*. Virtually anywhere.
6. A. Quirrenbach, and the CARMENES Consortium (incl. C. Cifuentes<sup>2</sup>). “The CARMENES M-dwarf planet survey”. *Proceedings of the SPIE*, Vol. 11447, id. 114473C. Ground-based and Airborne Instrumentation for Astronomy. SPIE Astronomical Telescopes + Instrumentation 2020 Digital Forum. Online.
5. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, F. J. Abellán, et al. “Colours and luminosities of M dwarfs in the CARMENES input catalogue”. *Contributions to the XIV.0 Scientific Meeting (virtual) of the Spanish Astronomical Society*. Online.
4. M. Cortés-Contreras, A. J. Domínguez-Fernández, J. A. Caballero, et al. (incl. C. Cifuentes<sup>2</sup>). “Kinematics of M dwarfs in the CARMENES input catalogue”. *Contributions to the XIV.0 Scientific Meeting (virtual) of the Spanish Astronomical Society*. Online.
3. S. Roca-Fábrega, F. Llorente de Andrés, C. Cifuentes<sup>1,3</sup>, C. Chavero, R. de la Reza and B. Montesinos. “The bimodal A(Li) distribution of Milky Way’s thin disk stars and the Galactic scale events” *Contributions to the XIV.0 Scientific Meeting (virtual) of the Spanish Astronomical Society*. Online.
2. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, A. Schweitzer, I. Ribas, P. J. Amado, and the CARMENES Consortium. “Spectral energy distributions and luminosities of M dwarfs in the CARMENES search for exoplanets”. *Proceedings of the XIII Scientific Meeting of the Spanish Astronomical Society*. Highlights on Spanish Astrophysics X. Salamanca, Spain.
1. A. Quirrenbach, P. J. Amado, I. Ribas, A. Reiners, J. A. Caballero, et al. (incl. C. Cifuentes<sup>2</sup>). “CARMENES: high-resolution spectra and precise radial velocities in the red and infrared”. *Proceedings of the SPIE*, Vol. 10702, id. 107020W. SPIE Astronomical Telescopes + Instrumentation. Austin, Texas, USA.

## B.3 Conference Proceedings

15. M. Cortés-Contrera, J. A. Caballero, D. Montes, C. Cardona-Guillén, V. J. S. Béjar, C. Cifuentes, et al. “Kinematics, activity and youth in the CARMENES input catalogue of M dwarfs”. *Proceedings of the XVI Scientific Meeting of the Spanish Astronomical Society* Highlights of Spanish Astrophysics XII. Granada, Spain
14. J. González-Payo, J. A. Caballero, J. Gorgas, M. Cortés-Contreras, M. C. Gálvez-Ortiz, and C. Cifuentes “Multiplicity of stars with planets”. *Ibid.*

13. J. A. Caballero, C. Cifuentes, M. Cortés-Contreras, D. Montes, P. J. Amado, V. J. S. Béjar, et al. “Carmencita: Know thy star, know thy planet”. *Ibid.*
12. J. A. Caballero, M. Capilla, M. A. Corbinos, I. Encinas, J. Miranzo, S. Turrado, and C. Cifuentes. “ARTof-COSMOS: aprendiendo a comunicar la astronomía al público”. *Ibid.*
11. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, et al. “About the multiplicity of M dwarfs”. *Proceedings of the XV Scientific Meeting of the Spanish Astronomical Society*, September 4–9, 2022.
10. C. Cifuentes and J. A. Caballero. “Music and astronomy. IV. The Astrophysical Brothers”. *Ibid.*
9. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, and the Carmenes Consortium. “Luminosities of cool stars”. *The Star-Planet Connection, On-line Workshop*, October 25–28, 2021.
8. Y. Shan, A. Reiners, P. J. Amado, V. J. S. Béjar, J. A. Caballero, C. Cifuentes, and the Carmenes Consortium. “CARMENES and the Frontiers of High-Resolution Spectroscopy for M dwarfs”. *Plato Online Mission Conference 2021*, October, 2021.
7. E. Marfil, H. M. Tabernero, D. Montes, J. A. Caballero, F. J. Lázaro-Barrasa, et al. (incl. C. Cifuentes). “Stellar atmospheric parameters of CARMENES GTO M dwarfs with spectral synthesis and SteParSyn”. *The 20.5th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun (CS20.5)*. Virtually anywhere. March 2–4, 2021. (2, 3)
6. A. Quirrenbach, and the CARMENES Consortium (incl. C. Cifuentes). “The CARMENES M-dwarf planet survey”. *Proceedings of the SPIE*, Vol. 11447, id. 114473C. Ground-based and Airborne Instrumentation for Astronomy. SPIE Astronomical Telescopes + Instrumentation 2020 Digital Forum. Online. December 14–18, 2020.
5. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, F. J. Abellán, et al. “Colours and luminosities of M dwarfs in the CARMENES input catalogue”. *Contributions to the XIV.0 Scientific Meeting (virtual) of the Spanish Astronomical Society*. Online. July 13–15 2020.
4. M. Cortés-Contreras, A. J. Domínguez-Fernández, J. A. Caballero, D. Montes, C. Cardona, V. J. S. Béjar, C. Cifuentes, et al. “Kinematics of M dwarfs in the CARMENES input catalogue”. *Ibid.*
3. S. Roca-Fábrega, F. Llorente de Andrés, C. Cifuentes, C. Chavero, R. de la Reza and B. Montesinos. “The bimodal A(Li) distribution of Milky Way’s thin disk stars and the Galactic scale events”. *Ibid.*
2. C. Cifuentes, J. A. Caballero, M. Cortés-Contreras, D. Montes, A. Schweitzer, I. Ribas, P. J. Amado, and the CARMENES Consortium. “Spectral energy distributions and luminosities of M dwarfs in the CARMENES search for exoplanets”. *Proceedings of the XIII Scientific Meeting of the Spanish Astronomical Society*. Highlights on Spanish Astrophysics X. Salamanca, Spain. 16–20 July, 2018.
1. A. Quirrenbach, P. J. Amado, I. Ribas, A. Reiners, J. A. Caballero, et al. (incl. C. Cifuentes). “CARMENES: high-resolution spectra and precise radial velocities in the red and infrared”. *Proceedings of the SPIE*, Vol. 10702, id. 107020W. SPIE Astronomical Telescopes + Instrumentation. Austin, Texas, USA. 10–15 June, 2018.

## B.4 VizieR Online Data Catalogues

31. Multiplicity of stars with planets (González-Payo+, 2024)
30. GJ 581 RVs and activity indices (von Stauffenberg+, 2024)
29. Stellar parameters of 286 CARMENES M dwarfs (Mas-Buitrago+, 2024)
28. HN Lib radial velocities (González-Álvarez+, 2023)
27. GJ 724 and GJ 3988 RV timeseries (Gorrini+, 2023)
26. Deep Transfer Learning of  $T_{\text{eff}}$  and [M/H] (Bello-García+, 2023)
25. Stars with debris disks and planets (de la Reza+, 2023)
24. GJ 1151 CARMENES and HARPS-N data (Blanco-Pozo+, 2023)

23. **Wolf 1069 RV and stellar activity indices** (Kossakowski+, 2023)
22. **CARMENES search for exoplanets around M dwarfs** (Ribas+, 2023)
21. **AD Leo RV and stellar activity indices** (Kossakowski+, 2022)
20. **TOI-1468 photometry and radial velocities** (Chaturvedi+, 2022)
19. **VRI photometry and radial velocity of TOI-1759** (Espinoza+, 2022)
18. **GJ514 RVs and Activity diagnostics** (Damasso+, 2022)
17. **GJ 3929 b RVs and activity indicators** (Kemmer+, 2022)
16. **CARMENES stellar atmospheric parameters** (Marfil+, 2021)
15. **TOI-1201 RV and activity index** (Kossakowski+, 2021)
14. **Evolution of Li in FGK dwarf stars** (Llorente de Andrés+, 2021)
13. **CARMENES time-resolved CaII H&K catalog** (Perdelwitz+, 2021)
12. **G 264-012 and Gl 393 radial velocity curves** (Amado+, 2021)
11. **LP 714-47 (TOI 442) radial velocity curve** (Dreizler+, 2020)
10. **GJ 3473 (TOI-488) radial velocity curve** (Kemmer+, 2020)
9. **CARMENES input catalogue of M dwarfs. V** (Cifuentes+, 2020)
8. **Compilation of planets around M dwarfs** (Martínez-Rodríguez+, 2019)
7. **GJ 3512 radial velocity and light curves** (Morales+, 2019)
6. **Teegarden's Star RV and H $\alpha$  curves** (Zechmeister+, 2019)
5. **Radii and masses of the CARMENES targets** (Schweitzer+, 2019)
4. **A Neptune-mass planet traversing the habitable zone around HD 180617** (Kaminski+, 2018)
3. **324 CARMENES M dwarfs velocities** (Reiners+, 2018)
2. **CARMENES radial velocity curves of 7 M-dwarf** (Trifonov+, 2018)
1. **HD147379 b velocity curve** (Reiners+, 2018)

## B.5 Circulars

1. P. Bacci, M. Maestripieri, M. Facchini, M. D. Grazia, L. Tesi, et al. (incl. C. Cifuentes<sup>5:Observer of ToO</sup>). “[MPEC 2020-A99: 2020 AV2](#)”. *Minor Planet Electronic Circulars*, No. 2020-A99. January 2020.

## B.6 Book chapters and sections

1. *100 Conceptos de Astrobiología*, D. Barrado Navascués and S. Cabañero, and 50+ coauthors. Ed. INTA-CSIC (2022).

## C Outreach

The symbols indicate oral (●) and poster (○) contributions.

- **Congresses and conferences:** ● ○ [Spanish Astronomical Society XV Meeting](#), Tenerife, Spain (Sep 2022); ○ [Cool Stars 21](#), Toulouse, France (Jun 2022); [The Star-Planet Connection](#), ESO, online (Oct 2021); ○ [CAP 2021: Communicating Astronomy with the Public 2021](#), IAU, online (May 2021); ○○ [Cool Stars 20.5 Virtual Meeting](#), online (Mar 2021); ○○○ [Spanish Astronomical Society XIV.0 Meeting](#), online (Jul 2020); ○ [European Astronomical Society Annual Meeting](#), online (Jul 2020); [1st meeting of the Spanish exoplanet network \(Exonet\)](#), Granada, Spain (Feb 2019); ● [Present and future science with CARMENES \(RIA\)](#), Granada, Spain (Feb 2019); ○ [Encuentro RIA-SpaceTec: Instrumentación astronómica en España](#), Madrid, Spain (Oct 2018); ○○○ [Spanish Astronomical Society XIII Meeting](#), Salamanca, Spain (Jul 2018).

- **CARMENES scientific meetings:** • 16th: Göttingen, Germany (Jun 2022); 15th: *Endor/online* (Nov 2021); 14th: *Hoth/online* (May 2021); 13th: *Tatooine/online* (Nov 2020); 12th: *Arrakis/online* (Mar 2020); • 11th: Weimar, Germany (Nov 2019); • 10th: Seville, Spain (Nov 2019); • 9th: Barcelona, Spain (May 2019); 6th: Madrid, Spain (Apr 2017).
- **Schools, Workshops & Summer courses:** *Writing Better Research Papers and Proposals, online* (Nov 2023); *ESA's Madrid-Area Exoplanets Science Meeting (MAESM)*, Madrid, Spain (Oct 2022); *First Severo Ochoa IAA (SO-IAA) Workshop on scientific writing and oral presentations in astronomy*, Madrid, Spain (Sep 2020); *I Jornada de Invierno de Astrobiología*, Madrid, Spain (Jan 2020); *Machine learning and applications to physics (IPARCOS)*, Madrid, Spain (Dec 2019); *Cursos de Verano de El Escorial: 20 Años de Astrobiología en España*, Madrid, Spain (Jul 2019); *Gaia DR2 Exploration Lab*, Madrid, Spain (Jun 2018); *Virtual Observatory 11th School*, Madrid, Spain (May 2018); *Deep learning as a tool for scientific data analysis: Introduction and hands-on session*, Madrid, Spain (May 2018); *Aspectos metodológicos para el doctorado en el ámbito de las ciencias experimentales e ingenierías*, Madrid, Spain (Dec 2017); *ASTERICS VO School: Data Access, Discovery and Interoperability (DADI)*, Madrid, Spain (Nov 2017).
- **PhD-related events:** *II Jornadas para Doctorandos del CSIC, online* (Oct 2020); • *I Jornadas para Doctorandos del CSIC, online* (Jun 2019); • *Concurso “Tesis en 3 minutos”*, Madrid, Spain (Apr 2019); *Jornadas de Doctorandos UCM*, Madrid, Spain (Mar 2019); • *PhDay 2018*, Madrid, Spain (Nov 2018); *PhDay 2017*, Madrid, Spain (Dec 2017).
- **Other talks (journals):** • *Astroquery and its secrets (PyCoffee)*, Madrid, Spain (Oct, 2024).
- **Poster contributions as a co-author (without attendance):** ○○ *Spanish Astronomical Society XVI Meeting*, Granada, Spain (Jul 2024); ○○ *European Astronomical Society Meeting 2022*, Valencia, Spain (Jul 2022); ○ *The Star-Planet Connection workshop, online* (Oct 2021); ○○○ *TESS Science Conference 2 (TSC2)*, online (Aug 2021); ○○ *European Astronomical Society Meeting 2020*, online (Jul 2020); ○○ *Annual Meeting of the Astronomische Gesellschaft 2017*, Göttingen, Germany (Sep 2017).

## D Observational experience

### D.1 As principal investigator

The number of on-site nights at the telescope is indicated in [brackets].

1. *Identifying new M dwarfs spectroscopic binaries from Gaia RV data* (mid-res spectroscopy).  
**C. Cifuentes**, J. A. Caballero, E. Marfil, et al.  
8 nights with FIES @ NOT ([86-NOT5/23A](#), [114-NOT16/22B](#)) [2] and 5 service nights (fraction) with FIES @ NOT ([114-NOT16/22B](#)).
2. *Spectroscopy of poorly investigated late-type young stars in the sigma Orionis cluster<sup>1</sup>* (long-slit spectroscopy).  
**C. Cifuentes**, J. A. Caballero, and A. De Burgos.  
Four half nights with ISIS Red+ @ WHT ([164-WHT7/19B](#)) [4]

### D.2 As co-principal investigator

1. *Calibrating the abundances of M dwarfs with wide visual binaries* (high-res spectroscopy).  
**C. Duque-Arribas**, D. Montes, et al. (incl. **C. Cifuentes**).
  - 8 hours with SES @ STELLA ([85-MULTIPLE-2/22B](#))
  - 3 nights with HERMES @ MERCATOR ([85-MULTIPLE-2/22B](#))
  - 3.6 nights with CARMENES @ 3.5-m CAHA ([23A-3.5-010](#))
  - 2.25 nights with CARMENES @ 3.5-m CAHA ([23B-3.5-009](#))
2. *Formation origins of brown dwarfs from rotation rates* (image).  
**N. Lodieu**, et al. (incl. **C. Cifuentes**).  
5 nights with WFC @ INT ([141-INT13/20B](#)) [5]

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<sup>1</sup>To these observations corresponds the target of opportunity 2020 AV<sub>2</sub>, the first and only known member of the inner-Venusian Vatira population of Atira-class asteroids (MPEC 2020-A99: 2020 AV2).

3. Optical spectroscopy of the only halo candidate in the CARMENES input catalogue (long-slit spectroscopy).  
N. Lodieu, et al. (incl. C. Cifuentes).  
5 nights with OSIRIS @ GTC ([142-GTC107/21A](#))

### D.3 Other relevant collaborations

1. One night (remote) with ESPRESSO @ 8-m VLT (Period 107) [1 (remote)]  
M. R. Zapatero Osorio, E. González Álvarez, and C. Cifuentes.
2. Two half nights with CAFE @ 2.2-m CAHA (3–4 May 2017) [2]  
*Open clusters in Cygnus Superbubble: Ber 87 & IC 4996* (image and long-slit spectroscopy).  
Part of the curricula in the MSc in Astrophysics.

## E Academia

### E.1 Degrees

- *Philosophiae doctor* (PhD; Doctorado) – **Astrophysics** 2018–2023  
Universidad Autónoma de Madrid Madrid, Spain

*Thesis: “Astrophysical parameters of M dwarfs with exoplanets”* • *Advisors:* Dr. José Antonio Caballero and Dr. Jorge Sanz Forcada • *Institutions:* Centro de Astrobiología ([CAB](#), [CSIC-INTA](#)) and Max-Planck-Institut für Astronomie ([MPIA](#)).

- *Magister scientiae* (MSc; Máster) – **Astrophysics** 2016–2017  
Universidad Complutense de Madrid Madrid, Spain

*Solar System and exoplanets • Cool stars and substellar objects • Stellar atmospheres • Interstellar medium • Galactic formation and evolution • Astronomical instrumentation • Experimental techniques in astrophysics • Data analysis and statistical techniques.* (60 ECTS)

- *Magister scientiae* (MSc; Máster) – **Renewable Energies** 2013–2014  
Universidad Autónoma de Madrid Madrid, Spain

*Wind and Solar power • Hydropower • Geothermal Energy • Biomass • Nuclear Energy: Fission and Fusion • Energy Storage: Hydrogen, Fuel Cells • Energy conversion, transportation and storage • Bioclimatic architecture • Environment, energy economy and sustainable development.* (60 ECTS)

- *Baccalaureus scientiae* (BSc; Licenciatura) – **Physics** 2007–2013  
Universidad de Salamanca Salamanca, Spain

*Specialization on Astrophysics and Earth Sciences (Climatology, Meteorology, Atmospheric thermodynamics and radiation). Photonics and electronics.* (314 ECTS, Plan 1997)

### E.2 Complementary courses

#### Programming, Data Science and OS

1. *Data Science: Productivity Tools* HarvardX, *online* (Dec 2018)
2. *Data Driven Astronomy with Python and SQL* University of Sidney, *online* (Dec 2017)
3. *Linux* Escuela Julián Besteiro, *online* (Mar 2011)
4. *Scientific Software in Mathematics: Mathematica and MATLAB* USAL, Salamanca (1–5 Jun 2009)

## Astronomy and Astrophysics

1. *Cosmology* Australian National University, *online* (Mar 2016)
2. *Philosophy and the Sciences* University of Edinburgh, *online* (Nov 2015)
3. *The Science & Technology behind Astronomical Discovery* University of Edinburgh, *online* (Jul 2015)

## Languages

1. *Inglés específico: presentaciones C1* Euroinnova, *online*, 30h (Oct–Nov 2020)
2. *English language immersion course* UIMP, Barcelona + Tenerife, 80h (Oct 2009 + Jun 2010)
3. *Upper-Intermediate Course in English* Servicio Central de Idiomas USAL, Salamanca, 60h (Sep 2011–Jan 2012)

## Miscellanea

1. *Scopus* FECYT, *online*, 2h (Apr 18)
2. *Critical Thinking in Global Challenges* University of Edinburgh, *online* (Mar 2015)
3. *Wind Power: Fundamentals, technology and applications* CIEMAT, *online*, 50h (Dec 2014)
4. *Learning How to Learn* University of California, San Diego, *online* (Dec 2014)
5. *Fundamentals of Music Theory* University of Edinburgh, *online* (Sep 2014)

## F Miscellanea

### Volunteering

- Service at infopoints at the *2nd ESA Open Day*. 21 Oct 2023
- Reception, meet & greet & solar observation at the *1st ESA Open Day*. 26 Oct 2019
- General organization tasks at the *Spanish Astronomical Society XIII Meeting*. 16–20 Jul 2018
- Class representative in UCM Master's class (2016–2017).

### Affiliations

- International Astronomical Union ([IAU](#)) (2024+).
- Red Española de Explotación Científica de Gaia ([REG](#)) (2022+).
- European Astronomical Society ([EAS](#)) (2021+).
- Sociedad Española de Astronomía ([SEA](#)) (2018+).
- Spanish Red Cross' Blood donor (2015+).

### Additional experience

- Private classes (Mathematics, High school level).
- Telephone operator (*teleoperador*) in national and regional Spanish elections (2015–2016).

### Other relevant information

- Professional qualifications: First Aids (July 2019).
- Driving License: B (2007+).

## Astromusical projects

- Production of audiovisuals for two shows at [ESA Open Day 2023](#) (ESA) J. A. Caballero & **C. Cifuentes** (*The Astrophysical Brothers*) 21 Oct 2023
- Collaboration at [El Universo Cultural](#) (RNE) *Círculos Concéntricos*, Radio Nacional de España 21 Aug 2022
- Piano and bass guitar at [ESA Day 2022](#) (ESA) J. A. Caballero & **C. Cifuentes**, et al. (*The Astrophysical Brothers & Friends*) 22 Jun 2022
- *Astromúsica's* playlist curation; support at *Diálogos en el Café Gijón* for [Cultura con C de Cosmos: Vida](#) (C<sup>3</sup>) Mar–Apr 2022
- Piano, choirs and acting for [Fête de la Musique 2021](#) (ESA) J. A. Caballero & **C. Cifuentes** (*The Astrophysical Brothers*) 21 Jun 2021
- *Astromúsica's* playlist curation for [Cultura con C de Cosmos](#) (C<sup>3</sup>) Oct 2018–Mar 2019
- Other untitled one-man band projects (e.g. [Colma/Syzygy](#)) 2020+

These and other contributions can be found in [ccifuentesr.io/music](http://ccifuentesr.io/music) and [artofcosmos.com](http://artofcosmos.com).