# Dr. Rafael Luque

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## RESEARCH INTERESTS

High-resolution visible and NIR spectroscopy — Extremely precise radial velocities — Ground- and space-based transit photometry — Low-mass stars— Formation and evolution of planetary systems — Exoplanet demographics — Atmospheric compositions

## EDUCATION

**Ph.D. in Astrophysics** — Canary Islands, Spain | Jan 2018 - Jun 2021
Instituto de Astrofisica de Canarias and University of La Laguna
Thesis: Planetary systems around red dwarfs and activity of their host stars (*cum laude and international mention*)
Advisors: Prof. Enric Palle and Dr. Grzegorz Nowak

**M.Sc. in Physics (especialization in Astrophysics)** — Heidelberg, Germany | Oct 2015 - Dec 2017
University of Heidelberg
Thesis: Two planets orbiting in 4:3 resonance around the K-giant 7 CMa (*with honors*)
Advisors: Prof. Andreas Quirrenbach and Priv. Doz. Sabine Reffert

**B.Sc. in Physics** — Granada, Spain | Oct 2010 - Jul 2015
University of Granada

**Professional Certificate in Piano** — Granada, Spain | Oct 2001 - Jul 2012
Professional Conservatory of Music "Angel Barrios"

## PROFESSIONAL EXPERIENCE

**University of Chicago** — Chicago, USA | Mar 2022 – present
"Margarita Salas" Postdoctoral Fellow

**Instituto de Astrofisica de Andalucia** — Granada, Spain | Jun 2021 – Feb 2022
"Severo Ochoa" Postdoctoral Fellow

**Max-Planck Institute for Astronomy** — Heidelberg, Germany | Apr 2019 – Aug 2019
Graduate research stay

**International Centre of Scientific Computing** — Heidelberg, Germany | Sep 2017 – Dec 2017
Research assistant

**Instituto de Astrofisica de Canarias** — Canary Islands, Spain | Jul 2016 – Sep 2016
Summer internship

**Instituto Nacional de Astronomia, Optica y Electronica** — Puebla, Mexico | Jun 2013 – Aug 2013
Summer internship

## GRANTS AND FUNDING AWARDS

**Funding to organize the international conference ``Density Matters 2024"** — Jun 2023
Ernst-Rudolf-Schloeßmann Stiftung. Amount: 40,000.00 EUR.

**JWST Cycle 2 General Observer Program #3263** — Jun 2023
Space Telescope Science Institute. Amount: 140,000.00 USD.

**"Margarita Salas" Fellowship for young doctors** — Dec 2021
Spanish Ministry of Education. Amount: 121,100.00 EUR.

**"Severo Ochoa" Excellence Fellowship** — Jun 2021
Instituto de Astrofisica de Andalucia. Amount: 30,000.00 EUR.

**INPhINIT Fellowship Grant for Doctoral studies** — Jan 2018
European Union's Horizon 2020 and "la Caixa" Banking Foundation. Amount: 125,400.00 EUR.

## HONORS AND AWARDS

**Honorary Mention, 2021 IAU PhD Prize** Jun 2022
Division F Planetary Systems and Bioastronomy, International Astronomical Union.

**Best Astronomy PhD Thesis** Jun 2022
Spanish Astronomical Society. Amount: 2,000.00 EUR.

**Best PhD Thesis in Astrophysics** May 2022
University of La Laguna and Santander Bank. Amount: 1,000.00 EUR.

**Award "Valores de la Subbetica" (Distinguished Young Citizen)** Oct 2021
Grupo de Desarrollo Rural de la Subbetica.

**Honorary Citizen of the Year** Feb 2020
City council of Priego de Cordoba, Spain.

**Starlight Foundation Ambassador** Jun 2015
Starlight Foundation.

**First Prize of the "IV Contest of University Entrepeneurs"** Oct 2014
University of Granada. Amount: 3,000.00 EUR.

## MENTORING

**Ritvik Basant** University of Chicago | 2023 – 202X
PhD thesis co-supervisor

**Daniel Revilla Martinez de Albeniz** Instituto de Astrofisica de Andalucia | 2023 – 202X
PhD thesis co-supervisor

**Jaume Orell Miquel** Instituto de Astrofisica de Canarias | 2019 – 2020
MSc thesis supervisor

**Sergio Alvarez** Universidad Autonoma de Madrid | 2019 – 2020
MSc thesis co-supervisor

## PUBLIC OUTREACH (MOST RELEVANT)

**Astrotourism Center "Los Coloraos"** Gorafe, Spain | Sep 2019 - present
Director of Scientific Research
Private observatory devoted to the dissemination of astronomy in one of the darkest locations in continental Europe. Music, nature, gastronomy, and art complement our regular program focused on astronomical activities for all ages.

**Turismo Astronomico Inc.** Oct 2014 - present
Co-Founder
Dark-sky certification, outdoor lighting policy advice, astrotourism consultancy, site characterization, and development of amateur observatories to promote astronomy in the rural areas of the south of Spain

**Junior Enterprise of Andalusian Outreach (JEDA Granada)** Oct 2014 - Oct 2015
Co-Founder and Head of the astronomy department
Visits to scientific facilities, workshops, courses, experiment shows in schools, and public astronomical observations.

## SKILLS

Languages: Spanish, English, Italian, German (basic), Nepali (basic) Programming: Python, UNIX/MacOS, LaTeX, HTML (basic)

Observing experience: Teide Observatory (Tenerife, Spain), Roque de los Muchachos Observatory (La Palma, Spain), Calar Alto Observatory (Almeria, Spain), Landessternwarte (Heidelberg, Germany), La Silla Observatory (La Serena, Chile), Paranal Observatory (Antofagasta, Chile), Mauna Kea (Hawaii, USA).

# PROFESSIONAL SERVICE

**Consortium member.** CHEOPS, TESS Follow-up Observing Program, MuSCAT2, CARMENES, MAROON-X
**Conference chair.** Density Matters 2024 at Schloss Ringberg — Feb 2024
**Time Allocation Committee member.** Gemini Observatory, ESO — since Oct 2022
**Funding review panel member.** NASA XRP, NASA EPRV — since Jun 2022
**Scientific Organizing Committee member.** Europlanet Science Congress 2022 — Sep 2022
**Steering Committee, elected member.** KESPRINT Consortium — since Feb 2021
**Tech support.** European Astronomical Society 2020 and 2021 Meetings
**Journal reviewer.** Nature, A&A, AJ, ApJ, MNRAS — since Jan 2020

# CONFERENCES, SEMINARS, AND COLLOQUIA

## Invited Talks

**Conference:** *Six sub-Neptunes in sync around HD110067* — Cambridge, USA | Jun 2023
TESS Mission Update Meeting

**Seminar:** *Six sub-Neptunes in sync around HD110067* — Chicago, USA | May 2023
University of Chicago

**Seminar:** *Six sub-Neptunes in sync around HD110067* — Cambridge, USA | May 2023
Massachusetts Institute of Technology

**Seminar:** *The demographics of small exoplanets* — Pasadena, USA | Apr 2023
NASA Jet Propulsion Laboratory

**Seminar:** *The demographics of small exoplanets* — Pasadena, USA | Mar 2023
California Institute of Technology

**Colloquium:** *The demographics of small exoplanets* — Kansas, USA | Mar 2023
University of Kansas

**Conference:** *The demographics of small exoplanets* — Noordwijk, Netherlands | Mar 2023
55th PLANET-ESLAB Symposium

**Press briefing:** *Are sub-Neptunes rocky or water worlds?* — Online, USA | Jan 2023
Science Society at Clubhouse

**Colloquium:** *The exoplanet revolution* — Kathmandu, Nepal | Oct 2022
Tribhuvan University

**Conference:** *PhD Thesis Prize Talk* — Canary Islands, Spain | Sep 2022
Spanish Astronomical Society Biannual Meeting

**Seminar:** *Are sub-Neptunes rocky or water worlds?* — Santa Cruz, USA | Jun 2022
University of Califonia Santa Cruz

**Press briefing:** *Two rocky worlds transiting a bright M dwarf at 10 parcsecs* — Pasadena, USA | Jun 2022
240th American Astronomical Society Meeting

**Seminar:** *On the nature of small planets orbiting low-mass stars* — Princeton, USA | Jun 2022
Princeton University

**Colloquium:** *On the nature of small planets orbiting low-mass stars* — Chicago, USA | Mar 2022
University of Chicago

**Conference:** *TESS legacy, the brightest, closest transiting planets for atmospheric studies* — Online, Japan | Jun 2021
Japan Geoscience Union Meeting

**Colloquium:** *Fantastic exoplanets and how to find them* — Cadiz, Spain | Apr 2021
Starlight Festival

**Seminar:** *Looking for small planets from small islands* — Santiago, Chile | Oct 2019
Universidad de Chile

## Contributed Talks and Posters

**Conference:** *Splendidly Synchronized: Six Sub-Neptunes Spinning a Shiny Star* — Santa Cruz, USA | Jul 2023
Bay Area Exoplanet Meeting

**Poster:** *MARCOT: A new large aperture telescope concept to feed CARMENES* — Santa Barbara, USA | Mar 2023
Extremely Precise Radial Velocities 5

**Conference:** *An update on MAROON-X* — Granada, Spain | Sep 2022
Europlanet Science Congress 2022

**Conference:** *On the nature of small planets orbiting low-mass stars* — Granada, Spain | Sep 2022
Europlanet Science Congress 2022

**Poster:** *A privately-funded amateur observatory devoted to astronomy outreach* — Canary Islands, Spain | Sep 2022
Spanish Astronomical Society Biannual Meeting

**Conference:** *An observational test to planet formation theories around M dwarfs* — Penn State, USA | Aug 2022
Emerging Researchers in Exoplanet Science VII

**Conference:** *Formation and composition of small planets orbiting M dwarfs* — Valencia, Spain | Jun 2022
European Astronomical Society Annual Meeting

**Conference:** *On the nature of small planets orbiting low-mass stars* — Pasadena, USA | Jun 2022
Exoplanet Exploration Program Analysis Group Meeting 26

**Conference:** *An observational test to planet formation theories around M dwarfs* — Las Vegas, USA | May 2022
Exoplanets IV

**Conference:** *The M-dwarf radius valley as seen by TESS* — Online, USA | Aug 2021
TESS Science Conference II

**Poster:** *A comprehensive study of the WASP-47 planetary system* — Online, USA | Apr 2021
STScI Spring Symposium

**Poster:** *TOI-776, a multi-planetary system around a bright M dwarf optimal for JWST* — Online, USA | Jan 2021
237th American Astronomical Society Meeting

**Conference:** *Testing radius valley emergence models in M dwarfs* — Online, Germany | Dec 2020
PLATO ESP2020 Workshop

**Conference:** *The obliquity distribution of UHJs, a poulation-wide view* — Online, USA | Nov 2020
Exoplanet Demographics Conference

**Conference:** *A comprehensive study of the WASP-74 planetary system* — Online, Spain | Sep 2020
Europlanet Science Congress 2020

**Conference:** *Precise characterization of small planets around M dwarfs with CARMENES* — Online, Germany | Jul 2020
Exoplanets III

**Poster:** *A second Jupiter orbiting in 4:3 resonance in the 7 CMa system* — Online, USA | Jul 2020
Sagan Exoplanet Summer Workshop

**Poster:** *An Earth-sized planet optimal for atmospheric characterization in GJ 357* — Okinawa, Japan | Oct 2019
Planetary Atmospheres and Habitability Congress

**Conference:** *A second Jupiter orbiting in 4:3 resonance in the 7 CMa system* — Heidelberg, Germany | Jun 2019
Planetary Dynamics 2019

## PUBLICITY AND PRESS (FROM FIRST-AUTHOR PAPERS)

**Surprise finding suggests 'water worlds' are more common than we thought** — Sep 2022
**Credit:** University of Chicago, Instituto de Astrofisica de Andalucia and Instituto de Astrofisica de Canarias
Featured by NASA, El Pais, ABC, El Mundo, eldiario.es, Phys.org, Vice.com, Space.com, and many others.

**Discovery Alert: Two New, Rocky Planets in the Solar Neighborhood** — Jun 2022
**Credit:** NASA Jet Propulsion Laboratory
Featured by MIT, IAC, IAA-CSIC, ORIGINS Excellence Cluster, Phys.org, Space.com, Unilad.com, and many others

**Confirmation of Toasty TESS Planet Leads to Surprising Find of Promising World** — Jul 2019
**Credit:** NASA Goddard Space Flight Center
Featured by USA Today, CBS, NBC, El Pais, RTVE, Youtube (828K views), Scitechdaily.com, Space.com and many others.

**Profile Interviews** — since 2015
**Credit:** Subbetica Hoy, ABC, la Caixa Foundation, Informativos Televisión Canaria, Cordopolis, El Dia de Tenerife, Diario Cordoba, Cultura Granada

# ACCEPTED OBSERVING PROPOSALS (**) MARKS PI AND (*) LEAD CO-I

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|---|---|
| ** **JWST:** The First Atmospheric Study of a Bona Fide Water World (GO 3263) | **2023B-2024A** \| 23 hours |
| * **CARMENES/CAHA3.5m:** Mass characterization of the benchmark HD110067 | **2023B-2024B** \| 23 hours |
| * **HARPS-N/TNG:** Mass characterization of the benchmark HD110067 | **2023B-2024A** \| 18 hours |
| ** **HARPS-N/TNG:** Completing CHEOPS characterization of long-period low-mass planets | **2023B-2024A** \| 15 nights |
| * **HARPS-N/TNG:** THIRSTEE: Understanding the nature of small planets across stellar types | **2023B-2024A** \| 10 nights |
| * **ESPRESSO/VLT:** THIRSTEE: Understanding the nature of small planets across stellar types | **2023B** \| 98 hours |
| **MAROON-X/Gemini-N:** Measuring the masses of the K2-155 system | **2023B** \| 36 hours |
| * **HARPS/ESO3.6m:** Accompanying CHEOPS' all-sky characterisation of small exoplanets | **2023A** \| 8 nights |
| * **ESPRESSO/VLT:** THIRSTEE: Understanding the nature of small planets across stellar types | **2023A** \| 40 hours |
| * **HARPS/ESO3.6m:** THIRSTEE: Understanding the nature of small planets across stellar types | **2023A** \| 3 nights |
| * **HARPS-N/TNG:** THIRSTEE: Understanding the nature of small planets across stellar types | **2023A** \| 9 nights |
| * **HIRES/Keck:** THIRSTEE: Understanding the nature of small planets across stellar types | **2023A** \| 2.5 nights |
| * **HARPS-N/TNG:** The K2 & TESS Synergy: Precise masses of small planets | **2022A-2022B** \| 20 nights |
| ** **HARPS-N/TNG:** Completing CHEOPS characterization of long-period low-mass planets | **2022B-2023A** \| 7 nights |
| **ESPRESSO/VLT:** Two Earth-sized Planets in the Habitable Zone of TOI-700 | **2022B** \| 60 hours |
| **HARPS-N/TNG:** Confirming the discovery of a 130 Myr-old baby super-Earth | **2022B** \| 1 night |
| * **HARPS/ESO3.6m:** PiGS: non-transiting Planets in Giant Stars with TESS | **2022A** \| 6 nights |
| ** **HARPS-N/TNG:** PiGS: non-transiting Planets in Giant Stars with TESS | **2022A** \| 2 nights |
| ** **SES/STELLA:** PiGS: non-transiting Planets in Giant Stars with TESS | **2022A** \| 48 hours |
| * **CAFE/CAHA2.2m:** PiGS: non-transiting Planets in Giant Stars with TESS | **2022A** \| 6 nights |
| **HARPS/ESO3.6m:** A search for warm Jupiter companions to test their formation path | **2022A** \| 3 nights |
| **CARMENES/CAHA3.5m:** Mass determination of the HD63433 young planets | **2022A** \| 0.5 nights |
| * **CARMENES/CAHA3.5m:** Mass measurements of TESS small, temperate planets | **2021A-2023B** \| 90 nights |
| * **HARPS-N/TNG:** Follow-up of TESS small planet candidates in the northern hemisphere | **2021A-2021B** \| 20 nights |
| ** **HERMES/MERCATOR:** PiGS: non-transiting Planets in Giant Stars with TESS | **2021B** \| 6 nights |
| ** **SES/STELLA:** PiGS: non-transiting Planets in Giant Stars with TESS | **2021B** \| 48 hours |
| **HARPS/ESO3.6m:** Red Dots 6: all terrestrial planets orbiting red dwarfs within 5 pc | **2021B** \| 3.6 nights |
| **ESPRESSO/VLT:** A Slow Dance of Four Exo-Neptunes | **2021B** \| 16 hours |
| **CARMENES/CAHA3.5m:** Mass determination of the HD63433 young planets | **2021B** \| 1.7 nights |
| ** **OSIRIS/GTC:** Probing the atmosphere of WASP-74b | **2021A** \| 9.2 hours |
| ** **HERMES/MERCATOR:** PiGS: non-transiting Planets in Giant Stars with TESS | **2021A** \| 6 nights |
| * **CAFE/CAHA2.2m:** PiGS: non-transiting Planets in Giant Stars with TESS | **2021A** \| 6 nights |
| **HARPS-N/TNG:** Unveiling the obliquity of the HAT-P-57 system | **2021A** \| 2 nights |
| **HARPS-N/TNG:** Obliquity measurement and atmospheric characterization of 3 UHJs | **2021A** \| 6 nights |
| **OSIRIS/GTC:** Validation of the transiting exoplanet candidate TOI-2283 | **2021A** \| 7.2 hours |
| **HARPS/ESO3.6m:** Small planets inside and out: TESS follow-up with CHEOPS and HARPS | **2020B-2023A** \| 98 nights |
| **HARPS-N/TNG:** Mass determination of single-transit warm Jupiters from TESS | **2020A-2023B** \| 36 nights |
| ** **CARMENES/CAHA3.5m:** Follow-up of two key multi-planetary systems | **2020B** \| 4 nights |
| ** **FIES/NOT:** PiGS: non-transiting Planets in Giant Stars with TESS | **2020B** \| 5 nights |
| **HARPS/ESO3.6m:** Red Dots 5: all terrestrial planets orbiting red dwarfs within 5 pc | **2020B** \| 12 nights |
| **HARPS-N/TNG:** Distinguishing BDs and giant planets via obliquity measurements | **2020B** \| 1 night |
| **CARMENES/CAHA3.5m:** Probing the newly-formed atmospheres of the HD63433 planets | **2020B** \| 2.5 nights |
| **CARMENES/CAHA3.5m:** Mass determination of the HD63433 young planets | **2020B** \| 2.7 nights |
| * **HARPS/ESO3.6m:** PiGS: non-transiting Planets in Giant Stars with TESS | **2020A** \| 5.4 nights |
| ** **FIES/NOT:** PiGS: non-transiting Planets in Giant Stars with TESS | **2020A** \| 8 nights |
| **HARPS/ESO3.6m:** Red Dots 4: all terrestrial planets orbiting red dwarfs within 5 pc | **2020A** \| 12 nights |
| **HARPS-N/TNG:** Atmospheric characterization of exoplanets in TESS north hemisphere fields | **2020A** \| 1 night |
| **OSIRIS/GTC:** Atmospheric characterization of exoplanets in TESS north hemisphere fields | **2020A** \| 3 nights |
| * **HARPS-N/TNG:** Follow-up of TESS small planet candidates in the northern hemisphere | **2019A-2020B** \| 40 nights |
| * **CARMENES/CAHA3.5m:** Follow-up of TESS small planet candidates orbiting FGK dwarfs | **2019B-2020A** \| 18 nights |
| **ESPRESSO/VLT:** Exploring the upper-atmospheres of two twin exoplanets | **2019B** \| 8 hours |
| ** **MuSCAT2/TCS:** Fishing for transits of RV-detected planets | **2018B-2020A** \| 25 nights |

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## PUBLICATIONS

SUMMARY: Since 2018, 10 first-author publications and a total of 120 refereed articles. First-author papers in collaboration with more than 140 researchers from 50 different institutions across 15 countries. Publications as first or co-lead author (10+8): 400+ citations (27.1 average citations per paper), h-index 11. All publications (120): 2400+ citations (21.2 average citations per paper), h-index 28. Full list: `https://bit.ly/3jogBvj`

### First Author (or lead co-author)

**(**) indicates publication accompanied by international press release**

18. ** **Luque, R.**, Osborn, H. P., Leleu, A., et al. (2023). *"A resonant sextuplet of sub-Neptunes around the bright star HD 110067"*, Nature, in press
17. Dreizler, S., **Luque, R.**, Ribas, I., et al. (2023). *"Teegarden's star revisited. A nearby planetary system with at least three planets"*, A&A, under review
16. Parviainen, H., **Luque, R.** & Pallé, E. (2023). *"Spright: a probabilistic mass-density-radius relation for small planets"*, MNRAS, in press
15. **Luque, R.**, Nowak, G., Hirano, T., et al. (2022). *"Precise mass determination for the keystone sub-Neptune planet transiting the mid-type M dwarf G 9-40"*, A&A, 666, A154
14. ** **Luque, R.**, & Pallé, E. (2022). *"Density, not radius, separates rocky and water-rich small planets orbiting M dwarf stars"*, Science, 377, 1211-1214
13. ** **Luque, R.**, Fulton, B. J., Kunimoto, M., et al. (2022). *"The HD 260655 system: Two rocky worlds transiting a bright M dwarf at 10 pc"*, A&A, 664, A199
12. Reefe, M. A., **Luque, R.**, Gaidos, E., et al. (2022). *"A Close-in Puffy Neptune with Hidden Friends: The Enigma of TOI 620"*, AJ, 163, 269
11. Palle, E., **Luque, R.**, Zapatero Osorio, M. R., et al. (2021). *"ESPRESSO mass determination of TOI-263b: an extreme inhabitant of the brown dwarf desert"*, A&A, 650, A55
10. **Luque, R.**, Serrano, L. M., Molaverdikhani, K., et al. (2021). *"A planetary system with two transiting mini-Neptunes near the radius valley transition around the bright M dwarf TOI-776"*, A&A, 645, A41
9. **Luque, R.**, Casasayas-Barris, N., Parviainen, H., et al. (2020). *"Obliquity measurement and atmospheric characterisation of the WASP-74 planetary system"*, A&A, 642, A50
8. Nowak, G., **Luque, R.**, Parviainen, H., et al. (2020). *"The CARMENES search for exoplanets around M dwarfs. Two planets on opposite sides of the radius gap transiting the nearby M dwarf LTT 3780"*, A&A, 642, A173
7. Teske, J., Díaz, M. R., **Luque, R.**, et al. (2020). *"TESS Reveals a Short-period Sub-Neptune Sibling (HD 86226c) to a Known Long-period Giant Planet"*, AJ, 160, 96
6. Bluhm, P., **Luque, R.**, Espinoza, N., et al. (2020). *"Precise mass and radius of a transiting super-Earth planet orbiting the M dwarf TOI-1235: a planet in the radius gap?"*, A&A, 639, A132
5. **Luque, R.**, Trifonov, T., Reffert, S., et al. (2019). *"Precise radial velocities of giant stars. XIII. A second Jupiter orbiting in 4:3 resonance in the 7 CMa system"*, A&A, 631, A136
4. ** **Luque, R.**, Pallé, E., Kossakowski, D., et al. (2019). *"Planetary system around the nearby M dwarf GJ 357 including a transiting, hot, Earth-sized planet optimal for atmospheric characterization"*, A&A, 628, A39
3. **Luque, R.**, Nowak, G., Pallé, E., et al. (2019). *"Detection and characterization of an ultra-dense sub-Neptunian planet orbiting the Sun-like star K2-292"*, A&A, 623, A114
2. Palle, E., Nowak, G., **Luque, R.**, et al. (2019). *"Detection and Doppler monitoring of K2-285 (EPIC 246471491), a system of four transiting planets smaller than Neptune"*, A&A, 623, A41

1. **Luque, R.**, Nowak, G., Pallé, E., et al. (2018). "*The CARMENES search for exoplanets around M dwarfs. The warm super-Earths in twin orbits around the mid-type M dwarfs Ross 1020 (GJ 3779) and LP 819-052 (GJ 1265)*", A&A, 620, A171

## Contributing Author **(**) indicates publication accompanied by international press release**

102. Deeg, H. J., Georgieva, I. Y., Nowak, G., et al. incl. **Luque, R.**, (2023). "*TOI-1416: A system with a super-Earth planet with a 1.07 d period*", A&A, 677, A12 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

101. Bowens-Rubin, R., Akana Murphy, J. M., Hinz, P. M., et al. incl. **Luque, R.**, (2023). "*A Wolf 359 in sheep's clothing: Hunting for substellar companions in the fifth-closest system using combined high-contrast imaging and radial velocity analysis*", arXiv e-prints, arXiv:2309.03402 — **Indiv. contribution**: Contributed the MAROON-X observations in the paper. Telescope observing, data reduction, and analysis.

100. ** Osborn, H. P., Nowak, G., Hébrard, G., et al. incl. **Luque, R.**, (2023). "*Two warm Neptunes transiting HIP 9618 revealed by TESS and Cheops*", MNRAS, 523, 3069-3089 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis. Part of the CHEOPS's working group that proposed and analyzed the observations.

99. Tuson, A., Queloz, D., Osborn, H. P., et al. incl. **Luque, R.**, (2023). "*TESS and CHEOPS discover two warm sub-Neptunes transiting the bright K-dwarf HD 15906*", MNRAS, 523, 3090-3118 — **Indiv. contribution**: Part of the CHEOPS's working group that proposed and analyzed the observations. Contributed to data analysis and interpretation.

98. Prinoth, B., Hoeijmakers, H. J., Pelletier, S., et al. incl. **Luque, R.**, (2023). "*Time-resolved transmission spectroscopy of the ultra-hot Jupiter WASP-189 b*", arXiv e-prints, arXiv:2308.04523 — **Indiv. contribution**: Contributed the MAROON-X observations in the paper. Telescope observing and data reduction.

97. Delrez, L., Leleu, A., Brandeker, A., et al. incl. **Luque, R.**, (2023). "*Refining the properties of the TOI-178 system with CHEOPS and TESS*", arXiv e-prints, arXiv:2308.11394 — **Indiv. contribution**: Part of the CHEOPS's working group that proposed and analyzed the observations. Contributed to data analysis and interpretation.

96. Cabrera, J., Gandolfi, D., Serrano, L. M., et al. incl. **Luque, R.**, (2023). "*The planetary system around HD 190622 (TOI-1054). Measuring the gas content of low-mass planets orbiting F-stars*", A&A, 675, A183 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Part of the CHEOPS's working group that proposed and analyzed the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

95. Korth, J., Gandolfi, D., Šubjak, J., et al. incl. **Luque, R.**, (2023). "*TOI-1130: A photodynamical analysis of a hot Jupiter in resonance with an inner low-mass planet*", A&A, 675, A115 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

94. ** Goffo, E., Gandolfi, D., Egger, J. A., et al. incl. **Luque, R.**, (2023). "*Company for the ultra-high density, ultra-short period sub-Earth GJ 367 b: discovery of two additional low-mass planets at 11.5 and 34 days*", arXiv e-prints, arXiv:2307.09181 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

93. Georgieva, I. Y., Persson, C. M., Goffo, E., et al. incl. **Luque, R.**, (2023). "*TOI-733 b: A planet in the small-planet radius valley orbiting a Sun-like star*", A&A, 674, A117 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

92. Bello-García, A., Passegger, V. M., Ordieres-Meré, J., et al. incl. **Luque, R.**, (2023). "*The CARMENES search for exoplanets around M dwarfs. A deep transfer learning method to determine T<SUB>eff</SUB> and [M/H] of target stars*", A&A, 673, A105 — **Indiv. contribution**: CARMENES consortium representative. Manuscript review and interpretation.

91. Nascimbeni, V., Borsato, L., Zingales, T., et al. incl. **Luque, R.**, (2023). "*A new dynamical modeling of the WASP-47 system with CHEOPS observations*", A&A, 673, A42 — **Indiv. contribution**: Part of the CHEOPS's working group that proposed and analyzed the observations. Contributed to data analysis and interpretation.

90. Morello, G., Parviainen, H., Murgas, F., et al. incl. **Luque, R.**, (2023). "*TOI-1442 b and TOI-2445 b: Two potentially rocky ultra-short period planets around M dwarfs*", A&A, 673, A32 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation.

89. ** Pozuelos, F. J., Timmermans, M., Rackham, B. V., et al. incl. **Luque, R.**, (2023). "*A super-Earth and a mini-Neptune near the 2:1 MMR straddling the radius valley around the nearby mid-M dwarf TOI-2096*", A&A, 672, A70 — **Indiv. contribution**: Data interpretation and simulations of RV follow-up prospects.

88. Murgas, F., Castro-González, A., Pallé, E., et al. incl. **Luque, R.**, (2023). "*Two super-Earths at the edge of the habitable zone of the nearby M dwarf TOI-2095*", arXiv e-prints, arXiv:2304.09220 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

87. Brady, M., Bean, J. L., Seifahrt, A., et al. incl. **Luque, R.**, (2023). "*Measuring the Obliquities of the TRAPPIST-1 Planets with MAROON-X*", AJ, 165, 129 — **Indiv. contribution**: Contributed the MAROON-X observations in the paper. Telescope observing, data reduction, analysis, and interpretation.

86. Hirano, T., Dai, F., Livingston, J. H., et al. incl. **Luque, R.**, (2023). "*An Earth-sized Planet around an M5 Dwarf Star at 22 pc*", AJ, 165, 131 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

85. Knudstrup, E., Albrecht, S. H., Gandolfi, D., et al. incl. **Luque, R.**, (2023). "*A puffy polar planet. The low density, hot Jupiter TOI-640 b is on a polar orbit*", A&A, 671, A164 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Manuscript review and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

84. Mallorquín, M., Béjar, V. J. S., Lodieu, N., et al. incl. **Luque, R.**, (2023). "*Dynamical masses of two young transiting sub-Neptunes orbiting HD 63433*", A&A, 671, A163 — **Indiv. contribution**: Co-I of the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

83. Lam, K. W. F., Cabrera, J., Hooton, M. J., et al. incl. **Luque, R.**, (2023). "*Discovery of TOI-1260d and the characterization of the multiplanet system*", MNRAS, 519, 1437-1451 — **Indiv. contribution**: Part of the CHEOPS's working group that proposed and analyzed the observations. Contributed to data analysis and interpretation.

82. ** Ribas, I., Reiners, A., Zechmeister, M., et al. incl. **Luque, R.**, (2023). "*The CARMENES search for exoplanets around M dwarfs. Guaranteed time observations Data Release 1 (2016-2020)*", A&A, 670, A139 — **Indiv. contribution**: Summary paper of the GTO observations of CARMENES, of which I am a consortium member since 2015. Telescope observing, data reduction, analysis, and interpretation.

81. Orell-Miquel, J., Nowak, G., Murgas, F., et al. incl. **Luque, R.**, (2023). "*HD 191939 revisited: New and refined planet mass determinations, and a new planet in the habitable zone*", A&A, 669, A40 — **Indiv. contribution**: Paper led by supervised MSc student. PI of the CARMENES proposal that collected the observations. Supervision, data reduction, analysis, and interpretation.

80. Palle, E., Orell-Miquel, J., Brady, M., et al. incl. **Luque, R.**, (2023). "*GJ 806 (TOI-4481): A bright nearby multi-planetary system with a transiting hot, low-density super-Earth*", arXiv e-prints, arXiv:2301.06873 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

79. Lillo-Box, J., Gandolfi, D., Armstrong, D. J., et al. incl. **Luque, R.**, (2023). "*TOI-969: a late-K dwarf with a hot mini-Neptune in the desert and an eccentric cold Jupiter*", A&A, 669, A109 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Contributed to data analysis and interpretation.

78. Murgas, F., Nowak, G., Masseron, T., et al. incl. **Luque, R.**, (2022). "*HD 20329b: An ultra-short-period planet around a solar-type star found by TESS*", A&A, 668, A158 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

77. Persson, C. M., Georgieva, I. Y., Gandolfi, D., et al. incl. **Luque, R.**, (2022). "*TOI-2196 b: Rare planet in the hot Neptune desert transiting a G-type star*", A&A, 666, A184 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

76. Esparza-Borges, E., Parviainen, H., Murgas, F., et al. incl. **Luque, R.**, (2022). *"A hot sub-Neptune in the desert and a temperate super-Earth around faint M dwarfs. Color validation of TOI-4479b and TOI-2081b"*, A&A, 666, A10 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation.

75. Chaturvedi, P., Bluhm, P., Nagel, E., et al. incl. **Luque, R.**, (2022). *"TOI-1468: A system of two transiting planets, a super-Earth and a mini-Neptune, on opposite sides of the radius valley"*, A&A, 666, A155 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

74. Kawauchi, K., Murgas, F., Palle, E., et al. incl. **Luque, R.**, (2022). *"Validation and atmospheric exploration of the sub-Neptune TOI-2136b around a nearby M3 dwarf"*, A&A, 666, A4 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation.

73. ** Caballero, J. A., González-Álvarez, E., Brady, M., et al. incl. **Luque, R.**, (2022). *"A detailed analysis of the GI 486 planetary system"*, A&A, 665, A120 — **Indiv. contribution**: Contributed to both CARMENES and MAROON-X observations in the paper.

72. Barragán, O., Armstrong, D. J., Gandolfi, D., et al. incl. **Luque, R.**, (2022). *"The young HD 73583 (TOI-560) planetary system: two 10-M<SUB>□</SUB> mini-Neptunes transiting a 500-Myr-old, bright, and active K dwarf"*, MNRAS, 514, 1606-1627 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

71. Roth, M. M., Aceituno, J., Ortiz, J. L., et al. incl. **Luque, R.**, (2022). *"MARCOT Pathfinder at Calar Alto progress report"*, Proc. SPIE, 12182, 121820M — **Indiv. contribution**: SPIE Proceeding reporting of a new large aperture telescope concept for Calar Alto observatory. Contributed the exoplanet science cases that the new facility could pursue.

70. Kabáth, P., Chaturvedi, P., MacQueen, P. J., et al. incl. **Luque, R.**, (2022). *"TOI-2046b, TOI-1181b, and TOI-1516b, three new hot Jupiters from TESS: planets orbiting a young star, a subgiant, and a normal star"*, MNRAS, 513, 5955-5972 — **Indiv. contribution**: Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

69. Stangret, M., Casasayas-Barris, N., Pallé, E., et al. incl. **Luque, R.**, (2022). *"High-resolution transmission spectroscopy study of ultra-hot Jupiters HAT-P-57b, KELT-17b, KELT-21b, KELT-7b, MASCARA-1b, and WASP-189b"*, A&A, 662, A101 — **Indiv. contribution**: Co-I of the HARPS-N proposals that collected the observations. Telescope observing, data reduction, and analysis.

68. Šubjak, J., Endl, M., Chaturvedi, P., et al. incl. **Luque, R.**, (2022). *"TOI-1268b: The youngest hot Saturn-mass transiting exoplanet"*, A&A, 662, A107 — **Indiv. contribution**: Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

67. Turtelboom, E. V., Weiss, L. M., Dressing, C. D., et al. incl. **Luque, R.**, (2022). *"The TESS-Keck Survey. XI. Mass Measurements for Four Transiting Sub-Neptunes Orbiting K Dwarf TOI-1246"*, AJ, 163, 293 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis.

66. Tran, Q. H., Bowler, B. P., Endl, M., et al. incl. **Luque, R.**, (2022). *"TOI-1670 b and c: An Inner Sub-Neptune with an Outer Warm Jupiter Unlikely to Have Originated from High-eccentricity Migration"*, AJ, 163, 225 — **Indiv. contribution**: Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

65. Hatzes, A. P., Gandolfi, D., Korth, J., et al. incl. **Luque, R.**, (2022). *"A Radial Velocity Study of the Planetary System of π Mensae: Improved Planet Parameters for π Mensae c and a Third Planet on a 125 Day Orbit"*, AJ, 163, 223 — **Indiv. contribution**: Co-I of the HARPS proposals that collected the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

64. ** Serrano, L. M., Gandolfi, D., Mustill, A. J., et al. incl. **Luque, R.**, (2022). *"A low-eccentricity migration pathway for a 13-h-period Earth analogue in a four-planet system"*, Nature Astronomy, 6, 736-750 — **Indiv. contribution**: Co-I of the HARPS proposals that collected the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

63. Jordán, A., Hartman, J. D., Bayliss, D., et al. incl. **Luque, R.**, (2022). *"HATS-74Ab, HATS-75b, HATS-76b, and HATS-77b: Four Transiting Giant Planets Around K and M Dwarfs"*, AJ, 163, 125 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation.

62. Smith, A. M. S., Breton, S. N., Csizmadia, S., et al. incl. **Luque, R.**, (2022). "*K2-99 revisited: a non-inflated warm Jupiter, and a temperate giant planet on a 522-d orbit around a subgiant*", MNRAS, 510, 5035-5049 — **Indiv. contribution**: Co-I of the HARPS and HARPS-N proposals that collected the observations. Telescope observing, data reduction, analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

61. Orell-Miquel, J., Murgas, F., Pallé, E., et al. incl. **Luque, R.**, (2022). "*A tentative detection of He I in the atmosphere of GJ 1214 b*", A&A, 659, A55 — **Indiv. contribution**: Co-I in the CARMENES proposal that collected the observations. Data reduction and interpretation.

60. Espinoza, N., Pallé, E., Kemmer, J., et al. incl. **Luque, R.**, (2022). "*A Transiting, Temperate Mini-Neptune Orbiting the M Dwarf TOI-1759 Unveiled by TESS*", AJ, 163, 133 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

59. Kemmer, J., Dreizler, S., Kossakowski, D., et al. incl. **Luque, R.**, (2022). "*Discovery and mass measurement of the hot, transiting, Earth-sized planet, GJ 3929 b*", A&A, 659, A17 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

58. Wilson, T. G., Goffo, E., Alibert, Y., et al. incl. **Luque, R.**, (2022). "*A pair of sub-Neptunes transiting the bright K-dwarf TOI-1064 characterized with CHEOPS*", MNRAS, 511, 1043-1071 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction and analysis. Part of the CHEOPS's working group that proposed and analyzed the observations. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

57. ** Fukui, A., Kimura, T., Hirano, T., et al. incl. **Luque, R.**, (2022). "*TOI-2285b: A 1.7 Earth-radius planet near the habitable zone around a nearby M dwarf*", PASJ, 74, L1-L8 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation.

56. González-Álvarez, E., Zapatero Osorio, M. R., Sanz-Forcada, J., et al. incl. **Luque, R.**, (2022). "*A multi-planetary system orbiting the early-M dwarf TOI-1238*", A&A, 658, A138 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

55. Heidari, N., Boisse, I., Orell-Miquel, J., et al. incl. **Luque, R.**, (2022). "*HD 207897 b: A dense sub-Neptune transiting a nearby and bright K-type star*", A&A, 658, A176 — **Indiv. contribution**: Paper co-led by supervised MSc student. Supervision, data reduction, analysis, and interpretation.

54. Kossakowski, D., Kemmer, J., Bluhm, P., et al. incl. **Luque, R.**, (2021). "*TOI-1201 b: A mini-Neptune transiting a bright and moderately young M dwarf*", A&A, 656, A124 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

53. Polanski, A. S., Crossfield, I. J. M., Burt, J. A., et al. incl. **Luque, R.**, (2021). "*Wolf 503 b: Characterization of a Sub-Neptune Orbiting a Metal-poor K Dwarf*", AJ, 162, 238 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

52. ** Suárez Mascareño, A., Damasso, M., Lodieu, N., et al. incl. **Luque, R.**, (2021). "*Rapid contraction of giant planets orbiting the 20-million-year-old star V1298 Tau*", Nature Astronomy, 6, 232-240 — **Indiv. contribution**: Co-I of the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

51. Garai, Z., Pribulla, T., Parviainen, H., et al. incl. **Luque, R.**, (2021). "*Is the orbit of the exoplanet WASP-43b really decaying? TESS and MuSCAT2 observations confirm no detection*", MNRAS, 508, 5514-5523 — **Indiv. contribution**: Contributed the MuSCAT2 observations. Telescope observing, data analysis and interpretation.

50. Addison, B. C., Knudstrup, E., Wong, I., et al. incl. **Luque, R.**, (2021). "*TOI-1431b/MASCARA-5b: A Highly Irradiated Ultrahot Jupiter Orbiting One of the Hottest and Brightest Known Exoplanet Host Stars*", AJ, 162, 292 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis.

49. ** Lam, K. W. F., Csizmadia, S., Astudillo-Defru, N., et al. incl. **Luque, R.**, (2021). "*GJ 367b: A dense, ultrashort-period sub-Earth planet transiting a nearby red dwarf star*", Science, 374, 1271-1275 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Contributed to data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

48. de Leon, J. P., Livingston, J., Endl, M., et al. incl. **Luque, R.**, (2021). "*37 new validated planets in overlapping K2 campaigns*", MNRAS, 508, 195-218 — **Indiv. contribution**: Contributed the MuSCAT2 observations. Telescope observing, data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

47. Scarsdale, N., Murphy, J. M. A., Batalha, N. M., et al. incl. **Luque, R.**, (2021). "*TESS-Keck Survey. V. Twin Sub-Neptunes Transiting the Nearby G Star HD 63935*", AJ, 162, 215 — **Indiv. contribution**: Contributed the MuSCAT2 observations. Telescope observing, data analysis and interpretation.

46. Stangret, M., Pallé, E., Casasayas-Barris, N., et al. incl. **Luque, R.**, (2021). "*The obliquity and atmosphere of the ultra-hot Jupiter TOI-1431b (MASCARA-5b): A misaligned orbit and no signs of atomic or molecular absorptions*", A&A, 654, A73 — **Indiv. contribution**: Co-I of the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis.

45. Casasayas-Barris, N., Orell-Miquel, J., Stangret, M., et al. incl. **Luque, R.**, (2021). "*CARMENES detection of the Ca II infrared triplet and possible evidence of He I in the atmosphere of WASP-76b*", A&A, 654, A163 — **Indiv. contribution**: Co-I of the CARMENES proposal that collected the observations. Telescope observing, data reduction, and analysis.

44. ** Van Eylen, V., Astudillo-Defru, N., Bonfils, X., et al. incl. **Luque, R.**, (2021). "*Masses and compositions of three small planets orbiting the nearby M dwarf L231-32 (TOI-270) and the M dwarf radius valley*", MNRAS, 507, 2154-2173 — **Indiv. contribution**: Co-I of the HARPS and ESPRESSO proposals that collected the observations. Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

43. Fukui, A., Korth, J., Livingston, J. H., et al. incl. **Luque, R.**, (2021). "*TOI-1749: an M dwarf with a Trio of Planets including a Near-resonant Pair*", AJ, 162, 167 — **Indiv. contribution**: Contributed the MuSCAT2 observations. Telescope observing, data analysis and interpretation.

42. Hoyer, S., Gandolfi, D., Armstrong, D. J., et al. incl. **Luque, R.**, (2021). "*TOI-220 b: a warm sub-Neptune discovered by TESS*", MNRAS, 505, 3361-3379 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

41. Georgieva, I. Y., Persson, C. M., Barragán, O., et al. incl. **Luque, R.**, (2021). "*Hot planets around cool stars - two short-period mini-Neptunes transiting the late K-dwarf TOI-1260*", MNRAS, 505, 4684-4701 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

40. Johnson, E. N., Czesla, S., Fuhrmeister, B., et al. incl. **Luque, R.**, (2021). "*Simultaneous photometric and CARMENES spectroscopic monitoring of fast-rotating M dwarf GJ 3270. Discovery of a post-flare corotating feature*", A&A, 651, A105 — **Indiv. contribution**: Contributed the MuSCAT2 observations. Telescope observing, data analysis and interpretation.

39. Bluhm, P., Pallé, E., Molaverdikhani, K., et al. incl. **Luque, R.**, (2021). "*An ultra-short-period transiting super-Earth orbiting the M3 dwarf TOI-1685*", A&A, 650, A78 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

38. ** Trifonov, T., Caballero, J. A., Morales, J. C., et al. incl. **Luque, R.**, (2021). "*A nearby transiting rocky exoplanet that is suitable for atmospheric investigation*", Science, 371, 1038-1041 — **Indiv. contribution**: Contributed the CARMENES observations. Data analysis, internal structure modeling, and interpretation.

37. Parviainen, H., Palle, E., Zapatero-Osorio, M. R., et al. incl. **Luque, R.**, (2021). "*TOI-519 b: A short-period substellar object around an M dwarf validated using multicolour photometry and phase curve analysis*", A&A, 645, A16 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation.

36. Chen, G., Pallé, E., Parviainen, H., et al. incl. **Luque, R.**, (2021). "*An enhanced slope in the transmission spectrum of the hot Jupiter WASP-104b*", MNRAS, 500, 5420-5435 — **Indiv. contribution**: Contributed the MuSCAT2 observations. Telescope observing, data analysis and interpretation.

35. Dreizler, S., Crossfield, I. J. M., Kossakowski, D., et al. incl. **Luque, R.**, (2020). "*The CARMENES search for exoplanets around M dwarfs. LP 714-47 b (TOI 442.01): populating the Neptune desert*", A&A, 644, A127 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

34. Quirrenbach, A., CARMENES Consortium, Amado, P. J., et al. incl. **Luque, R.**, (2020). "*The CARMENES M-dwarf planet survey*", Proc. SPIE, 11447, 114473C — **Indiv. contribution**: Status report of CARMENES performance and science results. Telescope observing, data reduction, analysis, and interpretation.

33. Fridlund, M., Livingston, J., Gandolfi, D., et al. incl. **Luque, R.**, (2020). "*The TOI-763 system: sub-Neptunes orbiting a Sun-like star*", MNRAS, 498, 4503-4517 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Manuscript review and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

32. Palle, E., Oshagh, M., Casasayas-Barris, N., et al. incl. **Luque, R.**, (2020). "*Transmission spectroscopy and Rossiter-McLaughlin measurements of the young Neptune orbiting AU Mic*", A&A, 643, A25 — **Indiv. contribution**: Co-I of the ESPRESSO proposal that collected the observations. Telescope observing, data reduction, and analysis.

31. Nowak, G., Palle, E., Gandolfi, D., et al. incl. **Luque, R.**, (2020). "*K2-280 b - a low density warm sub-Saturn around a mildly evolved star*", MNRAS, 497, 4423-4435 — **Indiv. contribution**: Co-lead the HARPS-N and co-I of the HARPS proposals that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

30. Kemmer, J., Stock, S., Kossakowski, D., et al. incl. **Luque, R.**, (2020). "*Discovery of a hot, transiting, Earth-sized planet and a second temperate, non-transiting planet around the M4 dwarf GJ 3473 (TOI-488)*", A&A, 642, A236 — **Indiv. contribution**: Co-lead the CARMENES proposal that collected the observations. Data reduction, analysis, and interpretation.

29. Chen, G., Casasayas-Barris, N., Pallé, E., et al. incl. **Luque, R.**, (2020). "*Detection of Na in WASP-21b's lower and upper atmosphere*", A&A, 642, A54 — **Indiv. contribution**: Co-I the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis.

28. Carleo, I., Gandolfi, D., Barragán, O., et al. incl. **Luque, R.**, (2020). "*The Multiplanet System TOI-421*", AJ, 160, 114 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

27. ** Jeffers, S. V., Dreizler, S., Barnes, J. R., et al. incl. **Luque, R.**, (2020). "*A multiplanet system of super-Earths orbiting the brightest red dwarf star GJ 887*", Science, 368, 1477-1481 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation.

26. Gan, T., Shporer, A., Livingston, J. H., et al. incl. **Luque, R.**, (2020). "*LHS 1815b: The First Thick-disk Planet Detected by TESS*", AJ, 159, 160 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation.

25. Hidalgo, D., Pallé, E., Alonso, R., et al. incl. **Luque, R.**, (2020). "*Three planets transiting the evolved star EPIC 249893012: a hot 8.8-M<SUB>⊕</SUB> super-Earth and two warm 14.7 and 10.2-M<SUB>⊕</SUB> sub-Neptunes*", A&A, 636, A89 — **Indiv. contribution**: Co-lead the CARMENES and HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

24. Šubjak, J., Sharma, R., Carmichael, T. W., et al. incl. **Luque, R.**, (2020). "*TOI-503: The First Known Brown-dwarf Am-star Binary from the TESS Mission*", AJ, 159, 151 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

23. ** Casasayas-Barris, N., Pallé, E., Yan, F., et al. incl. **Luque, R.**, (2020). "*Is there Na I in the atmosphere of HD 209458b?. Effect of the centre-to-limb variation and Rossiter-McLaughlin effect in transmission spectroscopy studies*", A&A, 635, A206 — **Indiv. contribution**: Co-I the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis.

22. Lam, K. W. F., Korth, J., Masuda, K., et al. incl. **Luque, R.**, (2020). "*It Takes Two Planets in Resonance to Tango around K2-146*", AJ, 159, 120 — **Indiv. contribution**: Data analysis and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

21. Nielsen, L. D., Gandolfi, D., Armstrong, D. J., et al. incl. **Luque, R.**, (2020). "*Mass determinations of the three mini-Neptunes transiting TOI-125*", MNRAS, 492, 5399-5412 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

20. Parviainen, H., Palle, E., Zapatero-Osorio, M. R., et al. incl. **Luque, R.**, (2020). "*MuSCAT2 multicolour validation of TESS candidates: an ultra-short-period substellar object around an M dwarf*", A&A, 633, A28 — **Indiv. contribution**: Led the MuSCAT2 project that collected the observations during PhD. Telescope observing, data analysis and interpretation.

19. Fukui, A., Suzuki, D., Koshimoto, N., et al. incl. **Luque, R.**, (2019). "*Kojima-1Lb Is a Mildly Cold Neptune around the Brightest Microlensing Host Star*", AJ, 158, 206 — **Indiv. contribution**: Contributed the MuSCAT2 observations. Telescope observing and data reduction.

18. Barragán, O., Aigrain, S., Kubyshkina, D., et al. incl. **Luque, R.**, (2019). "*Radial velocity confirmation of K2-100b: a young, highly irradiated, and low-density transiting hot Neptune*", MNRAS, 490, 698-708 — **Indiv. contribution**: Co-lead the HARPS-N proposal that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

17. Parviainen, H., Tingley, B., Deeg, H. J., et al. incl. **Luque, R.**, (2019). "*Multicolour photometry for exoplanet candidate validation*", A&A, 630, A89 — **Indiv. contribution**: Theoretical paper presenting new concept for exoplanet validation. Provided real data for simulations and proof-of-concept analyses.

16. Kaltenegger, L., Madden, J., Lin, Z., et al. incl. **Luque, R.**, (2019). "*The Habitability of GJ 357D: Possible Climate and Observability*", ApJ, 883, L40 — **Indiv. contribution**: Planetary system discovery and internal composition analysis. Data interpretation.

15. ** Morales, J. C., Mustill, A. J., Ribas, I., et al. incl. **Luque, R.**, (2019). "*A giant exoplanet orbiting a very-low-mass star challenges planet formation models*", Science, 365, 1441-1445 — **Indiv. contribution**: Contributed to CARMENES observations. Data reduction, analysis, and interpretation.

14. Persson, C. M., Csizmadia, S., Mustill, A. J., et al. incl. **Luque, R.**, (2019). "*Greening of the brown-dwarf desert. EPIC 212036875b: a 51 M<SUB>J</SUB> object in a 5-day orbit around an F7 V star*", A&A, 628, A64 — **Indiv. contribution**: Co-lead the FIES proposal that collected the observations. Telescope observing, data reduction, and analysis. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

13. ** Zechmeister, M., Dreizler, S., Ribas, I., et al. incl. **Luque, R.**, (2019). "*The CARMENES search for exoplanets around M dwarfs. Two temperate Earth-mass planet candidates around Teegarden's Star*", A&A, 627, A49 — **Indiv. contribution**: Contributed to CARMENES observations. Data reduction, analysis, and interpretation.

12. Gandolfi, D., Fossati, L., Livingston, J. H., et al. incl. **Luque, R.**, (2019). "*The Transiting Multi-planet System HD15337: Two Nearly Equal-mass Planets Straddling the Radius Gap*", ApJ, 876, L24 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

11. Hjorth, M., Justesen, A. B., Hirano, T., et al. incl. **Luque, R.**, (2019). "*K2-290: a warm Jupiter and a mini-Neptune in a triple-star system*", MNRAS, 484, 3522-3536 — **Indiv. contribution**: Co-I of the HARPS and co-lead of the HARPS-N and FIES proposals that collected the observations. Telescope observing, data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

10. Esposito, M., Armstrong, D. J., Gandolfi, D., et al. incl. **Luque, R.**, (2019). "*HD 219666 b: a hot-Neptune from TESS Sector 1*", A&A, 623, A165 — **Indiv. contribution**: Co-I of the HARPS proposal that collected the observations. Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

9. Narita, N., Fukui, A., Kusakabe, N., et al. incl. **Luque, R.**, (2019). "*MuSCAT2: four-color simultaneous camera for the 1.52-m Telescopio Carlos Sánchez*", Journal of Astronomical Telescopes, Instruments, and Systems, 5, 015001 — **Indiv. contribution**: Status report of MuSCAT-2 performance and first science results. Telescope observing, data reduction, analysis, and interpretation.

8. ** Gandolfi, D., Barragán, O., Livingston, J. H., et al. incl. **Luque, R.**, (2018). "*TESS's first planet. A super-Earth transiting the naked-eye star π Mensae*", A&A, 619, L10 — **Indiv. contribution**: Data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

7. Prieto-Arranz, J., Palle, E., Gandolfi, D., et al. incl. **Luque, R.**, (2018). "*Mass determination of the 1:3:5 near-resonant planets transiting GJ 9827 (K2-135)*", A&A, 618, A116 — **Indiv. contribution**: Co-lead of the HARPS-N and CARMENES proposals that collected the observations. Telescope observing, data reduction, analysis, and interpretation. Paper from KESPRINT consortium of which I am an elected member of the Steering Committee.

6. Kaminski, A., Trifonov, T., Caballero, J. A., et al. incl. **Luque, R.**, (2018). "*The CARMENES search for exoplanets around M dwarfs. A Neptune-mass planet traversing the habitable zone around HD 180617*", A&A, 618, A115 — **Indiv. contribution**: Contributed to CARMENES observations. Data reduction, analysis, and interpretation.

5. Quirrenbach, A., Amado, P. J., Ribas, I., et al. incl. **Luque, R.**, (2018). "*CARMENES: high-resolution spectra and precise radial velocities in the red and infrared*", Proc. SPIE, 10702, 107020W — **Indiv. contribution**: Status report of CARMENES performance and first science results. Telescope observing, data reduction, analysis, and interpretation.

4. ** Reiners, A., Zechmeister, M., Caballero, J. A., et al. incl. **Luque, R.**, (2018). "*The CARMENES search for exoplanets around M dwarfs. High-resolution optical and near-infrared spectroscopy of 324 survey stars*", A&A, 612, A49 — **Indiv. contribution**: Contributed to CARMENES observations. Data reduction, analysis, and interpretation.

3. Trifonov, T., Kürster, M., Zechmeister, M., et al. incl. **Luque, R.**, (2018). "*The CARMENES search for exoplanets around M dwarfs . First visual-channel radial-velocity measurements and orbital parameter updates of seven M-dwarf planetary systems*", A&A, 609, A117 — **Indiv. contribution**: Contributed to CARMENES observations. Data reduction, analysis, and interpretation.

2. Reiners, A., Ribas, I., Zechmeister, M., et al. incl. **Luque, R.**, (2018). "*The CARMENES search for exoplanets around M dwarfs. HD147379 b: A nearby Neptune in the temperate zone of an early-M dwarf*", A&A, 609, L5 — **Indiv. contribution**: Contributed to CARMENES observations. Data reduction, analysis, and interpretation.

1. Rodríguez-Ardila, A., Prieto, M. A., Mazzalay, X., et al. incl. **Luque, R.**, (2017). "*Powerful outflows in the central parsecs of the low-luminosity active galactic nucleus NGC 1386*", MNRAS, 470, 2845-2860 — **Indiv. contribution**: Paper resulting from B.Sc. thesis work and summer internship at IAC. Reduced and analyzed SINFONI and NaCo observations. Manuscript review and results interpretation.

## Books, Proceedings and other Work

4. **Luque, R.** (2024). "*Planets around Low-Mass Stars*", Handbook of Exoplanets, Springer, Cham. In press. — **Indiv. contribution**: State-of-the-art reference book that includes over 15 sections dealing with all aspects of exoplanets and exobiology research, including historic aspects. It is currently the major work of reference in the field. Chapter to be included in section "Exoplanet Catalogues, Abundances and Statistics". To be published in early 2024 as part of the second edition.

3. Roth, M. M., Aceituno, J., Ortiz, J. L., et al. incl. **Luque, R.**, (2022). "*MARCOT Pathfinder at Calar Alto progress report*", Proc. SPIE, 12182, 121820M — **Indiv. contribution**: SPIE Proceeding reporting of a new large aperture telescope concept for Calar Alto observatory. Contributed the exoplanet science cases that the new facility could pursue.

2. Quirrenbach, A., CARMENES Consortium, et al. incl. **Luque, R.**, (2020). "*The CARMENES M-dwarf planet survey*", Proc. SPIE, 11447, 114473C — **Indiv. contribution**: Status report of CARMENES performance and science results. Telescope observing, data reduction, analysis, and interpretation.

1. Quirrenbach, A., Amado, P. J., Ribas, I., et al. incl. **Luque, R.**, (2018). "*CARMENES: high-resolution spectra and precise radial velocities in the red and infrared*", Proc. SPIE, 10702, 107020W — **Indiv. contribution**: Status report of CARMENES performance and first science results. Telescope observing, data reduction, analysis, and interpretation.