

Cédric Pedroso Pereira

Ciência ID 3B1D-8B84-B4F4 | ORCID ID 0000-0002-2839-6479

cedricpereira89@gmail.com | Lisbon, Portugal



Higher Education

- * **Doctorate in Physics and Astrophysics** | Out 2019 – Jan 2025
Faculty of Sciences – University of Lisbon
PhD Thesis | “Calibration Light Sources for High Accuracy Photometry Instruments”
- * **Master's in Astrophysics and Space Instrumentation** | Sep 2016 – Feb 2019
Faculty of Science and Technology – University of Coimbra
ESA Dissertation | “VO methodology to identify and characterize asteroids in wide-field astronomical images”
- * **Bachelor's in Mechatronics Engineering** | Sep 2008 - Jan 2013
Faculty of Science and Technology – University of Évora
Final Project | “Design (mechanical, electronic, software), development and assembly of a 3-axis Computer Numerical Control (CNC) machine.”

Academic & Professional Experience

- * **Postdoctoral Researcher** | Feb 2025 – Present
Institute of Astrophysics and Space Sciences - Lisbon, Portugal

I am currently developing instrumentation for major ESA and ESO projects, including the ARIEL Space Mission (ESA), the ANDES spectrograph for the ELT (ESO), and BlueMUSE for the VLT (ESO).
- * **PhD Researcher** | Oct 2019 – Jan 2025
Institute of Astrophysics and Space Sciences - Lisbon, Portugal

Stabilization of calibration light sources for high accuracy photometry instruments. Development of critical designs (optical, mechanical and electronic) of a calibration & characterization subsystem, for the Ariel Space Mission. Development of optomechanical setups for radiometric laboratory measurements. Cryogenic vacuum tests for InGaAs technologies and pre-amplifier semiconductors. Development of the on-board metrology system for the ATHENA Space Mission. Exoclock Project: analysis of exoplanet transit curves acquired by TESS space mission; acquisition, calibration and analysis of exoplanet transits with personal equipment.
- * **Aerospace & Defense Software Engineer** | Jul 2019 – Oct 2019
GMV Innovating Solutions - Lisbon, Portugal

Implementation and validation of telecommunication and telemetry systems for the MTG mission - Meteosat Third Generation - the third generation of geostationary satellites of the intergovernmental organization EUMETSAT.
- * **Master's Degree Internship** | Apr 2018 – Oct 2018
European Space Agency (ESAC); Astrobiology Centre (CSIC-INTA) - Madrid, Spain

Scientific exploitation of wide area surveys. Identification and characterization of known and new asteroids, NEO's and fast objects on the field of view. Support for data acquisition with the telescope/instruments in La Sagra Observatory. Data reduction, astrometrical and photometric calibration. Calibration using Gaia space mission. Pipeline design and programming. Data analysis – asteroids orbit, proper motions, rotation periods.
- * **Automation & Control Systems Engineer** | Feb 2017 – Apr 2018
LIP: Laboratory of Instrumentation and Experimental Particle Physics - Coimbra, Portugal

The LZ Dark Matter Experiment: Development of the control and automation system for the international dark matter detector (Lux – Zeplin), in implementation at the Homestake mine - South Dakota.

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* **Process Engineer, Continuous Improvement Coordinator, Safety Coordinator, EMEA – Automotive Project Manager** | Mar 2013 – Jul 2016

TE Connectivity - Évora, Portugal

Configuration and adjustment of industrial processes, robots, peripheral equipment, quality control equipment; 2D and 3D design of new system parts; Trainer of new collaborators.

Project coordinator of Lean projects related with 5S, Kaizen, 6 Sigma, SMED, QCO, Cell Design, Poka-Yoke, VSM and Kanban methodologies; Selected for a special team to improve all departments of the company.

Safety coordinator to improve safety in the department; Project of safety fences and CE labelling.

Project manager of the Automotive – EMEA group, to monitor the performance of the department; Calculation of performance indicators (KPI) and reporting.

6 Sigma Green Belt Project: Stability improvement of the injection processes using recycled raw material.

* **Process Engineer (Internship)** | Jun 2012 – Mar 2013

TE Connectivity - Évora, Portugal

Control and monitoring of industrial machines, robots and peripheral equipment; 2D and 3D design of new projects.

Projects of mold quick changeover, reintegration of raw material and humidification of injected parts. Mechanical, electronic and automation design of a machine to detect defects in the production line.

* **Specialized Automotive Technician** | Jun 2011 – Set 2021

TE Connectivity - Évora, Portugal

Control and maintenance of injection processes; Maintenance and repair of main and peripheral equipment;

Preparation of processes standard work instructions; Laboratory tests (viscosity and moisture).

Education & Training

* **Isolated Disciplines of the Bachelor Degree in Renewable Energy Engineering** | Sep 2013 – Jul 2014

Faculty of Science and Technology - Évora, Portugal

Photovoltaic Energy; Energy, Environment and Sustainability.

* **Professional and Personal Training:**

Online Standardization Training Course

ELT Instrument Control Systems

Beckhoff TwinCAT 3

Virtual Observatory Tools

Solar Astrophotography

6 Sigma Green Belt

Lean

Single Minute Exchange of Die (SMED)

Scientific Injection Molding SIM – 53P

Ergonomics

Environment, Safety, Hygiene and Health at Work

Occupational Safety

Computer Numerical Control (CNC)

Nanotechnologies

Philosophy and Sciences

Introduction to Astronomy

Analysis of the Universe

Science and Technology of Astronomical Discoveries

ESA Academy

ESO Garching

Bresimar Automação

CAB CSIC-INTA

OLA

TE Connectivity

TE Connectivity

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TE Connectivity

IEFP Évora

IEFP Évora

IEFP Évora

Coursera

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From Big Bang to Dark Energy
Big Questions in Modern Astronomy
Electronics, Robotics and Automation – Arduino
Open Water Dive

Coursera
Coursera
Évora University
Padi

* Digital Skills:

Python	Matlab	Labview	Ignition Scada	phpMyAdmin	Simatic Step 7
Maple	Multisim	Arduino			
IDL	Geant4	Aladin	TOPCAT	STILTS	SExtractor
IRAF	Depp Sky Stacker	Maxim DI	Astrolmage J	IRIS	ASCOM
Autocad	Inventor	Solidworks	Zemax	Eagle	KiCad
MS Windows	Linux	FMEA-Pro	MS Office	Latex	

Scientific Projects

- * **On-Ground Support Equipment (OGSE) for the ARIEL Space Mission** | 2019 – Present
Working on the OGSE team responsible for the design, assembly and integration of the optical system to calibrate and characterize the instruments aboard the future ARIEL space mission.
- * **Azores ExoClock** | 2023 – Present
Coordination of the “Clube de Geocaching e Astronomia da ESLagoa” group for participation in the ExoClock project of the ARIEL Space Mission.
- * **ARIEL ExoClock** | 2019 – 2022
Analysis of exoplanet transit curves acquired by TESS space mission. Acquisition, calibration and analysis of exoplanet transits with personal equipment.
- * **FireLoc System** | 2022
Responsible to develop the algorithm to calculate the position of the Sun, in local coordinates, relative to the observer.
- * **Night Sky Survey at Figueira de Castelo Rodrigo** | 2021
Study of the quality of the night sky at Figueira de Castelo Rodrigo.
- * **La Sagra Asteroid Tracking and Detection** | 2019
Responsible to develop a pipeline for identification and characterization of known and new asteroids, NEO’s and fast objects on the field of view. Data analysis: asteroids orbit, proper motions, rotation periods.
- * **LZ Dark Matter Project** | 2017 – 2018
Working on the Slow-Control team, responsible to design and develop the control and automation system for the international LZ dark matter detector.

Lectures, Classes & Students

- * **Física Experimental I** | 2025/2026, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Invited Assistance Professor: Practical and laboratory classes (42 hours).
- * **Physics Engineering Student Supervision** | 2025, Institute of Astrophysics and Space Sciences, Lisbon, Portugal
Supervision of a university student on the topic “*Calibration Light Source for the Ariel Space Mission*”.

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- * **Physics Engineering Student Supervision** | 2025, Institute of Astrophysics and Space Sciences, Lisbon, Portugal
Supervision of a university student on the topic “*Development and Characterisation of an XY Translation Stage*”.
- * **Física Experimental** | 2024/2025, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Invited Assistance: Practical and laboratory classes (42 hours).
- * **Física Experimental I** | 2024/2025, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Invited Assistance: Practical and laboratory classes (42 hours).
- * **Introduction to Astronomy** | 2021, Observatório do Lago Alqueva, Monsaraz, Portugal
Course about general aspects of astronomy: the observable universe, astronomy principles and coordinate systems, telescope and other equipments, astronomical observation, portuguese activities, etc.
- * **High School Student Internship** | 2021, Institute of Astrophysics and Space Sciences, Lisbon, Portugal
Internship with high school student from Lycée Français Charles Lepierre.
- * **Física Experimental III** | 2019/2020, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Invited Assistance: Practical and laboratory classes (42 hours).
- * **Injection Moulding** | 2015/2016, TE Connectivity, Évora, Portugal
Technical classes about injection moulding processes (40 hours).
- * **Injection Moulding** | 2014/2015, TE Connectivity, Évora, Portugal
Technical classes about injection moulding processes (40 hours).

Publications

- * **Stabilization of light sources with digital micromirror devices for calibration of high-precision photometric instruments**
Cédric Pereira, Manuel Abreu, Alexandre Cabral | [<https://doi.org/10.1117/1.JATIS.10.4.048002>]
Journal of Astronomical Telescopes, Instruments, and Systems, Vol. 10, Issue 4, 048002 (November 2024)
- * **Stability of the OGSE Vis-NIR Illumination Sub-System for the future ARIEL Space Mission**
Cédric Pereira, Manuel Abreu, D. Castro Alves, Alexandre Cabral, Robert Spry, Neil E. Bowles, Keith Nowicki, Maisie F. Rashman | [<https://doi.org/10.1117/12.3018284>]
SPIE Proceedings Volume 13092, Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave; 130924W (2024)
- * **Cryogenic testing of the integrated Ariel space telescope: design of the optical test equipment**
Robert Spry, Manuel Abreu, Keith Nowicki, Neil Bowles, Maisie Rashman, Cédric Pereira, Jake Hutchinson, David Miguel Ventura de Castro Alves, Rory Evans, Robert Watkins, Waqas Mir, John-Paul Walker, Ioannis Argyriou, Joss Guy, Juergen Schmoll, Chris Davison, Henry Eshbaugh, Alexandre Cabral, Rachel Drummond, Lucile Desjonqueres, Mark Anderson, Georgia Bishop, Paul Eccleston, Enzo Pascale, Andrew Caldwell, Giovanna Tinetti | [<https://doi.org/10.1117/12.3020185>]
SPIE Proceedings Volume 13092, Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave; 130924V (2024)
- * **Characterization of Light Diffraction by a Digital Micromirror Device**
C. Pereira, M. Abreu, A. Cabral and J. M. Rebordão | [<https://doi.org/10.1088/1742-6596/2407/1/012048>]
Journal of Physics: Conference Series, Volume 2407, Fifth International Conference on Applications of Optics and Photonics (AOP2022) 17/07/2022 - 22/07/2022 Guimarães, Portugal.

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* Ground calibration of the Ariel space telescope: optical ground support equipment design and description

Neil E. Bowles, Manuel Abreu, Tim A. van Kempen, Matthijs Krijger, Robert Spry, Rory Evans, Robert A. Watkins, Cédric Pereira, E. Pascale, Paul Eccleston, Chris Pearson, Lucile Desjonqueres, Georgia Bishop, Andrew Caldwell, Andrea Moneti, Mauro Focardi, Subhajit Sarkar, Giuseppe Malaguti, Ioannis Argyriou, Keith Nowicki, Alexandre Cabral, Giovanna Tinetti | [<https://doi.org/10.1117/12.2627049>]

Proceedings Volume 12180, Space Telescopes and Instrumentation 2022: Optical, Infrared, and Millimeter Wave; 1218049 (2022).

* The FireLoc system - methodologies for geolocating the observed fires

Cidália C. Fonte, Ismael Jesus, Cédric Pereira, Alberto Cardoso, Jacinto Estima, Joaquim Patriarca, José-Paulo de Almeida | [https://doi.org/10.14195/978-989-26-2298-9_64]

In book: Advances in Forest Fire Research 2022, SBN: 978-989-26-2297-2, eISBN: 978-989-26-2298-9, Engineering Sciences and Technologies, Pages: 400-404, (2022).

* ExoClock Project: An open platform for monitoring the ephemerides of Ariel targets with contributions from the public

Kokori, A., Tsiaras, A., Edwards, B. et al. | [<https://doi.org/10.1007/s10686-020-09696-3>]

Exp Astron 53, 547–588 (2022).

* ExoClock Project. II. A Large-scale Integrated Study with 180 Updated Exoplanet Ephemerides

Kokori, A., Tsiaras, A., Edwards, B. et al. | [<https://doi.org/10.3847/1538-4365/ac3a10>]

The Astrophysical Journal Supplement Series, Volume 258, Number 2 (2022).

* ExoClock Project. III. 450 New Exoplanet Ephemerides from Ground and Space Observations

Kokori, A., Tsiaras, A., Edwards, B. et al. | [<https://doi.org/10.3847/1538-4365/ac9da4>]

The Astrophysical Journal Supplement Series, Volume 265, Number 1 (2023).

* ExoClock Project. IV. A Homogeneous Catalog of 620 Updated Exoplanet Ephemerides

Kokori, A., Tsiaras, A., Pantelidou, G. et al. | [<https://doi.org/10.3847/1538-4365/ae3238>]

The Astrophysical Journal Supplement Series, Volume 283, Number 1 (2026).

Conferences & Workshops

* Ariel Consortium Meeting 2024 | 28th – 30th October 2024, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal

Organization team member.

* XXXIV ENAA: Encontro Nacional de Astronomia e Astrofísica | 12th – 14th September 2024, Guimarães, Portugal

Oral presentation: “Stability of the OGSE Vis-NIR illumination sub-system for the future ARIEL space mission”.

* Encontro Ciência 2024 | 3rd – 5th July 2024, Centro de Congressos da Alfândega do Porto, Porto, Portugal

Poster presentation: “Stability of the OGSE Vis-NIR illumination sub-system for the future ARIEL space mission”.

* SPIE Astronomical Telescopes + Instrumentation | 16th – 21st June 2024, Yokohama, Japan

Poster presentation: “Stability of the OGSE Vis-NIR illumination sub-system for the future ARIEL space mission”.

* IA-ON11: 11th Workshop of the Institute of Astrophysics and Space Sciences | 24th – 25th January 2024, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal

Oral presentation: “A lamp to calibrate the ARIEL Space Mission”.

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- * **Ciências Research & Innovation Day** | 24th October 2023, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Poster presentation: "*Light source stabilization system for High Accuracy Photometry Instruments in Astronomy*".
- * **Congresso Physis: 3 Day Mission: SP4C3 EXPLORATION** | 13th – 15th October 2023, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Oral presentation: "*A Calibration System for the ARIEL Space Mission*".
- * **XXXIII ENAA: Encontro Nacional de Astronomia e Astrofísica** | 7th – 9th September 2023, Coimbra, Portugal
Oral presentation: "*Optical Sub-System to characterize the future ARIEL Space Mission*".
- * **Jornadas Doutorais do Departamento de Física** | 29th – 30th March 2023, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Organization team member. Oral presentation: "*VIS/NIR Illumination System for the OGSE of ARIEL Space Mission*".
- * **IA-ON10: 10th Workshop of the Institute of Astrophysics and Space Sciences** | 26th – 27th January 2023, Fátima, Portugal
Active participation in the workshop activities.
- * **IA-ON9: 9th Workshop of the Institute of Astrophysics and Space Sciences** | 11th November 2022, (online) Portugal
Active participation in the workshop activities.
- * **Nyria: Network for Young Researchers in Instrumentation for Astronomy** | 7th – 11th November 2022, Sarcedo, Italy
Oral presentation: "*VIS/NIR Illumination System for the OGSE of ARIEL Space Mission*".
- * **XXXII ENAA: Encontro Nacional de Astronomia e Astrofísica** | 5th – 6th September 2022, Lisbon, Portugal
Oral presentation: "*VIS/NIR Illumination System for the OGSE of ARIEL Space Mission*".
- * **V International Conference on Applications of Optics and Photonics - AOP 2022** | 18th – 22nd July 2022, Guimarães, Portugal
Oral presentation: "*Characterization of Light Diffraction by a Digital Micromirror Device (DMD)*".
- * **Encontro com a Ciência e Tecnologia em Portugal 2022** | 16th – 18th May 2022, Centro de Congressos de Lisboa, Lisbon, Portugal
Poster presentation: "*Light source stabilization system for High Accuracy Photometry Instruments in Astronomy*".
- * **IA - Optical Design of Astronomical Instruments** | 9th – 13th May and 30th – 3rd June 2022, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Active participation in the workshop activities.
- * **H2020 Skies Training Workshop** | 19th April – 5th May 2022, University of Coimbra, Coimbra, Portugal
Active participation in the workshop activities.
- * **Jornadas Doutorais do Departamento de Física** | 16th – 17th February 2022, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Organization team member. Oral presentation: "*Stabilization of calibration light sources for High Accuracy Photometry Instruments*".
- * **Dia da Investigação do Departamento de Física** | 25th November 2021, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Poster presentation: "*Light source stabilization system for High Accuracy Photometry Instruments in Astronomy*".

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- * **IA-ON8: 8th Workshop of the Institute of Astrophysics and Space Sciences** | 10th – 12th November 2021, Coimbra, Portugal
Oral presentation: “*Stabilization of calibration light sources for High Accuracy Photometry Instruments*”.
- * **Ciências Research Day** | 27th October 2021, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Poster presentation: “*Light source stabilization system for High Accuracy Photometry Instruments in Astronomy*”.
- * **Nyria: Network for Young Researchers in Instrumentation for Astronomy** | 21st – 29th October 2021, (online)
Organization team member.
- * **Science and Technologies for Space – a ground up overview** | 13th – 17th September 2021, Coimbra (online), Portugal
Active participation in the workshop activities.
- * **ENAA: Encontro Nacional de Astronomia e Astrofísica** | 8th – 10th September 2021, Porto (online), Portugal
Active participation in the workshop activities.
- * **Space Engineering and Technology Final Presentation Days** | 8th – 9th September 2021, ESA (online)
Active participation in the workshop activities.
- * **Encontro com a Ciência e Tecnologia em Portugal** | 28th – 30th June 2021, (online), Portugal
Poster presentation: “*Light source stabilization system for High Accuracy Photometry Instruments in Astronomy*”.
- * **DeMo: Detector Modelling Online Workshop** | 14th – 16th June 2021, ESA/ESO (online)
Active participation in the workshop activities.
- * **Dark Sky Monitoring Workshop Training** | 1st June 2021, Lisbon (online), Portugal
Workshop given by Dr. Raúl Lima to measure the quality of the night sky using a SQM device.
- * **Nyria: Network for Young Researchers in Instrumentation for Astronomy** | 26th – 30th October 2020, (online)
Active participation in the workshop activities.
- * **IA-ON7: 7th Workshop of the Institute of Astrophysics and Space Sciences** | 19th – 22nd October 2020, (online)
Oral presentation: “*Stabilization of calibration light sources for High Accuracy Photometry Instruments*”.
- * **ENAA: Encontro Nacional de Astronomia e Astrofísica** | 9th – 11th September 2020, Porto (online), Portugal
Poster presentation: “*Stabilization of calibration light sources for High Accuracy Photometry Instruments*”.
- * **Portugal no Futuro da Exploração Espacial** | 26th June 2020, Coimbra (online), Portugal
Participation on the webinar given by Dr. Rui Curado Silva (FCTUC) and Ricardo Patrício (Active Space Technologies).
- * **Jornadas Doutorais do Departamento de Física** | 3rd March 2020, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Oral presentation: “*Photometric Light Curves in the study and characterization of other worlds*”.
- * **Encontro Nacional de Estudantes de Física** | 20th – 23rd February 2020, Faculty of Sciences and Technology of the University of Coimbra, Coimbra, Portugal
Workshop presentation: “*Não só com Grandes Telescópios se faz Ciência*”.
- * **Deteção de Exoplanetas com o Método dos Trânsitos** | 5th December 2019, Institute of Astrophysics and Space Sciences, Porto, Portugal
Seminar/class given by Dr. Nuno Santos.
- * **A deteção e caracterização de outras Terras** | 5th December 2019, Institute of Astrophysics and Space Sciences, Porto, Portugal
Meeting with Nuno Santos about the ESA ARIEL Space Mission.

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- * **Nyria: Network for Young Researchers in Instrumentation for Astronomy** | 4th – 8th November 2019, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Oral presentation: *“Pro-Am Collaboration for Photometric Data of Exoplanet Transit Light Curves”*.
- * **Jornadas LIP 2018** | 16th – 18th February 2018, Évora Hotel, Évora, Portugal
Active participation in the activities.
- * **Detection of Exoplanets and Photometry** | 30th September 2017, Observatório Geofísico e Astronómico da Universidade de Coimbra, Coimbra, Portugal
Organization team member. Oral presentation: *“Detection of Exoplanets”*.

Outreach Activities

- * **1st Aerospace Engineering Talks** | 7th April 2025, Évora University, Portugal
Oral presentation: *“Da engenharia Mecatrónica para a Instrumentação Espacial passando pela Astrofotografia”*.
- * **ESERO – Espaço vai à Escola** | 1st – 31st October 2024, Lisbon, Portugal
24 oral presentations given in multiples schools: *“Mergulhos no Oceano Cósmico”*.
- * **XXVIII Astrofesta Nacional** | 9th – 11th August 2024, Constância, Portugal
Active participation in the outreach activities. Oral presentations: *“Mergulhos no Oceano Cósmico”* and *“Astrophotography Workshop”*.
- * **Ignite Astro** | 11th November 2023, Emergente Centro Cultural, Marco de Canaveses, Portugal
Oral presentation: *“Uma lâmpada para calibrar a Missão Espacial ARIEL”*.
- * **Casa da Cultura Lívio de Moraes** | 26th October 2023, Escola EB1 N. 2 de Mira-Sintra, Portugal
Oral presentation: *“Eclipses”*.
- * **Semana Mundial do Espaço 2023** | 9th October 2023, Escola Secundária da Lagoa, Azores, Portugal
Oral presentations: *“Mergulhos no Oceano Cósmico”* and *“Workshop sobre a Missão Espacial ARIEL, o projecto ExoClock e utilização de telescópio”*.
- * **XXVIII Astrofesta Nacional** | 25th – 27th August 2023, Constância, Portugal
Active participation in the outreach activities and oral presentation: *“A astronomia pergunta, a instrumentação responde!”*.
- * **Ciências Research & Innovation Day** | 24th October 2023, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Speed-dating with researchers from the Institute of Astrophysics and Space Sciences.
- * **Sem Atrito FCUL** | 14th December 2022, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Oral presentation: *“Mergulhos no Oceano Cósmico”*.
- * **NEI 2022** | 30th September 2022, Pavilhão do Conhecimento, Lisbon, Portugal
Jam session astronómica.
- * **Observação Centro Ismaili** | October 2022, Centro Ismaili, Lisbon, Portugal
Organization of outreach activities to observe the night sky through a telescope.
- * **Planetália** | 9th September 2022, Museu de Lisboa, Lisbon, Portugal
Active participation in the outreach activities promoted by the Institute of Astrophysics and Space Sciences.
- * **Feira do Livro** | 27th August 2022, Lisbon, Portugal
Active participation in the outreach activities promoted by the Institute of Astrophysics and Space Sciences.

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- * **XXVII Astrofesta Nacional** | 5th – 7th August 2022, Sagres, Portugal
Active participation in the outreach activities and oral presentation: “*A Missão ARIEL e a Participação Portuguesa*”.
- * **Sem Atrito FCUL** | 18th May 2022, Lisbon (online), Portugal
Workshop presentation: “*Astronomy Astrophotography*”.
- * **Encontro com a Ciência e Tecnologia em Portugal 2022** | 16th – 18th May 2022, Centro de Congressos de Lisboa, Lisbon, Portugal
Active participation in the outreach activities promoted by the Institute of Astrophysics and Space Sciences.
- * **ESPRESSO: Uma Aventura no Deserto de Atacama** | 14th May 2022, Faculty of Sciences of the University of Lisbon, Lisbon, Portugal
Collaboration in the organization of the event.
- * **Eclipse Lunar** | 15th April 2022, Lisbon (online), Portugal
Oral presentation: “*Eclipse Lunar*”.
- * **Escola Secundária de Serpa** | 18th November 2021, Escola Secundária de Serpa, Serpa, Portugal
Oral presentation: “*O Meu Percurso Académico e Profissional*”.
- * **Conversas à Volta do Centro** | 6th November 2021, Cine-Teatro Curso Semedo, Montemor-o-Novo, Portugal
Oral presentation: “*Astronomia Subtil*”.
- * **Webinar Astrofotografia** | 3rd November 2021, Lisbon (online), Portugal
Oral presentation: “*Astrofotografia: O Universo à distância de um click*”.
- * **Observação do Cosmos** | 4th October 2021, Eco-Escola Tom da Terra Sampaio, Sesimbra, Portugal
Guide astronomer at observation night.
- * **100h de Astronomia** | 2nd October 2021, O.Colares, Sintra, Portugal
Oral presentation: “*Mergulhos no Oceano Cósmico*”.
- * **SAC Coimbra** | 2021, Lisbon (online), Portugal
Workshop presentation: “*Astronomy Astrophotography*”.
- * **Há Estrelas no Bairro** | 18th September 2021, Parque da Bela Vista, Lisbon, Portugal
Organization of outreach activities to observe the night sky through a telescope.
- * **Barrancosmos** | 11th – 12th September 2021, Parque de Natureza de Noudar, Barrancos, Portugal
Collaboration in the outreach activities to observe the night sky through a telescope.
- * **O Papel das Estrelas** | 22nd May 2021, Escola Básica Integrada de Lagares da Beira, Lagares da Beira, Portugal
Workshop presentation: “*Mergulhos no Oceano Cósmico*”.
- * **Encontro de Astrónomos Amadores** | 10th April 2021, Monsaraz (online), Portugal
Oral presentation: “*Missão Espacial ARIEL: actividades Pro-Am e o Projecto ExoClock*”.
- * **Lecture for High School Students** | 17th March 2021, Escola Básica do Juncal, Leiria, Portugal
Oral presentation: “*Mergulhos no Oceano Cósmico*”.
- * **52º PubhD de Lisboa** | 10th March 2021, Lisbon (online), Portugal
Oral presentation: “*Instrumentação para o Espaço com Cédric Pereira*”.
- * **cMOOC Astronomia Visual** | 18th February 2021, Lisbon (online), Portugal
Oral presentation: “*Astronomia Amadora e Colaboração no Estudo de Exoplanetas*”.

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- * **Programa Viver Astronomia** | 30th May 2020, Lisbon (online), Portugal
Oral presentation: *"Asteróides... mais que meros calhaus!"*.
- * **Semana Aeroespacial** | 3rd – 4th March 2020, Centro de Congressos do Instituto Superior Técnico, Lisbon, Portugal
Active participation in the outreach activities promoted by the Institute of Astrophysics and Space Sciences.
- * **Descobre a ULisboa** | 28th – 29th January 2020, Reitoria da Universidade de Lisboa, Lisbon, Portugal
Active participation in the outreach activities promoted by the Institute of Astrophysics and Space Sciences.
- * **Agroturismo Xistos** | June 2019, Xistos, Beja, Portugal
Oral presentation: *"Mergulhos no Oceano Cósmico"*.
- * **Astro Coruche** | 1st June 2019, Museu Municipal de Coruche, Portugal
Oral presentation: *"Asteróides: mais que meros calhaus"*.
- * **Noites de Observação** | 26th March 2019, Observatório Geofísico e Astronómico da Universidade de Coimbra, Coimbra, Portugal
Oral presentation: *"Mergulhos no Oceano Cósmico"*.
- * **Centro Rómulo da Universidade de Coimbra** | 26th March 2019, Rómulo Centro de Ciência Viva da Universidade de Coimbra, Coimbra, Portugal
Oral presentation: *"Asteróides: mais que meros calhaus"*.
- * **Astrofesta Nacional** | 16th – 21st July 2019, Centro Ciência Viva de Constância, Constância, Portugal
Active participation in the outreach activities and oral presentation: *"Detecção de Asteróides (ESA)"*.
- * **Astrotalks: Astrofotografia** | 20th March 2018, Rómulo Centro de Ciência Viva da Universidade de Coimbra, Coimbra, Portugal
Oral presentation: *"Astrofotografia"*.
- * **Centro Rómulo da Universidade de Coimbra** | 21st November 2017, Rómulo Centro de Ciência Viva da Universidade de Coimbra, Coimbra, Portugal
Oral presentation: *"Mergulhos no Oceano Cósmico: o Universo do ponto de vista de um astrónomo amador"*.
- * **Centro de Ciência Viva de Constância** | 2017, Centro Ciência Viva de Constância, Constância, Portugal
Oral presentation: *"Detection of Exoplanets by Amateur Astronomers"*.
- * **5ª Sessão do Ciclo de Conferências de Divulgação Científica** | 23rd June 2017, Library of Beja, Portugal
Oral presentation: *"O Universo Observável: Planetas, Estrelas e Galáxias"*.
- * **Astrophotography Workshop UEvora** | 2015, University of Évora, Évora, Portugal
Oral presentation about astrophotography and hands-on workshop.
- * **Astronomy Night UEvora** | 2015, University of Évora, Évora, Portugal
Organization of an astronomy night for the University of Évora.

Organizations / Memberships

- * **ExoClock** | 2019 – Present
National contact of Exoclock, a scientific project of ARIEL space mission.
- * **NYRIA** | 2019 – Present
Member of the group.

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- * **Associação Portuguesa de Astrónomos Amadores** | 2019 – Present
Member of the group.
- * **Astronomy Section of the Coimbra University** | 2016 – 2019
Coordinator of astronomy sessions. Responsible for the high-altitude balloon project.
- * **ESA Astronomy Club** | 2018
Responsible to develop amateur astronomy activities in ESAC (Madrid).
- * **Do It Yourself Group, Fablab Évora** | 2013 – 2015
Member and responsible to develop a voice-controlled robotic chess (Merit Award, Maker Faire 2015).
- * **Nucleus of Mechatronics Engineering and Renewable Energies** | 2013 – 2015
Responsible for the mechatronics project group.
- * **Portuguese Community of Carnivorous Plants** | 2007 – 2012
Founder of the community responsible to study and to promote online knowledge.

Collaborations with Observatories

- * **Alqueva Lake Astronomical Observatory** | 2016 – Present (occasionally)
Guide astronomer in the astronomy sessions.
- * **Astronomical Observatory of the University of Coimbra** | 2016 – 2019
Guide astronomer in the astronomy sessions.
- * **National Astronomy Star Party** | 2012 – Present
Guide astronomer in the astronomy sessions.

Press / Media

- * **Futuro à Vista** | 2025
Participation in an interview about my academic and professional career.
[<https://www.youtube.com/watch?v=qJvDNWiQw0>]
- * **National Geographic** | 2024
Astrophotography mention about C/2023 A3 comet.
[<https://www.nationalgeographic.pt/ciencia/8-fotografias-cometa-portugal-italia-eua-espanha-tsuchinshan-atlas-13-5452>]
- * **Um Cientista vem à Escola** | 2024
Article on ESA's ESERO initiative in schools.
[https://clubes.cienciaviva.pt/blog/?id_blog=1648]
- * **Diário da Lagoa** | 2023
Article about the World Space Week.
[<https://diariodalagoa.pt/semana-mundial-do-espaco-2023-na-secundaria-da-lagoa/>]
- * **Açores Hoje** | 2023
Participation in the TV news about the World Space Week.
[<https://www.rtp.pt/play/p1766/e720905/acoes-hoje>]

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* National Geographic | 2023

Article: "Truques para ver (melhor) o céu à noite em Portugal".

[<https://www.nationalgeographic.pt/ciencia/truques-para-ver-melhor-o-ceu-a-noite-em-portugal> 3751]

* Sem Atrito | 2022

Workshop on astrophotography.

[<https://www.youtube.com/watch?v=hCXi6kwFQTo>]

* Conversas à volta do Centro | 2021

Talk about "Art & Astronomy".

[<https://youtu.be/z1goGWMT7Ts?si=C9zCaKOy9R2Uma1A>]

* TVI Noticias | 2020

Astrophotographies used in TV news.

[<https://tvi.iol.pt/noticias/videos/chuva-de-estrelas-cria-espetaculo-unico-no-ceu/611668a70cf246344eb6bde5>]

* Revista N.º 56 Associação Portuguesa de Astrónomos Amadores | 2020

Article: "Detecção de Exoplanetas por Astrónomos Amadores".

[https://www.apaa.co.pt/Rev56/RevistaAA56_FINAL.pdf]

* Earth Science Picture of the Day | 2020

Photography award about Azores Island.

[<https://epod.usra.edu/blog/2020/02/sao-miguel-island-and-santa-iria-vista.html>]

* ESA Cesar | 2024

Article about the blood moon: longest eclipse in a century.

[<https://cesar.esa.int/index.php?Section=Events&Id=160>]

* AstroPT | 2017

Article: "Um Mosaico da Via Láctea".

[<https://www.astropt.org/2017/10/26/um-mosaico-da-via-lactea/>]

Article: "Detecção de Exoplanetas por Astrónomos Amadores".

[<https://www.astropt.org/2017/11/24/tutorial-deteccao-de-exoplanetas-por-astronomos-amadores/>]

Additional Information / Miscellaneous

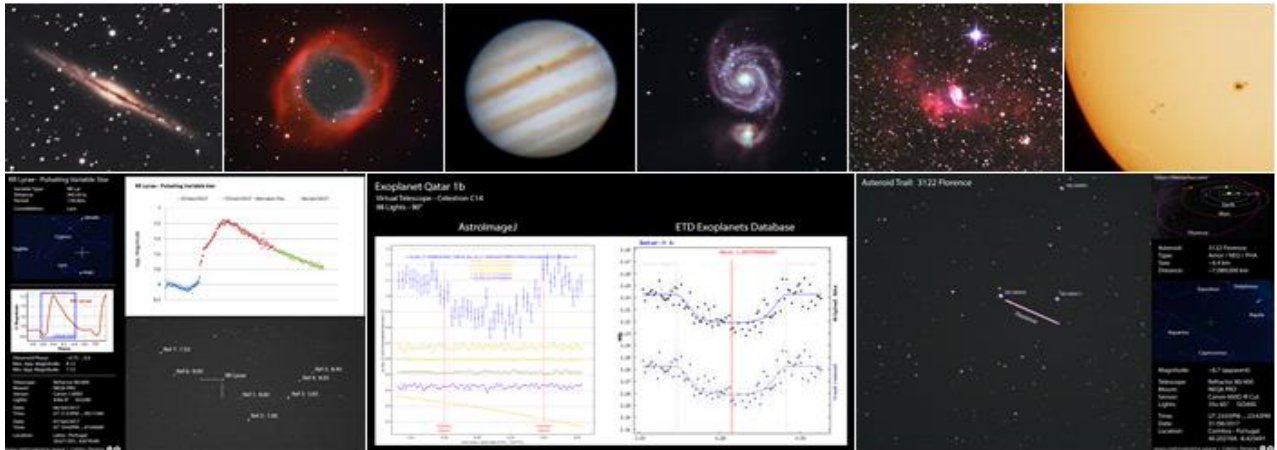
* Amateur Astronomer

I learned how to recognize the constellations in the sky and to identify the locations of the most relevant astronomy objects. I organized several astronomy sessions throughout the country as a guide astronomer. I captured the light of several astronomy objects. Currently, my work is more focus in astrometry and photometry (PRO-AM) and in talks about scientific divulgation.

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* Personal DIY Projects

Personal astronomical observatory, remotely controlled.

Modification of DSLR cameras for astronomical data acquisition.

Motorized telescope mount to track astronomical targets.

Star tracker of the celestial sky, for DSLR camera.

Cloud chamber.

Intervalometer for DSLR camera.

Software to calibrate astronomical images and to calculate stars' magnitude.

Software to determine the position of the stars at any given date/time and their 3D representation on the celestial sphere.

Collaboration in the construction of an aromatic plants dryer (patent pending).

3-axis CNC milling machine – electronics, mechanics, control and monitor.

Laboratory oven.

Solar collector for domestic use.

Several types of simple robots.

* Other

Open Water Diver.

Amateur Musician – piano, guitar, saz, mandolin.

Volunteer program for construction of a house with local and renewable materials – Romania.

Former member of handball team (4 years federated), archery, swimming, basketball, ATB mountain cycling, yoga and tai chi chuan. Currently practicing swimming, trekking and meditation.

I like reading, photography, traveling, meeting new cultures and nature.