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Holding an exemplary education record, with Bachelor and Master degree grades within the 25th and 10th top percentiles, I have acquired both theoretical and practical research experience in astrophysics. While working on my MSc dissertation, I had the opportunity to strengthen my skills on data analysis and computational modeling methods, as well as to present my work on international conferences and several talks, attend advanced lecture courses and publish in peer-

reviewed journals. More recently, I coordinated a team workshop on stellar evolution models, developed an open source code for the analysis of radial velocities and observed with ESO's HARPS instrument, in La Silla, Chile.

I am looking to secure a PhD position in the Center for Astrophysics of University of Porto, to continue my studies within the extrasolar planets team, to which I believe I can bring immediate and strategic value.

EDUCATION

- present **Doctoral Program in Astronomy (doctoral course),**
Faculdade de Ciências & Centro de Astrofísica (CAUP), Universidade do Porto,
– advanced courses on *High Resolution Spectroscopy* and *Adaptive Optics in Astronomy*.
- 2012 - 2013 **Master in Astronomy,**
Faculdade de Ciências & Centro de Astrofísica (CAUP), Universidade do Porto,
Project title: *Asteroseismology of 16 Cyg A and B*
Supervisors: Mário J. P. F. G. Monteiro; Margarida Cunha.
Final average grade: 19/20
- 2008 - 2011 **Bachelor in Physics - minor in Astronomy & Astrophysics,**
Departamento de Física, Faculdade de Ciências da Universidade de Lisboa,
Study plan can be accessed [here](#);
Final average grade: 16/20.

GRANTS AND AWARDS

- PhD Grant **Project ID:** CAUP-12/2013-BD (ERC-2009-StG-239953)
Title: Exoplanet Detection in Metal-Poor Stars
Supervisor: Nuno C. Santos; Pedro Figueira
Institution: Centro de Astrofísica da Universidade do Porto (CAUP)
Duration: 1 October 2013 - 30 September 2014 (12 months)
- S&T Management Grant **Project ID:** CAUP-08/2013-BGCT
Supervisor: Filipe Pires
Institution: Centro de Astrofísica da Universidade do Porto (CAUP)
Duration: 1 July 2013 - 30 September 2013 (3 months)
- Research Scholarship **Project ID:** PTDC/CTE-AST/098754/2008
Title: Probing Inside Binary Stars with Asteroseismology
Supervisors: Mário J. P. F. G. Monteiro; Margarida Cunha
Institution: Centro de Astrofísica da Universidade do Porto (CAUP)
Duration: 1 July 2012 - 31 December 2012 (6 months)

REFEREED PUBLICATIONS

The HARPS search for southern extra-solar planets: XXXV. The interesting case of HD41248: stellar activity, no planets?, Santos, N. C., Mortier, A., Faria, J. P., et al., 2014 (accepted for publication in A&A)

Asteroseismic estimate of helium abundance of a solar analog binary system, Verma K., Faria, J. P., et al., 2014 (accepted for publication in ApJ)

On the possibility of using seismic probes to study the core composition in pulsating white dwarfs, Faria, J. P., Monteiro M.J.P.F.G., Astron. Nachr. 333, 10, 954-957 (2012)

DOI 10.1002/asna.201211830

SCIENTIFIC ACTIVITIES AND SKILLS

Observing Experience	ESO 3.6m Telescope: HARPS spectrograph (January 2014)
MSc Dissertation	Asteroseismology of the solar-type stars 16 Cyg A and B, using data from the <i>Kepler</i> space telescope. Within this project I developed data analysis tools such as a software package to manipulate sets of oscillation frequencies and a genetic algorithm-based fitting routine. Also, I gained substantial expertise on the MESA stellar evolution code.
Undergraduate research project	Research project with Dr. Marco Grossi, studying the colors and metallicities of blue compact dwarf galaxies (BCD) in the Virgo Cluster, using SDSS data.
Conference Posters	<ul style="list-style-type: none">• <u>Seismic diagnostics of the internal structure of 16 Cyg A and B</u> - XXII National Astronomy and Astrophysics Meeting (Porto, September 2012) Supervised by Doctor Mário J. P. F. G. Monteiro and Doctor Margarida S. Cunha; Masters dissertation project.• <u>Using seismic probes to study the core composition in pulsating white dwarfs</u> - The Modern Era of Helio- and Asteroseismology (Öbergurgl, Austria, May 2012) Together with Doctor Mário J. P. F. G. Monteiro; research project for a Masters course on stellar structure and evolution.• <u>Cores e metalicidades de galáxias anãs azuis no Enxame da Virgem</u> - XXI National Astronomy and Astrophysics Meeting (Coimbra, September 2011) Supervised by Doctor Marco Grossi; final project of the undergraduate degree in Physics.
Other skills	Probability • distributions; maximum likelihood estimation Frequentist statistics • correlation tests; hypothesis testing; confidence intervals Bayesian statistics • sampling methods; MCMC; model comparison Algorithms • genetic and evolutionary algorithms; minimization; regression Methods • Monte Carlo, jackknife and bootstrap resampling; time series analysis

SEMINARS AND TALKS

- ***The metal-poor survey***, CAUP Cookie Seminar
23 April 2014, CAUP - Porto
- ***Asteroseismology of 16 Cyg A & B***, MSc Thesis Defense
30 October 2013, FCUP - Porto
- ***Acoustic Glitches in 16 Cygni***, XXIII National Astronomy and Astrophysics Meeting
18 July 2013, FCUL - Lisbon
- ***Acoustic Glitches in 16 Cygni***, 6th Iberian Meeting on Asteroseismology
27 May 2013, Aras de los Olmos - Spain
- ***MESA - Modules for Experiments in Stellar Astrophysics***, CAUP Cookie Seminar
16 January 2013, CAUP - Porto
- ***Cores e Metalicidades de Galáxias Anãs Azuis no Enxame da Virgem***, CAAUL, DF-FCUL
13 July 2011, CAAUL - Lisbon

BROAD SCIENTIFIC INTERESTS

- Exoplanets and host-stars
- Computational Astrophysics
- Stellar Evolution; Stellar Convection and Modelling
- Star Formation

CONFERENCES AND WORKSHOPS

- XXIII National Astronomy and Astrophysics Meeting (oral presentation)
18-19 July 2013, Lisbon, Portugal
- 6th Iberian Meeting on Asteroseismology (oral presentation)
27-29 May 2013, Aras de los Olmos (Valencia), Spain
- XXII National Astronomy and Astrophysics Meeting (poster presentation)
23-25 September 2012, Porto, Portugal
- The Modern Era of Helio- and Asteroseismology (poster presentation)
20-25 May 2012, Universitätszentrum Obergurgl, Austria
- XXI National Astronomy and Astrophysics Meeting
7-10 September 2011, Coimbra, Portugal
- ALMA National Community Day
27 April 2011, CAAUL - Lisbon
- Joint European and National Astronomy Meeting (JENAM 2010)
6-10 September 2010, FCUL - Lisbon

OUTREACH

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|-------------------------|---|
| September 2013 | Monitor of the summer program " Escola de Verão de Física "
<i>Faculdade de Ciências da Universidade do Porto</i> |
| Summer 2013 | Collaborator of Outreach Unit (planetarium presenter)
<i>Centro de Astrofísica da Universidade do Porto</i> |
| 2010 - 2011 | Co-organizer of monthly activity " Noites no Observatório "
<i>Observatório Astronómico de Lisboa</i> |
| 2010 - 2011 | Co-organizer of public outreach activities
<i>Observatório Astronómico de Lisboa</i> |
| Summer
2010/2011 | Monitor of the program " Ciência Viva no Verão "
<i>Observatório Astronómico de Lisboa</i> |
| Amateur
Observations | Coordinated and participated in many workshops about observation and general use of amateur telescopes on the Astronomical Observatory of Lisbon. These include night sky recognition, telescope alignment and CCD astrophotography. Also participated in other night sky observation activities. |

LANGUAGE SKILLS

Portuguese	Native speaker
English	Proficient user (C1)
French	Basic
Spanish	Basic

COMPUTER SKILLS

OS	Linux, Microsoft Windows
Programming	Python, Fortran (advanced) C, MATLAB, R, Awk (proficient) Mathematica, IDL (basic)
Office	TEX (\LaTeX , BibTeX), Microsoft Office, OpenOffice
Software	<ul style="list-style-type: none">• Image Edition: Photoshop, GIMP• Database/VO: TopCat• Plotting: Gnuplot, TopCat
Specific	Knowledge of the IRAF environment, PyRAF; Knowledge of ESO's GASGANO pipeline; Advanced knowledge of the MESA stellar evolution code.
Data Acquisition	SDSS (Sky Server/CasJobs), Nasa Extragalactic Database, ESO Archive