

# João Faria

## Curriculum Vitæ

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### PERSONAL INFORMATION

Name João Pedro de Sousa Faria  
Born Santarém, Portugal, 30th of May 1990  
Nationality Portuguese  
Address Rua Câmara Pestana nº13 1ºDto, 1150-082, Lisboa  
Phone +351 966132388  
+351 218884641  
Email [joaofaria90@gmail.com](mailto:joaofaria90@gmail.com)  
Webpage <http://joaofariaresearch.weebly.com/>

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### EDUCATION

2012 - present **Master in Astronomy (dissertation)**,  
*Faculdade de Ciências & Centro de Astrofísica (CAUP)*, Universidade do Porto,  
Project title: *Probing inside binary stars with asteroseismology*  
Supervisors: Mário J. P. F. G. Monteiro; Margarida Cunha.

2011 - 2012 **Master in Astronomy (curricular year)**,  
*Departamento de Física e Astronomia*, Faculdade de Ciências da Universidade do Porto,  
Study plan can be accessed [here](#);  
Average grade: 17/20.

2008 - 2011 **Licenciatura in Physics - Astronomy & Astrophysics minor**,  
(Three year undergraduate course)  
*Departamento de Física*, Faculdade de Ciências da Universidade de Lisboa,  
Study plan can be accessed [here](#);  
Final average grade: 16/20.

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### GRANTS AND AWARDS

Research **Project ID:** PTDC/CTE-AST/098754/2008  
Scholarship **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)

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### REFEREED PUBLICATIONS

*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

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## SCIENTIFIC ACTIVITIES

- Masters Dissertation      Project in asteroseismology of the solar-type stars 16 Cyg A and B, using data from the *Kepler* space telescope. By comparing different models of the structure of the stars using a larger set of diagnostic tools, beyond the common large and small separations, we aim to better isolate specific regions of the stellar interior and remove some of the effect that the ad-hoc surface corrections have on the modelling.  
I am also studying the signal originated from acoustic glitches inside the stars and its detection both on second differences and the frequencies themselves.
- Undergraduate research project      In the last semester of the undergraduate degree in Physics, I worked on a research project with Doctor Marco Grossi, studying the colours and metallicities of blue compact dwarf galaxies (BCD) in the Virgo Cluster. I analysed photometric and spectroscopic data from the SDSS for a sample of BCDs and derived estimates for the metallicities, trying to evaluate the effect of the dense cluster environment in the evolution of these objects.
- Conference Posters
  - Cores e metalicidades de galáxias anãs azuis no Enxame da Virgem  
- XXI National Astronomy and Astrophysics Meeting (Coimbra, September 2011)  
Supervised by Doctor Marco Grossi; final project of the undergraduate degree in Physics.
  - Using seismic probes to study the core composition in pulsating white dwarfs  
- The Modern Era of Helio- and Asteroseismology (Obergurgl, Austria, May 2012)  
Together with Doctor Mário J. P. F. G. Monteiro; research project for a Masters course on stellar structure and evolution.
  - Seismic diagnostics of the internal structure of 16 Cyg A and B  
- 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.

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## SEMINARS AND TALKS

- MESA - *Modules for Experiments in Stellar Astrophysics*  
João Faria, CAUP, DFA-UP  
16 January 2013, CAUP - Porto
- *Cores e Metalicidades de Galáxias Anãs Azuis no Enxame da Virgem*  
João Faria, CAAUL, DF-FCUL  
13 July 2011, CAAUL - Lisbon

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## SCIENTIFIC INTERESTS

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

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## CONFERENCES AND WORKSHOPS

- XXII Encontro Nacional de Astronomia e Astrofísica  
23-25 September 2012, Porto, Portugal
- The Modern Era of Helio- and Asteroseismology  
20-25 May 2012, Universitätszentrum Obergurgl, Austria
- XXI Encontro Nacional de Astronomia e Astrofísica  
7-10 September 2011, Coimbra, Portugal
- ALMA National Community Day  
27 April 2011, CAAUL - Lisboa
- Joint European and National Astronomy Meeting (JENAM 2010)  
6-10 September 2010, FCUL - Lisboa

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## OUTREACH

From January 2010	Co-organizer of monthly activity <b>Noites no Observatório</b> <i>Observatório Astronómico de Lisboa</i>
From January 2010	<b>Co-organizer of public outreach activities,</b> <i>Observatório Astronómico de Lisboa.</i> <ul style="list-style-type: none"><li>• Eclipse Total da Lua - 15th July 2011</li><li>• Global Star Party - 9th April 2011</li><li>• Observação da Lua - 19th March 2011</li><li>• A Lua Vermelha - 30th October 2010</li></ul>
2010 and 2011 summer	Monitor of the program " <b>Ciência Viva no Verão</b> " <i>Observatório Astronómico de Lisboa</i>
Amateur Observations	I 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.

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## LANGUAGE SKILLS

Portuguese	Native language
English	Fluent - written and spoken
French	Basic

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## COMPUTER SKILLS

Operating Systems	Linux, Microsoft Windows
Programming	Fortran, C, Python, MATLAB, R, Awk (proficient) Mathematica, IDL (basic)
Office Software	TEX (L <sup>A</sup> T <sub>E</sub> X, BibTeX) , Microsoft Office, OpenOffice <ul style="list-style-type: none"><li>• Image Edition: Photoshop, GIMP</li><li>• Database: TopCat</li><li>• Plotting: Gnuplot, TopCat</li></ul>
Specific	Knowledge of the IRAF environment; Basic knowledge of ESO's GASGANO pipeline; Presented results with the MESA stellar evolution code.
Data Acquisition	SDSS (Sky Server/CasJobs), Nasa Extragalactic Database, ESO Archive

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## UPDATED

March 7, 2012