

João Faria

Curriculum Vitæ

PERSONAL INFORMATION

Name João Pedro de Sousa Faria
Born Santarém, Portugal, 30th of May 1990
Nationality Portuguese
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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 **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

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)

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

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.

SEMINARS AND TALKS

- *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, DFA-UP
16 January 2013, CAUP - Porto

- *Cores e Metalicidades de Galáxias Anãs Azuis no Enxame da Virgem*
CAAUL, DF-FCUL
13 July 2011, CAAUL - Lisbon

SCIENTIFIC INTERESTS

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

CONFERENCES AND WORKSHOPS

- 6th Iberian Meeting on Asteroseismology
27-29 May 2013, Aras de los Olmos (Valencia), Spain
- 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

OUTREACH

- June 2013 - Collaborator of Outreach Unit
Centro de Astrofísica da Universidade do Porto
- 2010 - 2011 Co-organizer of monthly activity "**Noites no Observatório**"
Observatório Astronómico de Lisboa
- 2010 - 2011 , Co-organizer of public outreach activities
Observatório Astronómico de Lisboa.
 - Eclipse Total da Lua - 15th July 2011
 - Global Star Party - 9th April 2011
 - Observação da Lua - 19th March 2011
 - A Lua Vermelha - 30th October 2010
- Summer 2010/2011 Monitor of the program "**Ciência Viva no Verão**"
Observatório Astronómico de Lisboa

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| 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

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| Portuguese | Native language |
| English | Fluent - written and spoken |
| French | Basic |

COMPUTER SKILLS

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| Operating Systems | Linux, Microsoft Windows |
| Programming | Fortran, C, Python, MATLAB, R, Awk (proficient) Mathematica, IDL (basic) |
| Office | T _E X (L ^A T _E X, BibT _E X) , Microsoft Office, OpenOffice |
| Software | <ul style="list-style-type: none"> • Image Edition: Photoshop, GIMP • Database: TopCat • Plotting: Gnuplot, TopCat |
| 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 |

UPDATED

June 6, 2013