

Felipe de Almeida-Fernandes

PHD STUDENT

Federal University of Rio de Janeiro - Valongo Observatory (OV/UFRJ)

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Education

Bachelor of Science in Astronomy/Astrophysics

Rio de Janeiro, Brazil

UFRJ (FEDERAL UNIVERSITY OF RIO DE JANEIRO)

2011 - 2015

PhD candidate in Astronomy/Astrophysics

Rio de Janeiro, Brazil

OV-UFRJ (VALONGO OBSERVATORY - FEDERAL UNIVERSITY OF RIO DE JANEIRO)

2015 - Present

- Accepted directly for the PhD program due to great academic performance.

Experience

Graduate Students Representative

Rio de Janeiro, Brazil

VALONGO OBSERVATORY

2017 - 2018

- I was chosen by my colleague students to represent us during graduate program administration meetings.

Teaching Internship at the Federal University of Rio de Janeiro

Rio de Janeiro, Brazil

PARTLY RESPONSIBLE FOR TEACHING TWO UNDERGRADUATE LEVEL COURSES:

2015 - 2016

- Astrobiology (under the guidance of Prof. Gustavo Porto de Mello).
- General Astrophysics (under the guidance of Prof. Thiago Signorini Gonçalves).

Undergraduate/Graduate Colloquia

Rio de Janeiro, Brazil

VALONGO OBSERVATORY

2015 - 2016

- I was responsible for organizing weekly lectures presented by Graduate and Undergraduate students of Astronomy/Astrophysics.

Student Stargazing Group at the Valongo Observatory (GOD)

Rio de Janeiro, Brazil

PARTICIPANT IN A GROUP CREATED BY PROF. GUSTAVO PORTO DE MELLO.

2014 - Present

- Field Trips to perform amateur observations and events organization for the public at the Valongo Observatory.

Undergraduate Tutor

Rio de Janeiro, Brazil

BASIC PHYSICS III (ELETROMAGNETISM)

2012 - 2014

- I was accepted in a tutoring program at the Federal University of Rio de Janeiro after great performance in a basic physics course.
- My tasks was to teach students during two weekly meeting and to create questions for a data bank.

Languages

Portuguese, First Language.

Advanced **English**, Understands well, speaks well, reads well, writes acceptably.

Elementary **Spanish**, Understands acceptably, speaks little, reads acceptably.

Projects

Estimation of stellar ages from kinematical data

Rio de Janeiro, Brazil

ADVISOR: HELIO J. ROCHA-PINTO

2011 - Present

- We use Bayesian Statistics, the formalism of the velocity ellipsoid and the age-velocity dispersion relation to characterize stellar ages from their kinematical data.

Identification of Milky Way satellite galaxies

Rio de Janeiro, Brazil

Co-AUTHOR: HELIO D. PEROTTONI; ADVISOR: HELIO J. ROCHA-PINTO

2015 - Present

- We have developed a python code (MaGIK) to look for Milky Way satellite galaxies. The code is to be applied to S-PLUS data.

EITApY: A python code for working with isochrones and evolutionary tracks.

Rio de Janeiro, Brazil

ADVISOR: HELIO J. ROCHA-PINTO

2015 - Present

- As part of my PhD thesis, I'm developing a python module with several tools related to isochrones and evolutionary tracks.

Combination of Isochronal and Kinematical methods to derive improved stellar ages.

Rio de Janeiro, Brazil

ADVISOR: HELIO J. ROCHA-PINTO

2015 - Present

- I investigate how both methods can be combined to derive improved ages using Bayesian Statistics

Using stellar ages to understand the chemodynamical evolution of the Galaxy

Rio de Janeiro, Brazil

ADVISOR: HELIO J. ROCHA-PINTO

2015 - Present

- The main topic of my PhD thesis. The improved age dating method, combining kinematical data and atmospheric parameters, is applied to S⁴N and RAVE DR5 samples with the goal of understanding the chemical and dynamical evolution of our Galaxy.

Identification of giant stars in the S-PLUS survey

La Serena, Chile

ADVISOR: CLAUDIA MENDES DE OLIVEIRA; GUILLERMO DAMKE

2017 - Present

- We use photometric techniques to measure the line strength of Ca triplet and Mgb triplet in the S-PLUS data, which allows us to separate giant and dwarf stars. The goal is to use giant stars as tracers to look for stellar populations.
- I have travelled to La Serena, Chile, for one month (April/2017) to work in collaboration with Guillermo Damke.

Honors & Awards

2013	Honorable Mention , XXXV Giulio Massarini JICTAC	Rio de Janeiro, Brazil
2014	Best Presentation of the Section , XXXVI Giulio Massarini JICTAC	Rio de Janeiro, Brazil
2015	Best Presentation , Valongo Observatory Graduate's Week	Rio de Janeiro, Brazil
2016	Best Presentation , Valongo Observatory Graduate's Week	Rio de Janeiro, Brazil
2017	Best Poster of the Section , Yearly Meeting of the Brazilian Astronomical Society	São Paulo, Brazil

Publications

A method to estimate stellar ages from kinematical data

Paper

MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY

Accepted Jan. 2018

A kinematical age for the interstellar object 1I/'Oumuamua

Letter

MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY

Submitted Jan. 2018

- Undergoing revision process.

Stellar ages: combination of kinematical and isochronal methods

Proceeding

PROCEEDINGS OF THE BRAZILIAN ASTRONOMICAL SOCIETY

2018

Presentations

YEARLY MEETINGS OF THE BRAZILIAN ASTRONOMICAL SOCIETY

2014	Poster , Kinematical ages for late dwarfs in the Solar neighbourhood	Búzios, Brazil
2015	Poster , Kinematical ages for late dwarfs in the Solar neighbourhood - Application	Ouro Preto, Brazil
2016	Poster , Ages for late stars: combination of kinematical and isochronal methods	Ribeirão Preto, Brazil
2017	Poster , Stellar ages: combination of kinematical and isochronal methods	São Paulo, Brazil
2017	Talk , Stellar ages: combination of kinematical and isochronal methods	São Paulo, Brazil