



Julia M. T. Roquette

PH.D IN PHYSICS · ASTROPHYSICIST

University of Exeter, Exeter, UK

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Languages

Portuguese

Mother Tongue

English

Comprehends ☐ Speaks ☐
Reads ☐ Writes ☐

French

Comprehends ☐ Speaks ☐
Reads ☐ Writes ☐

Computer Skills

Operating Systems:

🍏 Mac OS X, 🐧 Linux,

Programming Language

Python ☐ IDL ☐

Software for Data Analysis:

TOPCAT ☐ R ☐

AstrOmatic.net ☐ Excel ☐

Origin Lab ☐ IRAF ☐

Software for Document

Compilation:

LaTeX ☐ MS Word ☐

Other:

GIMP ☐ HTML ☐

Bash ☐ JavaScript ☐

Current position

June 2018 - Present **Research Fellow**

as part of the ERC project AWESoMeStars

University of Exeter

UNITED KINGDOM

Previous professional experience

Nov. 2017 - May 2018 **Substitute Lecturer***

Universidade Federal de Sergipe (UFS)

BRAZIL

***Note on Research Career Break:** I was employed under a full-time teaching contract with no prescribed time for research. I had a research career break between May 2017 and June 2018.

Education

Mar. 2013 - Apr. 2017 **PhD in Physics**

Universidade Federal de Minas Gerais (UFMG)

Advisor: Dr. Sílvia H. Paixao Alencar

BRAZIL

Title: Variability and Rotation of Young Low Mass Stars: The Case of Cygnus OB2 Association

Apr. 2015 - Mar. 2016 **Visiting PhD student**

Institut de Planetologie et d'Astrophysique de

Advisor: Dr. Jerome Bouvier

Grenoble (IPAG) FRANCE

Aug. 2011 - Feb. 2013 **Master's in Physics**

Universidade Federal de Minas Gerais (UFMG)

Advisor: Dr. Luiz Paulo Ribeiro Vaz

BRAZIL

Title: "Levantamento Fotométrico nas Bandas J, H e K de Estrelas Variáveis na Região Central de Cygnus OB2" (JHK Survey of Photometric Variability in the center of Cygnus OB2)

Mar. 2007 - Jul. 2011 **Bachelor in Physics**

Universidade Federal de Minas Gerais (UFMG)

Physics Department of UFMG, Brazil

BRAZIL

Undergraduate research experience

May 2008 to Jul 2011 **Scientific Initiation intern at the Laboratory of Astrophysics**

Project Title: "Photometric Variability of Young Stars" - Supervisor: Dr. Luiz Paulo R Vaz

UFMG, BRAZIL

Aug 2007 to Apr 2008 **Scientific Initiation intern at the Laboratory of Semiconductors**

Project Title: "Study of Photoluminescence and Electroluminescence of Conjugate

UFMG, BRAZIL

Polymers" - Supervisor: Dr. Luiz Alberto Cury

Scientific programs approved as Principal Investigator

Telescope: **ESO**
VIRCAM/VISTA A Census of Rotation and Variability in the Carina Nebula Complex

Code: 105.20LT observing time: 24.52h

Telescope: **CFHT/VIRCAM** Testing environmental effects during early rotational evolution of low mass stars: evaluation of the rotational scenario in the OB association CygOB2

Code: 17AF17 observing time: 9.96h

Conferences and Schools attended

TALKS IN CONFERENCES

Does the environment matter? Investigating the spin rates of low mass stars in the young Cygnus OB2 associations

23-26 September 2019 Thinkshop 16 - The rotation periods of cool stars: Measurements, uses, connections and prospects - - Potsdam, Germany

Near-infrared variability and rotation of young low-mass stars in Cygnus OB2: a tale on the environmental influence on the early stellar evolution?

31th Jan. 2018 Star Formation and Young Stars in Cygnus, Keele University, UK,

Near-Infrared Variability of Disk-bearing Stars in Cygnus OB2

24 Aug. 2016 Star Formation 2016, Early-career session, Exeter, UK

POSTER PRESENTATIONS

The rotation of low mass stars at 30 Myr in the cluster NGC 3766

30 Jun - 6 Jul, 2019 IAU Symposium 354: Solar and Stellar Magnetic Fields: Origins and Manifestations - Copiapo, Chile

Does environment matter? The rotational scenario of low mass stars in the young Cygnus OB2 association

04-08 Sep. 2017 XLI Annual meeting of Brazilian Society of Astronomy, São Paulo, Brazil, Stars and Solar Physics Session.

Near-Infrared Variability of Disk-bearing Stars in Cygnus OB2

21-26 Aug. 2016 Star Formation 2016, Exeter, UK, Discs session.

Time-series JHK Photometry of Stars in the Center of Cygnus OB2

21-26 Nov. 2013 400 Years of Stellar Rotation, Natal, Brazil

Time-series JHK Photometry of Stars in the center of Cygnus OB2

25-30 Nov. 2013 XIV Latin American Regional IAU Meeting, Florianopolis, Brazil

5+ poster presentations at the XXXVIII, XVII and XXXV Annual meeting of Brazilian Society of Astronomy in 2014, 2012, and 2010, and at the XVIII and XIX Week of Scientific Initiation of UFMG in 2009 and 2010

CONFERENCE ATTENDED WITHOUT PRESENTATION

9-11 July 2019 Eighth BCool workshop

Exeter, UK

29-31 August 2018 Star Cluster Formation: Mapping the first few Myrs

Grenoble, France

7-12 Sep. 2010 XXVIIth IAU General Assembly

Rio de Janeiro, Brazil

SCHOOLS

6-11 Oct. 2019 School of Astrostatistics 2019: Variability and Time Series Analysis

Autrans, France

11-16 Oct. 2015 School of Astrostatistics 2015: Clustering and Classification

Les Houches, France

1+ previous schools: XXI Winter School on Physics (Physics Department of UFMG - Belo Horizonte, Brazil, 12-16 Jul 2010)

Grants & Fellowships

CNPq Sandwich Scholarship for one year as visiting PhD Student Abroad (CNPq/SWD)

2015

GRANTED BY THE BRAZILIAN NATIONAL COUNCIL FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

€20,000

Project Title: *Cygnus OB2 Association: Study about Low Mass Star Rotation* - Duration: 1 year

PhD Scholarship (CNPq/GD) for a 4 years PhD at the Physics Department of the UFMG

2013

GRANTED BY THE BRAZILIAN NATIONAL COUNCIL FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

R\$125, 512

Title of the project: Title: *Variability and Rotation of Young Low Mass Stars: The Case of Cygnus OB2 Association*

*I had the 2nd best grade in the Physics Exams for the selection of PhD Students

Master Scholarship (CNPq/GM) for a 2 years MSc at the Physics Department of the UFMG

2011

GRANTED BY THE BRAZILIAN NATIONAL COUNCIL FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

R\$28, 800

Title of the project: Title: *JHK Survey of Photometric Variability in Cygnus OB2*

*I had the 1st best grade in the Physics Exams for the selection of Master Students

3 Scientific Initiation Scholarships (3 years: 1 FAPEMIG/PROBIC and 2 CNPq/PIBIC))

2008, 2009, 2010

GRANTED BY THE FOUNDATION FOR RESEARCH SUPPORT OF THE STATE OF MINAS GERAIS (1 YEAR AND BY THE BRAZILIAN NATIONAL COUNCIL FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT (2 YEARS)

total: R\$14, 400

Project Title: "*Photometric Variability of Stars in Cygnus OB2*"

Funds for 12h/week undergraduate research at the Laboratory of Astrophysics of UFMG.

Scientific Initiation Scholarship (10month, CNPq/PIBIC)

2007

GRANTED BY THE BRAZILIAN NATIONAL COUNCIL FOR SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

R\$3, 240

Project Title: "*Study of Photoluminescence and Electroluminescence of Conjugate Polymers*"

Funds for 12h/week undergraduate research at the Laboratory of Semiconductors of UFMG

Other Academic Activities

21th Feb 2018 **Panel of Examiners of 2 BSc Monographs on the topic of cosmology**

At the Federal University of Sergipe, Brazil

Apr. 2016 - Apr. 2017 **Board Member of the PRISMA - LGBTQ ICEx**

University Student Collective for LGBTQ Rights at Exact Sciences Institute - UFMG

Aug. 2012 - Jul. 2014 **Student representative at the Physics Department Graduate Commission**

Physics Department - UFMG

May 2010 - Apr. 2011 **Vice President of the Physics Students Association (DA da Física)**

Exact Sciences Institute (ICEx) - UFMG

Teaching, Mentoring and Outreach

TEACHING

Telescope demonstrator (night time)

Oct 2019 to

AT THE UNIVERSITY OF EXETER, UK

Feb 2020

SUPERVISED STUDENTS DURING NIGHT-TIME OBSERVATIONS AT THE PHYSICS DEPARTMENT'S 14-INCH TELESCOPE AS PART OF THE DEVELOPMENT OF THE ASTROPHYSICS EXPERIMENTS OF PRACTICAL PHYSICS II

(English)

Duties:

- every observing night, I initiated the telescope and obtained flat and bias images
- Guided the students in the operation of the telescope

"Python for Dummies" workshop

19th April 2018

AT THE INSTITUT DE PLANETOLOGIE ET D'ASTROPHYSIQUE DE GRENOBLE, FRANCE

gave an introductory workshop on Python (2h) for researchers and PhD students with previous experience in programming in other languages

(English)

Full time Lecturer in Physics and Astrophysics

Nov 2017 to

AT THE PHYSICS DEPARTMENT OF THE FEDERAL UNIVERSITY OF SERGIPE, BRAZIL

May 2018

I TAUGHT THE THREE FOLLOWING UNDERGRADUATE MODULES:

(Portuguese)

- ASTROBIOLOGY (60H): MODERN TOPICS IN THE FIELD OF ASTROBIOLOGY
- LABORATORY OF ASTRONOMY AND ASTROPHYSICS (60H): COMPUTATIONAL TOOLS FOR THE ANALYSIS OF ASTRONOMICAL DATA. PYTHON, ASTROPY, VIRTUAL OBSERVATORY TOOLS, TOPCAT, ETC
- LABORATORY OF PHYSICS I (2×30H) PRACTICAL PHYSICS LAB WITH EXPERIMENTS ON THE SUBJECTS OF FUNDAMENTAL MECHANICS AND THERMODYNAMICS

As part of my lectureship, my responsibilities included preparing and delivering lectures, tutoring students, preparing, applying and marking exams and homework. For the practical modules, I was both the lecturer and the demonstrator. Supervisors: Prof. Dr. Sergio Scarano (scaranojr@ufs.br) and Prof. Ana Maia (afmaia@ufs.br)

Demonstrator and Tutor in Physics

OF THE LICENTIATE IN CHEMISTRY AND BIOLOGY PROGRAMS OF THE EAD-UFMG (UFMG E-LEARNING)

AS PART OF THE UNIVERSIDADE ABERTA DO BRASIL (BRAZILIAN OPEN UNIVERSITY)

Role 1: online tutor in the modules of Fundamentals of Mechanics, Fundamentals of Thermodynamics, Fundamentals of Electromagnetism and Fundamentals of Modern Physics. Duties: tutored students online in solving physics problems, marked exams and homework.

Role 2: Demonstrator in the experimental physics labs. Duties: Traveled to remote areas of the estate of Minas Gerais to deliver (in-person) demonstration of physics labs.- Supervisor: Prof. Dr. Wagner Conradi

Sep 2013 to

Sep 2014

(Portuguese)

Part-time Lecturer in Physics

AS PART OF THE “MANDATORY TEACHING TRAINING PROGRAM” FOR PHD STUDENTS AT ICEx-UFMG, BRAZIL)

TAUGHT THE MODULE FUNDAMENTALS OF SOLID AND FLUID MECHANICS (2×15H)

Duties: Preparing and delivering lectures. Tutoring students, preparing, applying and marking exams and homework. Supervisor: Prof. Dr. Ariete Righi (righi@fisica.ufmg.br)

Mar to Apr 2013

Aug to Sep 2013

(Portuguese)

OTHER TEACHING-RELATED ACTIVITY

“XXCygni Experiment” Cookbooks of multi-epoch photometry with Python

LEAD THE SWITCHING OF THE ASTRONOMY EXPERIMENTS IN THE DISCIPLINE PRACTICAL PHYSICS II FROM IRAF TO PYTHON

Wrote up Jupyter-Notebooks and Cookbooks provided as learning material for the discipline Practical Physics II.

2019-2021

University of Exeter, UK

MENTORING

Bachelor Project: “Mapping the interstellar extinction in young clusters”

MENTORED 4 UNDERGRADUATE STUDENTS

3-month project

Oct 2020 to Nov 2020

University of Exeter, UK

Summer Project: “Investigating the Effect of Massive Stars in the Rotational Scenario of Pre-Main-Sequence Clusters”

MENTORED 1 SUMMER STUDENT

3-month project

Jun 2020 to Sep 2020

University of Exeter, UK

Summer Project: “Recovering Praesepe’s Spin Distribution at Birth”

CO-SUPERVISED 1 SUMMER STUDENT

3-month

Jun 2020 to Sep 2020

University of Exeter, UK

Master Project: “Mining stellar spin rates: Do field stars rotate differently in different parts of the Galaxy?”

MENTORED 3 MASTER STUDENTS

18-month

Dec 2018 to May 2020

University of Exeter, UK

OUTREACH

28/04/2018

“Por que alguns astrofísicos estão interessados em entender como as estrelas giram?” (“Why are astrophysicists interested in understanding how the stars rotate?”)

Gave a talk to the general public during an outreach event of Sease Astronomia in Aracaju, Brazil

Outside Academia Interests

🚴 cycling, 🚲 Bike-mechanics, 🧀 Cheesemaking, 🧗 Climbing, 🧩 Puzzles of Art, 📖 Sci-Fi, 📚 Literature, 📺 Comic Books, 🎬 Cinema, 🥾 Hiking, 🧳 Traveling, 💻 Computers, 🧵 T-shirt Design

Bike Mechanic Volunteer at the Ride On Cycling for All

IN MY FREE TIME, I AM A BIKE MECHANICS VOLUNTEER AT THE RIDE ON ([HTTPS://WWW.RIDEONCYCLING.ORG/](https://www.rideoncycling.org/)),

a charity in Exeter that has the goal of helping more and more people to get into cycling.

June 2020 - Present

Exeter, UK