

# DEEPTHI S. PRABHU

Postdoctoral Researcher

Indian Institute of Astrophysics, Bengaluru, India.

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## EDUCATION

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**Ph.D. in Astrophysics** • Indian Institute of Astrophysics, Bengaluru Jan. 2018 – July 2023

Thesis Title: *Multi-Wavelength Study of Hot Stellar Populations in Galactic Globular Clusters*

Advisor: Prof. Annapurni Subramaniam

**Thesis Submitted; Awaiting Defense.**

**M.Sc. in Physics** • Cochin University of Science & Tech., Kochi June 2014 – May 2016

CGPA: 7.68/10

**B.Sc. in Applied Physics** • University of Calicut, Malappuram June 2011 – May 2014

CGPA: 3.94/4

## PROFESSIONAL APPOINTMENTS

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**Postdoctoral Researcher** – Indian Institute of Astrophysics, Bengaluru Aug. 2023 – Present

**Research Fellow** – Indian Institute of Astrophysics, Bengaluru Jan. 2018 – July 2023

**Junior Research Fellow** – Radio Astronomy Centre, Ooty June 2016 – Apr. 2017

## SCHOLARSHIPS & AWARDS

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**Senior Research Fellowship** – awarded by IIA 2020 – 2023

**Junior Research Fellowship** – awarded by IIA 2018 – 2020

**Qualified for CSIR Fellowship** – CSIR/UGC-NET/JRF exam Dec. 2017

**Topper Award for B.Sc. Applied Physics** – awarded by University of Calicut Feb. 2015

**Summer Research Fellowship** – awarded by Indian Academy of Sciences 2014

## TECHNICAL SKILLS

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**Languages:** Python (astropy, numpy, scipy, matplotlib), C, LaTeX

**Softwares:** IRAF (Aperture & PSF photometry), TOPCAT, Aladin, DS9, CCDLAB (UVIT data reduction package)

## PUBLICATIONS

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### First Author:

1. Prabhu, D. S., Subramaniam, A. & Sahu, S. et al. 2022, *ApJL*, 939, L20. [Globular Cluster UVIT Legacy Survey \(GlobULeS\). III. Omega Centauri in Far-Ultraviolet.](#)
2. Prabhu, D. S., Subramaniam, A. & Sahu, S. 2021, *ApJ*, 908, 66. [The First Extensive Exploration of UV-bright Stars in the Globular Cluster NGC 2808.](#)
3. Prabhu, D. S., Subramaniam, A. & Sahu, S. 2021, *JoAA*, 42, 66. [UV Photometry of Spotted Stars in the Horizontal Branch of the Globular Cluster NGC 2808 using AstroSat.](#)

## Co-Author:

1. Sahu S., Subramaniam, A. et al. inc. **Prabhu, D. S.** 2022, *MNRAS*, 514, 1122–1139. [Globular Clusters UVIT Legacy Survey \(GlobULeS\) I. FUV-Optical Color-Magnitude Diagrams for Eight Globular Clusters.](#)
2. Baratella, M., **Prabhu, D. S.**, Lima, L., & Prugniel, P. 2022, *A&A*, 661, A138. [Prospects of Measuring a Metallicity Trend And Spread in Globular Clusters From Low-Resolution Spectroscopy.](#)

## SUCCESSFUL OBSERVING PROPOSALS

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### As PI:

1. **AstroSat Cycle A11** – Instrument: UVIT Alloted Time: **25 ks**  
*Tracing the FUV variability of spotted horizontal branch stars & other variables in the globular cluster NGC 2808*
2. **AstroSat Cycle A13** – Instrument: UVIT Alloted Time: **80 ks**  
*Omega Centauri Survey (AstrOCenS)*

### As Co-I:

1. **AstroSat Cycle A11** – Instrument: UVIT Alloted Time: **54 ks**  
*Globular cluster UVIT Legacy Survey (GlobULeS): UVIT+HST+Ground Treasury*

## PROFESSIONAL PRESENTATIONS

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\* indicates online presentation

### Invited Talks:

- Stellar Populations Group Meeting\*** – STScI, USA Feb. 2023  
*AstroSat/UVIT view of hot stellar populations in Galactic globular clusters*
- Celebration of 7 years of AstroSat\*** – ISRO, Bengaluru Sept. 2022  
*Peculiar hot stars in the most massive Galactic GC Omega Centauri as revealed by UVIT*
- Seminar** – INAF-OAPd, Italy Sept. 2022  
*AstroSat/UVIT view of hot stellar populations in massive Galactic globular clusters*
- IIA Foundation Day Symposium** – IIA, Bengaluru Apr. 2022  
*AstroSat/UVIT view of the most massive Galactic globular cluster Omega Centauri*

### Contributed Talks:

- ASI 2023** – IIT, Indore Mar. 2023  
*Far-ultraviolet investigation of the nearby globular cluster NGC 6397 using AstroSat/UVIT*
- COSPAR 2022: 44<sup>th</sup> Scientific Assembly** – Athens, Greece July 2022  
*Massive Galactic globular clusters through the ultraviolet eyes of AstroSat/UVIT*

**NUVA eMeeting 2021\***

Oct. 2021

*A census of UV-bright stars in the dense globular cluster NGC 2808' using UVIT-HST-GAIA***UVIT: 5 years of Operation\***

Dec. 2020

*The first extensive exploration of UV-bright stars in the globular cluster NGC 2808***MODEST 20 – TIFR, Mumbai**

Feb. 2020

*The first extensive exploration of UV-bright stars in the globular cluster NGC 2808*

## STUDENT MENTORING

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1. **Ms. Anjali Bhasu** (University of Calicut). MSc Thesis.

Aug. 2021 - Jun. 2022

*Exploration of exotic blue straggler stars in the globular cluster NGC 2808*

2. **Ms. Divyasree Nair** (Govt. College Kasaragod). IAS Summer project. Oct. 2020 - Feb. 2021

*Analysis of UV-bright stars in the globular cluster NGC 6254*

## LEADERSHIP ROLE/PUBLIC OUTREACH

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- **Organizer**, weekly group meeting for arXiv discussion at IIA.
- **Co-Founder and Life Member** of *United Science Foundation*, a national-level society in India.
- **Resource person**, *Online Workshop on UV Astronomy*, organized jointly by MG University, Kottayam and IUCAA, Pune, Dec. 2020.
- **Volunteer**, *IAU-sponsored Teachers Training Program* at Govt. Higher Primary School, Baichapura, Bangalore; July, 2019.
- **Resource person**, *Radio Astronomy Winter School 2016*, held at NCRA, Pune; Dec. 2015.
- **Resource person**, *Pulsar Observatory for Students 2016*, organized at Radio Astronomy Centre, Ooty, India.

## REFERENCES

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**Prof. Annapurni Subramaniam** ([PhD Supervisor](#))

Senior Professor & Director, Indian Institute of Astrophysics, Bengaluru

✉ [purni@iiap.res.in](mailto:purni@iiap.res.in)

**Prof. Gajendra Pandey**

Professor, Indian Institute of Astrophysics, Bengaluru

✉ [pandey@iiap.res.in](mailto:pandey@iiap.res.in)

**Dr. Emanuele Dalessandro**

National Institute for Astrophysics - INAF/OAS, Bologna, Italy

✉ [emanuele.dalessandro@inaf.it](mailto:emanuele.dalessandro@inaf.it)