# Deepthi S. Prabhu

Steward Observatory, 933 N. Cherry Avenue, Tucson, AZ 85721, USA
dprabhu@arizona.edu | deepthisprabhu.github.io | ORCID: 0000-0002-8217-5626 | SciX ADS

## RESEARCH INTERESTS

Near-field Cosmology; Resolved Stellar Populations in Dwarf and Ultra-Faint Dwarf Galaxies; Faint Stellar systems at the Star Cluster-Dwarf Galaxy Boundary; Dwarf Galaxy Stellar Halos and Tidal Disruption; Stripped Nuclei; UV-bright Stars in Galactic Globular Clusters; Galactic archaeology.

## PROFESSIONAL APPOINTMENTS

**Postdoctoral Researcher** Sep. 2024 – Present
Steward Observatory, University of Arizona, Tucson, AZ, USA
Advisor: Prof. David Sand

**Postdoctoral Researcher** Aug. 2023 – Apr. 2024
Indian Institute of Astrophysics, Bengaluru, India

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

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

## EDUCATION

**Ph.D. in Physics** Jan. 2018 – Apr. 2024
Indian Institute of Astrophysics, Bengaluru, India
Thesis: *Multi-Wavelength Study of Hot Stellar Populations in Galactic Globular Clusters*
Advisor: Prof. Annapurni Subramaniam
**Submitted**: July 2023 | **Awarded**: April 2024

**Master's Degree in Physics** June 2014 – May 2016
Cochin University of Science & Technology, Kochi, India
CGPA: 7.68/10

**Bachelor's Degree in Applied Physics** June 2011 – May 2014
University of Calicut, Malappuram, India
CGPA: 3.94/4

## HONORS AND AWARDS

**IIA Travel Grant** 2022
Travel Grant of INR 250,000 awarded by IIA for international conference travel

**Senior Research Fellowship (SRF)** 2020 – 2023
Indian Institute of Astrophysics; Nationally Funded Fellowship of ~ INR 1,300,000

**Junior Research Fellowship (JRF)** 2018 – 2020
Indian Institute of Astrophysics; Nationally Funded Fellowship of ~ INR 670,000

**CSIR–UGC National Eligibility Test (NET), Physical Sciences** Dec. 2017
Placed in top 0.5% of ~25,000+ candidates; Qualified for both JRF and Lectureship

**University Topper Award, Bachelor's Degree in Applied Physics** Feb. 2015
University of Calicut

**Summer Research Fellowship** Summer 2014
Indian Academy of Sciences

## TELESCOPE TIME AWARDED

**Summary: 10** programs (**6** PI; **4** Co-I). Cumulative time awarded: **JWST: 8.9 hr** (1 program); **HST: 173 orbits** (2 programs); **AstroSat/UVIT: 159 ks** (3 programs); **Magellan/LBT: 7.5 nights** (4 programs; joint allocation as listed).

**As Principal Investigator:**

| Telescope/Instrument | Sem./Cycle | Allocation | Proposal Title |
|---|---|---|---|
| **Magellan/IMACS; LBT** | 2026B | 3.5 nights | *Exploring the Universe's Dimmest Galaxies: A Critical Window into Galaxy Evolution* |
| **Magellan/MagE+MIKE** | 2026A | 2 nights | *In the Outskirts: Spectroscopic Follow-up of Metal-Poor Stars in the Distant Milky Way Halo and Dwarf Galaxies* |
| **Magellan/MagE+MIKE** | 2025B | 1.5 nights | *In the Outskirts: Spectroscopic Follow-up of Metal-Poor Stars in the Distant Milky Way Halo and Dwarf Galaxies* |
| **Magellan/MagE** | 2025A | 0.5 night | *In the Outskirts: Spectroscopic Follow-up of Metal-Poor Stars in the Distant Milky Way Halo and Dwarf Galaxies* |
| **AstroSat/UVIT** | A13 | 80 ks | *Omega Centauri Survey (AstrOCenS)* |
| **AstroSat/UVIT** | A11 | 25 ks | *Tracing the FUV Variability of Spotted Horizontal Branch Stars and Other Variables in the Globular Cluster NGC 2808* |

**As Co-Investigator:**

| | | | |
|---|---|---|---|
| **HST** | Cycle 33 | 149 orbits | *Hubble Census of Nearby Satellites* |
| **HST** | Cycle 33 | 24 orbits | *Star formation history of the lowest baryonic mass star-forming galaxy known in isolation* |
| **JWST** | Cycle 4 | 8.9 hours | *Does Reionization Quench All Ultra-faint Dwarf Galaxies? The Ancient Star Formation History of Pegasus W* |
| **AstroSat/UVIT** | A11 | 54 ks | *Globular Cluster UVIT Legacy Survey (GlobULeS): UVIT + HST + Ground Treasury* |

## COLLABORATIONS

- **Member:** Hubble Census of Nearby Satellites (HCNS) Sept. 2025 – Present
- **Member:** Roman Science Collaboration (RSC) Sept. 2025 – Present
- **Member:** Roman Infrared Nearby Galaxies Survey (RINGS) Sept. 2024 – Present
- **Member:** DECam Local Volume Exploration Survey (DELVE) Sept. 2024 – Present

- **Member:** Mapping the Ancient Galaxy in CaHK (MAGIC) Sept. 2024 – Present

## TECHNICAL EXPERTISE

**Research Techniques:** PSF and aperture photometry, artificial-star tests, maximum-likelihood structural modeling, integrated-light photometry, SED fitting, low-resolution spectroscopy.

**Programming:** Python (Astropy, NumPy, SciPy, Matplotlib, Pandas), Bash, C, IDL, LaTeX.

**Software & Tools:** DOLPHOT, DAOPHOT, IRAF, SMHR, STIPS, `Romanisim`, TOPCAT, Aladin, DS9, CCDLAB, Git/GitHub, Jupyter.

## MENTORING

**4. Katie He, Freshman, U. Arizona** Oct. 2026 – Present
*Diffuse Star Clusters in archival JWST/NIRCam data*

**3. Mihika Hetamsaria, B.Tech Undergrad, PEC Chandigarh** Aug. 2026 – Present
*Exploration of exotic UV-bright sources in the globular cluster NGC 6397*

**2. Anjali Bhasu, Master's Thesis, University of Calicut** Aug. 2021 – June 2022
*Exploration of exotic blue straggler stars in the globular cluster NGC 2808*

**1. Divyasree Nair, 3rd-year Undergrad, Govt. College Kasaragod** Oct. 2020 – Feb. 2021
*Analysis of UV-bright stars in the globular cluster NGC 6254*

## TALKS AND PRESENTATIONS

### Invited Talks

6. Stellar Populations Group Meeting, STScI, Baltimore (*scheduled*) Dec. 2026
5. Weekly Colloquium, SAAO, Cape Town Jan. 2024
4. Stellar Populations Group Meeting, STScI, Baltimore Feb. 2023
3. Celebration of Seven Years of AstroSat, ISRO, Bengaluru Sept. 2022
2. Seminar, INAF–OAPd, Padua Sept. 2022
1. IIA Foundation Day Symposium, IIA, Bengaluru Apr. 2022

### Contributed Presentations

14. Galread Group Meeting, Princeton (*scheduled*) Dec. 2026
13. FLASH Talk, NOIRLab, Tucson Oct. 2026
12. Steward Observatory Internal Symposium Fall 2025, Steward Observatory, Tucson Oct. 2026
11. Stellar Populations Group Meeting, NOIRLab, Tucson Sept. 2026
10. DELVE Collaboration Meeting 2026, *Online Talk* Jul. 2026
9. Steward Internal Symposium Fall 2025, Steward Observatory, Tucson Oct. 2025
8. Cosmic Cartography with Roman, STScI, Baltimore Jul. 2025
7. Astronomical Society of India Meeting, IIT Indore Mar. 2023
6. COSPAR 2022: 44th Scientific Assembly, Athens July 2022
5. *Poster*, Astronomical Society of India Meeting, IIT Roorkee Mar. 2022
4. NUVA eMeeting, *Online Talk* Oct. 2021
3. UVIT: 5 Years of Operation, *Online Talk* Dec. 2020
2. MODEST 20, TIFR, Mumbai Feb. 2020
1. *Poster*, Young Astronomers Meet, Kodaikanal **(Best Poster Award)** Sept. 2019

## LEADERSHIP, ACADEMIC SERVICE AND OUTREACH

### Leadership

- **Co-Founder and Life Member, United Science Foundation**
  Co-founded an officially registered national-level outreach organization in India dedicated to expanding access to science education, with special focus on students from underserved communities. Helped organize workshops, competitions, and outreach programs, including a two-day event in Azamalpur village, Uttar Pradesh, attended by approximately 2,000 participants.
- **Organizer, Weekly arXiv Discussion Group** — Indian Institute of Astrophysics

### Academic Service

- **Journal Referee** 2026 – Present
  Referee for *Astronomy & Astrophysics (A&A)*.

### Outreach and Community Engagement

- **Volunteer, Foundations of Astronomical Data Science Workshop** Jan. 2026
  *247th AAS Meeting, Phoenix*
  – Assisted participants during hands-on astronomical data science sessions.
- **Lecturer, Astronomy Olympiad Teachers' Exposure Camp** Feb. 2024
  *SVYM, Mysore*
  – Delivered a lecture on Stellar Evolution for school teachers.
- **Resource Person, Online Workshop on UV Astronomy** Dec. 2020
  *Workshop organized jointly by M.G. University, Kottayam, and IUCAA, Pune*
  – Delivered a virtual lecture on UV astronomy.
- **Volunteer, National Science Day Celebrations** Feb. 2019
  *Indian Institute of Astrophysics, Bengaluru, India*
  – Demonstrated science experiments to students and the public.
- **Volunteer, IAU-sponsored Teachers Training Program** July 2019
  *Govt. Higher Primary School, Baichapura, Bengaluru, India*
  – Conducted hands-on science demonstrations for participating teachers.
- **Volunteer and Quizmaster, National Science Day Celebrations** 2015, 2016
  *Radio Astronomy Centre, Ooty, India*
  – Demonstrated science experiments and conducted science quiz competitions for students.
- **Resource Person, Radio Astronomy Winter School** Dec. 2015
  *National Centre for Radio Astrophysics (NCRA), Pune, India*
  – Conducted hands-on science demonstrations for participants.
- **Resource Person, Pulsar Observatory for Students** 2015
  *Radio Astronomy Centre, Ooty, India*
  – Guided students in analyzing observational data from the Ooty Radio Telescope.

## SELECTED MEDIA

- Prabhu et al. 2022 featured in a press release by India's Department of Science & Technology, 2022.
- *'IIA team surprised by their discovery on hot stars and white dwarfs'*, 2022, The Hindu.
- Prabhu et al. 2021 featured in a press release by India's Department of Science & Technology, 2021.
- *'Science Monitor'*, 2021, Rajya Sabha TV coverage of Prabhu et al. 2021, YouTube.
- *'Astrosat helps spot UV stars in Milky Way's Cosmic Dinasaur'*, 2021, The Times of India.

## REFERENCES

**Prof. David Sand**
Professor
Steward Observatory, University of Arizona
dsand@arizona.edu

**Dr. Jeffrey Carlin**
Science Validation Scientist
Vera C. Rubin Observatory
jeff.carlin@noirlab.edu

**Dr. Burcin Mutlu-Pakdil**
Assistant Professor
Dartmouth College
Burcin.Mutlu-Pakdil@dartmouth.edu