

# Jaswanth Subramanyam

Researcher in Physics and Astronomy

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## PROFESSIONAL SUMMARY

Observational astrophysicist specializing in extragalactic magnetism and radio polarimetry. Experienced in using astronomical data reduction pipelines and analysis tools to study the magnetic field structure of galaxies and Active Galactic Nuclei (AGN). Active in supporting researcher welfare and equal opportunity initiatives through leadership roles within the Max Planck PhDnet and a track record in securing competitive telescope time and engaging in science communication.

## SCIENTIFIC INTERESTS

- Cosmic Magnetism and the Magnetoionic Medium.
- Radio-interferometric imaging, Broadband Polarimetry and Faraday Rotation.
- Galaxy formation, evolution and mergers.
- Understanding the structure and evolution of AGN jets and lobes.

## SKILLS

- **Astronomy Software:** CASA, RMTools, WSCLEAN, MIRIAD, ALADIN, TOPCAT, DS9.
- **Programming & Computing:** Python, Shell scripts, HPC - Slurm, MATLAB.
- **Languages:** English(fluent), Telugu(native), Hindi(fluent), Tamil(beginner), German (beginner).

## EDUCATION

- **01/2021–Present** PhD Candidate, Max Planck Institute for Radio Astronomy / University of Bonn, Bonn, Germany
  - **Thesis:** Magnetic fields in Intermediate Redshift galaxies and Active Galactic Nuclei.
  - **2024–Present** Member, POSSUM.
  - **Advisors:** Prof. Michael Kramer, Dr. Sui Ann Mao, Dr. David Champion.
- **08/2017–09/2019** Master's in Physics and Astronomy, Chalmers University of Technology, Gothenburg, Sweden
  - **Thesis:** Modelling of Gravitationally lensed Quasar PKS 1830-211.
    - **Advisors:** Prof. Cathay Horellou, Dr. Sebastien Muller.

- **08/2010–06/2014** Bachelor of Technology in Physical Sciences, Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram, India.
  - **Thesis:** Assembly and Testing of Parallel Plate Analyser for a Mass Spectrometer.
    - **Advisors:** Prof. Umesh R. Kadhan
  - **Project:** Encryption of Data based on GPS Location.
    - **Advisors:** Dr. V. Poompavai

## SUCCESSFUL OBSERVATION PROPOSALS

- **2022** Co-PI, Australia Telescope Compact Array (ATCA), "Studying magnetic fields in normal and active galaxies using HI absorption systems" (Allotted 120 hrs; observed 158.3 hrs).

## WORK EXPERIENCE

- **08/2014–07/2017** Scientist/Engineer 'SC', National Atmospheric Research Laboratory(NARL), ISRO
  - Studying the Atmospheric boundary layer using ground-based LIDARs.
  - Integrated water vapor (IVW) study/observations using GPS by building a network of receivers.
  - **Supervisors:** Dr. T. Narayana Rao
- **07/2018–08/2018** Short-term Research Assistant, Chalmers University
  - Contributed to analyzing GAIA DR2 proper motions for runaway stars in the Orion cluster.
  - **Supervisors:** Prof. Jonathan C. Tan, Dr. Juan Pablo Farias Osse

## TALKS AND PRESENTATIONS

- **2024** Contributed Talk, "Cosmic Magnetism in the Pre-SKA Era" Conference, Kagoshima, Japan.
- **2021** TUNA Lunch Talk, UVa / NRAO Astronomy, Charlottesville.
- **2021** Student Seminar, International Max Planck Research School (IMPRS).
- **2013** Student Presentation, ISG-ISRS National Symposium, Visakhapatnam.

## PUBLICATIONS

- **2020** Muller, S., **Jaswanth, S.**, et al. "All good things come in threes: the third image of the lensed quasar PKS 1830-211", A&A, 641, L2.

## **AWARDS**

- **2019** Recipient, Global Swede Award
- **2013** Conference Presentation Award, ISG/ISRS

## **INSTITUTIONAL LEADERSHIP AND PROFESSIONAL SERVICE**

**2023–2024** | CPT Section Representative, Max Planck PhDnet Steering Group

**2022–2023** | Max Planck PhDnet External Representative (MPIfR)

**2016** | Organizer, Workshop on Fundamentals of GNSS/IRNSS and Atmospheric Science

## **MENTORSHIP AND STUDENT ENGAGEMENT**

- **2018–2019** International Student Ambassador and Student Phadder, Chalmers University.
- **2017** Supervised and trained two master students at NARL in using GAMIT/GLOBK for IVW measurement.

## **PUBLIC ENGAGEMENT AND SCIENCE COMMUNICATION**

- **2024** Featured PhD Researcher, MINTmagie Science Communication Video (BMBF).
- **2024** Speaker, Astronomy on Tap Public Science Outreach.
- **2012–2013** Organizer, Conscientia, University Tech Festivals.
- **2013** Organizer, TEDxYouth Trivandrum.
- **2012–2013** FOM Volunteer, Make A Difference (MAD).
- **2011** Participant/Contributed to organisation, Science demonstration of the week.