Biny Sebastian

Curriculum vitae

Space Telescope Science Institute
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Homepage: https://binysebastian.github.io/

Current Position

Post-doctoral fellow, Space Telescope Science Institute

Education

2010-2014 **Bachelor of Technology**.
Engineering Physics, National Institute of Technology, Calicut (NITC), India

2014-2020 **Integrated Ph.D**.
National Centre for Radio Astrophysics - Tata Institute of Fundamental Research (NCRA-TIFR)

- Dissertation title: Understanding Radio Outflows in Seyfert Galaxies
- Advisor: **Prof. Preeti Kharb**

Research Experience

September 09, 2024 - Current4 **Postdoctoral fellow**, Space Telescope Science Institute.

- Advisor: **Dr. Patrick Ogle**

March 07, 2022 - August 30, 2024 **Postdoctoral fellow**, University of Manitoba.

- Advisors: **Profs. Christopher P. O'Dea and Stefi Baum**

November 2020 - November 2021 **Postdoctoral research associate**, Purdue University.
Visiting postdoc fellow at Center for Astrophysics, Harvard & Smithsonian (CfA).

- Advisor: **Prof. Matthew L. Lister**

Research Interests

- AGN feedback in Seyfert and radio galaxies.
- Epoch of reionization.
- Understanding the physics of binary black holes.
- Data science and machine learning.
- Emission mechanism of X-ray jets in AGN.
- Understanding the nature and origin of jets in powerful radio galaxy systems like giant radio galaxies, head-tail radio galaxies, and X-shaped radio galaxies.

Technical Skills

- Expertise in radio data handling, using softwares `AIPS`, and `CASA`.
- Experienced with `CIAO, Sherpa, XSPEC, DS9, IRAF, DIFMAP, QFitsView, SQL` and `Topcat`.
- Adept in programming with Python.
- Experienced in proposal writing, scheduling and observing with telescopes including GMRT (175 hrs as PI & 310 hrs as CoI), EVLA (40 hrs as PI & 160 hrs as CoI), VLBA (63 hrs as PI), EVN (as CoI), VLT-MUSE (as CoI), e-MERLIN (as CoI), HCT (as CoI), *Astrosat* (as CoI).

Coding Experience

- Developed a completely automated pipeline for data analysis of uGMRT data using both AIPS and CASA routines. See here.
- Contributed in writing a task for primary beam correction for the wideband images from uGMRT. See here.
- Database management involving software development, quality analysis, and validation of the CIRADA VLASS catalogs and value-added products.

Scholastic Awards and Grants

- IAU 356 'Nuclear Activity in Galaxies Across Cosmic Time' symposium travel grant, Addis Ababa, Ethiopia, October, 2019.
- IAU XXXth General Assembly travel grant, Vienna, Austria, August, 2018.
- Secured 96th rank in Joint UGC-CSIR NET 2014, a national level exam to determine the eligibility for post-graduate teaching & research in physics.
- TIFR - Graduate School (GS-2014) scholarship.
- Secured all India 403rd rank in Joint Entrance Screening Test (JEST 2014).

Media Coverage

- "Giant radio galaxy found by Indian astronomers" published in newspapers like 'Indian Express', November 6, 2017 and other media (see here).
- Press release on "Telescopes Show the Milky Way's Black Hole is Ready for a Kick". See here.

Public Outreach

- Contributor at the annual National Science Day activities at the GMRT - NCRA, 2016-2017.
- Volunteered to teach high school students as a part of the outreach program, 'PRISM' at NITC, 2013.

Publications(see ADS library here)

First author publications in refereed journals

1. **Sebastian, B.**, Caproni, A., Kharb, P., Nayana, A.J., Arshi, A., Rubinur, K., C.P. O'Dea, Baum, S. & Nandi, S. *A VLBA-uGMRT search for candidate binary black holes:*

Study of six X-shaped radio galaxies with double-peaked emission lines, 2024, Monthly Notices of the Royal Astronomical Society, 530(4):4902–4919.

2. **Sebastian, B.**, Kharb, P., Matthew L. Lister, Herman L. Marshall, O'Dea, C.P., & Baum, S. A., *Investigating the origin of X-ray jets: A case study of four hybrid morphology MOJAVE blazars*, 2022, The Astrophysical Journal, 935(1):59.

3. **Sebastian, B.**, Kharb, P., O'Dea, C.P., Gallimore, J. F., & Baum, S. A., *A Radio Polarimetric Study To Disentangle AGN Activity and Star-Formation in Seyfert Galaxies*, 2020, Monthly Notices of the Royal Astronomical Society, 499(1):334–354.

4. **Sebastian, B.**, Kharb, P., O'Dea, C.P., Gallimore, J. F., & Baum, S. A., *The Discovery of Secondary Lobes in the Seyfert Galaxy NGC 2639*, 2019, Monthly Notices of the Royal Astronomical Society Letters, 490, L26.

5. **Sebastian, B.**, Kharb, P., O'Dea, C. P., Colbert, E. J. M., & Baum, S. A., *The Filamentary Radio Lobes of the Seyfert-Starburst Composite Galaxy NGC3079*, 2019, The Astrophysical Journal, 883, 189.

6. **Sebastian, B.**, & Bait, O., *Radio Continuum Emission from Local Analogs of High-z Faint LAEs: Blueberry Galaxies*, 2019, The Astrophysical Journal Letters, 882, L19.

7. **Sebastian, B.**, Ishwara-Chandra, C. H., Joshi, & R., Wadadekar, Y., *Discovery of a New 2.2 Mpc Giant Radio Galaxy at a redshift of 0.56*, 2018, Monthly Notices of the Royal Astronomical Society, 473, 4926–4931.

8. **Sebastian, B.**, Lal, D. V., & Rao, A. P., *Giant Metrewave Radio Telescope Observations of Head-Tail Radio Galaxies*, 2017, Astronomical Journal, 154, 169.

Co-author publications in refereed journals

1. Bait, O., Schaerer, D., Izotov, Y. I., and **Sebastian, B.** *Radio Spectral Energy Distribution of Low-z Metal Poor Extreme Starburst Galaxies: Novel insights on the escape of ionizing photons*, 2025, Submitted to MNRAS.

2. Ogle, P., Petersen, M., Schaeffer, T., McCallum, L., Noriega-Crespo, A., Rich, R. M., **Sebastian, B.**, Bjork, C., Body, S., Chinnasamy, S., Dreschsler, M., Kottary, T., Sainty, Y., Sparkman, P., and Strottner, X. *SDSO1 is a Ghost Planetary Nebula Bow Shock in Front of M31*, 2025, Submitted to ApJ.

3. López, I. E., Bertola, E., Reynaldi, V., Ogle, P., Baldi, R. D., Brusa, M., García-Burillo, S., **Sebastian, B.**, Zanchettin, M. V., Cresci, G., Fernández-Ontiveros, J. A., Marconi, A., Rich, R. M., and Rodriguez, T. M. *Shocked, Heated, and Now Resolved: H_2 excitation in the low-luminosity AGN at M58 core with JWST*, 2025, Accepted for publication in A&A.

4. Ali, A., **Sebastian, B.**, Kakkad, D., Silpa, S., Kharb, P., O'Dea, C. P., Singha, M., Rubinur, K., Baum, S. A., Bait, O., Vaddi, S., and Kurapati, S. (2025). *Jet-mode feedback in NGC 5972: Insights from resolved MUSE, GMRT, and VLA observations*, 2025, The Astrophysical Journal, 984(2):110.

5. Ghosh, S., Kharb, P., Sajjanhar, E., Pasetto, A., and **Sebastian, B.** *Magnetic Field in the Lobes of the Seyfert Galaxy NGC 3516: Suggestions of a Helical Field*, 2025, The Astrophysical Journal, 989(1):40.

6. Ogle, P. M., **Sebastian, B.**, Aravindan, A., McDonald, M., Canalizo, G., Ashby, M. L. N., Azadi, M., Antonucci, R., Barthel, P., Baum, S., Birkinshaw, M., Carilli, C.,

Chiaberge, M., Duggal, C., Gebhardt, K., Hyman, S., Kuraszkiewicz, J., Lopez-Rodriguez, E., Medling, A. M., Miley, G., Omoruyi, O., O'Dea, C., Perley, D., Perley, R. A., Perlman, E., Reynaldi, V., Singha, M., Sparks, W., Tremblay, G., Wilkes, B. J., Wilner, S. P., and Worrall, D. M. *The JWST View of Cygnus A: Jet-driven Coronal Outflow with a Twist*, 2025, The Astrophysical Journal, 983(2):98.

7. Ghosh, S., Kharb P., **Sebastian, B.**, Gallimore, J., Pasetto, A., O'Dea, C. P., Heckman, T., Baum, S. A. *Magnetic Field Structures In and Around Seyfert Galaxy Outflows*, 2025, The Astrophysical Journal, 982(2):141.

8. Vantyghem, A. N., Galvin, T. J., **Sebastian, B.**, O'Dea, C. P., Gordon, Y. A., Boyce, M., Rudnick, L., Andernach, Heinz, Dionyssiou, M., Venkataraman, P., Norris, R., Baum, S. A., Wang, X. R., Huynh, M., Polsterer, K., *Rotation and Flipping Invariant Self-Organizing Maps*, 2024, Astronomy and Computing, 47:100824.

9. Bait, O., Borthakur, S., Schaerer, D., Momjian, E., **Sebastian, B.,** Saldana-Lopez, A., Flury, S. R., Chisholm, J., Marques-Chaves, R., Jaskot, A. E., Ferguson, H. C., Worseck, G., Ji, Z., Komarova, L., Trebitsch, M., Hayes, M. J., Pentericci, L., Ostlin, G., Thuan, T., Amorín, R. O., Wang, B., Xu, X., Sargent, M. T., *The Low-redshift Lyman Continuum Survey: Radio continuum properties of low-z Lyman continuum emitters*, 2024, Astronomy & Astrophysics, 688:A198

10. Daly, R., Donahue, M., O'Dea, C. P., **Sebastian, B.,** Haggard, D., & Lu, A. *New Black Hole Spin Values for Sagittarius A* Obtained with the Outflow Method* 2024, Monthly Notices of the Royal Astronomical Society, 527(1):428–436.

11. Dutta, S., Bera, A. Bait, O., Narayan, C. A., **Sebastian, B.**, & Vaddi, S., *HI Imaging of a Blueberry Galaxy Suggests a Merger Origin*, 2024, Monthly Notices of the Royal Astronomical Society, 531(4):5140–5146.

12. Nandi, S., Kharb, P., Caproni, A., Roy, R. & **Sebastian, B.** *A Relook at the Black Hole Binary Candidate J1328+2752 with VLBI*, 2024, The Astrophysical Journal, 965(1):9.

13. Rao, V. V., Kharb, P., Rubinur, K., Silpa, S., Roy, N., **Sebastian, B.**, Singh, V., Baghel, J., Manna, S., & Ishwara-Chandra, C. H. *AGN Feedback Through Multiple Jet Cycles in the Seyfert Galaxy NGC 2639.*, 2023, Monthly Notices of the Royal Astronomical Society, 524, 1615

14. Marecki, A., **Sebastian, B.**, & Ishwara-Chandra, C. H. *The structure at the centre of the giant radio galaxy GRS J0844+4627: a compact symmetric object?*, 2023, Monthly Notices of the Royal Astronomical Society, 518(1):L83–L86.

15. Baghel, J., Silpa, S., Kharb, P., **Sebastian, B.**, and Shastri, P. *A Polarization Study of 3 Blazars using the uGMRT at 600 MHz*, 2022, Journal of Astrophysics and Astronomy, 43(2):88.

16. Seth, R., O'Sullivan, E., **Sebastian, B.**, Raychaudhury, S., Schellenberger, G., & Haines, C. P., *The contribution of non-central radio galaxies to AGN feedback in rich galaxy clusters*, 2022, Monthly Notices of the Royal Astronomical Society, 513(3):3273–3288.

17. Silpa S., Kharb, P., Harrison, C. M., Ho, L. C., Jarvis, M. E., Ishwara-Chandra, C. H., **Sebastian, B.**, *Outflows in the Radio-Intermediate Quasar III Zw 2: A Polarization Study with the EVLA & uGMRT*, 2021, Monthly Notices of the Royal Astronomical Society, 507(1):991–1001.

18. Silpa S., Kharb, P., O'Dea, Baum, S. A., **Sebastian, B.**, Mukherjee, D., Harrison, C. M., *AGN Jets and Winds in Polarised Light: The Case of Mrk 231*, 2021, Monthly Notices of the Royal Astronomical Society, 507(2):2550–2561.

19. Nandi, S., Caproni, A., Kharb, P., **Sebastian, B.** & Roy, R. *Precessing Jets and Double-Peaked Lines in a Supermassive Black Hole Binary*, 2021, The Astrophysical Journal, 908(2):178.

20. Pandge, M. B., **Sebastian, B.**, Seth, R., Raychaudhuri, S., *A Detailed Study of X-Ray Cavities in the Environment of the Cool Core Cluster Abell 3017*, 2021, Monthly Notices of the Royal Astronomical Society, 504, 1644.

21. Gendron-Marsolais, M., Hlavacek-larrondo, J. , Van Weeren, R. J., Rudnick, L., Clarke, T., **Sebastian, B.** et al., *High-Resolution JVLA Low Radio Frequency Observations of the Perseus Cluster*, 2021, Monthly Notices of the Royal Astronomical Society, 499(4):5791–5805.

22. Lal, D. V., **Sebastian, B.**, Cheung, C. C., & Pramesh Rao, A., *GMRT Low-Frequency Imaging of an Extended Sample of X-shaped Radio Galaxies*, 2019, Astronomical Journal, 157, 195L.

23. Veena, V. S., Vig, S., **Sebastian, B.**, Lal, D. V., Tej, A., & Ghosh, S. K., *Non-Thermal Emission from Massive Star-Forming Regions: A Possible SNR Candidate G351.7-1.2?* 2019, Monthly Notices of the Royal Astronomical Society, 482, 4630V.

24. Kharb, P., Vaddi, S., **Sebastian, B.**, Subramanian, S., Das, M.,& Paragi, Z. *A Curved 150 Pc Long Jet in the Double-Peaked Emission-Line AGN Kissr 434*, 2019, The Astrophysical Journal, 871, 249K.

Book chapters

1. Hopkins, A., Gordon, Y., Hardcastle, M., Liu, D., Rafferty, D., Boyce, M., Tanag, H., Marvil, J., Williams, W., **Sebastian, B.**, O'Dea, C., Radcliffe, J., Rudnick, L., and Vaccari, M. (2024). *Continuum Source Identification and Measurement*. In *Data-Intensive Radio Astronomy: Bringing Astrophysics to the Exabyte Era*, pages 161–203.

Publications in conference proceedings

1. Ghosh, S., Kharb, P., **Sebastian, B.**, Gallimore, J., Pasetto, A., O'Dea, C. P., Heckman, T., and Baum, S. A. (2025b). *What drives kpc-scale outflows in Radio-Quiet AGN? Insights from a Polarimetric Study*, Submitted for the Proceedings of the IAU symposium 394.

2. Ghosh, S., Kharb, P., **Sebastian, B.**, Gallimore, J., Pasetto, A., P. O'Dea, C., Heckman, T., and Baum, S. A. (2025c). *Understanding Radio-quiet AGN Jet Morphologies and Feedback Mechanisms from Parsec to Kiloparsec Scales*. In 43rd meeting of the Astronomical Society of India (ASI), volume 43, page 75.

3. Nandi, S., Kharb, P., Caproni, A., Roy, R., **Sebastian, B.** *Investigation of the central system of the Black Hole Binary Candidate J1328+2752*, 2024, 42nd meeting of the Astronomical Society of India (ASI), 42, P82.

4. **Sebastian, B.**, Kharb, P., O'Dea, C.P., Gallimore, J. F., Colbert, E. J. M., & Baum, S. A., *Understanding the Origin of Radio Outflows in Seyfert Galaxies Using Radio Polarimetry*, IAU Symposium, 356, 247.

5. Gendron-Marsolais, M., Hlavacek-Larrondo, J., Hull, C., Perley, R., Rudnick, L., Kraft, R., Fabian, A. C., Roediger, E., van Weeren, R. J., Richard-Laferrière, A., Arakawa, N., Clarke, T. E., **Sebastian, B.**, et al., *High Dynamic Range JVLA Observations of Perseus Cluster Radio Galaxies*, 2021 American Astronomical Society Meeting Abstracts, 53, 203.03.

Conference & Workshop Presentations

Invited talks

1. *The VLASS Radio Continuum Catalogs From CIRADA*
   AAS 241 Splinter Session On The NRAO Science Ready Data Products Initiative and Using the VLA Sky Survey, Seattle, January 2023.

2. *Discovering Supermassive Binary Black Holes Using VLBA Observations*
   MIAMI 2022 Physics Conference, Miami, December 2022.

3. *Disentangling star formation and AGN activity in Seyfert galaxies using radio polarimetry*
   High energy seminar series at Center for Astrophysics Harvard & Smithsonian, Remote, September 2021 See here for video.

4. *Understanding Outflows in LLAGN Through Polarimetry*
   One day meeting on "Active Galactic Nuclei (AGN) Science in honour of Prajval Shastri", Indian Institute of Astrophysics, Bangalore, October 2018.

5. *AGN Jet Science With Upgraded GMRT*
   XXXVI Meeting of Astronomical Society of India, Osmania University, Hyderabad, February 2018.

Contributed talks

1. *Discovering supermassive binary black holes using VLBA observations*
   Galaxies Journal Club at the University of Toronto, Ontario, Canada, July 2024.

2. *Understanding kpc-scale radio emission in Seyfert galaxies*
   Galaxies and AGN Journal Club at STScI, Baltimore, MD, January 2023.

3. *The VLASS Science-Ready Radio Continuum Catalogs From CIRADA*
   VLA Sky Survey in the Multiwavelength Spotlight, Socorro, NM, September 2022. See here for video.

4. *Investigating X-ray emission in hybrid morphology blazars*
   Eighth Mid-Atlantic Radio-Loud AGN Meeting (MARLAM), Baltimore, MD, (Online), October 2021.

5. *Understanding radio outflows in Seyfert Galaxies*
   The Past, Present, and Future of the VLA: Celebrating 40 Years, Socorro, (Online), August 2021.

6. *The Origin of Radio Outflows in Seyfert Galaxies*
   AGN and Polarimetry conference: Towards a panchromatic understanding of the polarization of Active Galactic Nuclei, Strasbourg (Online), December, 2020.

7. *Understanding Radio Outflows in Seyfert Galaxies*
   Sixth Regional Astronomy Meeting, Kerala, India, Google Meet, July, 2020.

8. *Understanding Outflows in Seyfert Galaxies*
   IAUS 356: Nuclear Activity in Galaxies Across Cosmic Time, Addis Ababa, Ethiopia, October, 2019

9. *Understanding Outflows in Seyfert Galaxies Using Radio Polarimetry*
   XXXVII Meeting of Astronomical Society of India, Bengaluru, India, February, 2019.

10. *A GMRT Study of Atypical Radio Sources*
    GLASS Collaboration Busy Week meeting, Perth, Australia, July, 2018.

11. *A Study of Atypical Radio Galaxies Using uGMRT*
    SPARCS VIII: Early Science, on the path to the SKA Pathfinders, Penticton, Canada, May, 2018.

12. *Wide–band Primary Beam Corrections for the uGMRT*
    India-SA collaboration busy-week 2018, Pune, India, April, 2018.

13. *Atypical Radio Sources in ELAIS N1 Field*
    India-SA collaboration busy-week 2018, Pune, India, April, 2018.

14. *A GMRT Study of an Extended Sample of X-shaped Radio Sources*
    AstroSat View of AGN Central Engines meeting, IUCAA, December, 2017.

15. *A Study of Cometary Shaped Radio Galaxies Using Legacy and Upgraded GMRT Systems*
    SKA Pathfinders Radio Continuum Surveys (SPARCS VI, 2016), ICG, Goa, India, October 2016.

16. *Discovery of a Giant Radio Galaxy With the GMRT*
    National Space Science Symposium 2016, SPL, Thiruvanathapuram, India, February 2016.

17. *Discovery of a Giant Radio Galaxy With the GMRT*
    Jet Triggering Mechanisms in Black Hole Sources, TIFR, Mumbai, India, January 2016.

Posters

1. *Softwares to Generate VLASS Radio Continuum Catalogs by CIRADA,*
   VLA Sky Survey in the Multiwavelength Spotlight, Socorro, NM, September 2022.

2. *Study of Candidate X-shaped Radio Galaxies at Low Radio Frequencies,*
   XXXV Meeting of Astronomical Society of India, B. M. Birla Auditorium, Jaipur, India, March 2017.

3. *Low Frequency Study of Candidate X-shaped Radio Galaxies,*
   The Broad Impact of Low Frequency Observing conference 2017, Bologna, Italy, June 2017.

4. *A GMRT Study of an Extended Sample of X-shaped Radio Sources,*
   When Brandeis met Jansky: astrophysics and Beyond, Brandeis University, Waltham, USA, June 2017.

Supervision Experience

- Supervised an an undergraduate student **Dylan Daniel Muruppel**, National institute of technology, Calicut (2024). Radio SED modeling of high-z radio galaxies from DESI & VLASS surveys.
- Co-supervised an undergraduate student **Andrew Rogers**, University of Manitoba, Winnipeg (2023). A VLASS-DESI study of AGN feedback in extragalactic radio sources.
- Currently supervising a Master's student **Arshi Ali**, Savithribhai Phule Pune University, Pune (2021-now). Exploring jet-ISM interaction in Voorwerpjes. An article is under review in ApJ.
- Supervised a Master's student **Sreelakshmi Venugopal**, MES, Ponnani, (2023). Radio emission from green-pea galaxies.
- Assisted in supervising summer project for an undergraduate student, **Arathy Palackal**, St. Stephen's College, Delhi (2019). Precession modeling in X-shaped radio galaxies.

Professional Service

- **Proposal Reviewer** for uGMRT observing proposals.
- **Review Panel Member** for *Chandra* Proposal Cycle 25.
- **External Proposal Reviewer** for HST.
- **Manuscript Referee** for *The Astrophysical Journal* (*ApJ*).
- **Distributed Peer Reviewer** for ESO VLT proposals.
- **Distributed Peer Reviewer** for ALMA proposals.

Technical Schools and Workshops Attended

- Radio Astronomy School, NCRA-TIFR, Pune, India, September 2015
- X-ray and Radio data analysis tutorials,"Extragalactic Relativistic Jets : Cause & Effect", ICTS, Bangalore, India, October 2015
- Workshop on Science with the uGMRT, NCRA-TIFR, Pune, India, June 2016
- Workshop on Data Analysis & LAXPC Science, TIFR, Mumbai, India, January 2017
- *Chandra*/CIAO workshop, NCRA-TIFR, Pune, India, October 2017

Collaborations Involved in:

- **CIRADA:** (Canadian Initiative for Radio Astronomy Data Analysis)
  PI: Bryan Gaensler
- **uGMRT-GLASS:** (GAMA legacy ATCA southern survey)
  PI: Minh Huynh
- **SUPERMIGHTEE:** Joint Exploration of the Deep Sky with uGMRT and MeerKAT
  PI: Russ Taylor

Successful Telescope Proposals

Principal Investigator of:

1. 2-m Himalayan Chandra Telescope (HCT) proposal (HCT-2023-C1-P65): *Spectroscopic confirmation of a sample of high-z radio loud Quasars using HFOSC/HCT*
   Co-I: C. Duggal ,M. Singha ,P. K. Nayak

2. NRAO Joint VLBA/VLA Proposal (23A-370/23A-361): *Follow up observations of candidate pc-scale binary black holes*
   Co-I: P. Kharb, R. Khatun, S. Vaddi, C. P. O'Dea

3. NRAO EVLA Proposal (21B-291): *Disentangling AGN Jets, Accretion Winds Vs Star Formation With Radio Polarimetry*
   Co-I: P. Kharb

4. GMRT Proposal (38_010): *A uGMRT continuum survey of local analogs of high z LAEs: Understanding the evolution of radio synchrotron emission and magnetic fields*
   Co-Is: O. Bait, D. Bomans

5. NRAO EVLA Proposal (20A-280): *Characterizing the jet emission in a sample of green pea NLS1 galaxies*
   Co-I: O. Bait

6. NRAO EVLA Proposal (19B-198): *Examining Seyfert Outflows Through Polarimetry*
   Co-Is: P. Kharb, J. F. Gallimore, C. P. O'Dea, S. Baum

7. NRAO VLBA proposal (18B-082): *Search for dual AGNs in X-shaped sources with double peaked emission lines*
   Co-Is: D. V. Lal, P. Kharb, R. Khatun

8. GMRT Proposal (35_099): *Disc-Jet Connection in the NLS1-Blazar 1H 0323+342*
   Co-Is: S. H. Ezhikode, P. Kharb, G. C. Dewangan, R. Ghosh, R. Misra, N. S. Philip

9. GMRT Proposal (ddtC009): *Searching for the radio counterpart of the most ultraluminous quasar at $z = 4.75$*
   Co-I: D. V. Lal

10. GMRT Proposal (34_123): *An uGMRT study of Blueberry galaxies: Investigating the role of magnetic fields in galaxy evolution*
    Co-I: O. Bait

11. GMRT Proposal (33_099): *The origin of radio relic in cluster Abell 1314*
    Co-I: D. V. Lal

12. GMRT Proposal (33_083): *A study of double-peaked emission line galaxies showing X-shaped radio morphologies*
    Co-I: D. V. Lal

Co-Investigator of:

1. NRAO EVLA proposal (24A-103): *Continuing Radio Continuum Observations of Low-z extreme star-forming galaxies*
   PI: Omkar Bait

2. NRAO EVLA proposal (23A-138): *Radio Continuum Observations of Low-z extreme star-forming galaxies*
   PI: Omkar Bait

3. NRAO VLBA proposal (BS329): *Testing the jet-outflow connection in the nearby, radio-quiet AGN HE 1029-1831*
   PI: Mainak Singha

4. NRAO EVLA proposal (23A-264): *Investigating jet feedback in NGC5972*
   PI: Arshi Ali

5. NRAO EVLA proposal (23A-162): *Completing the Radio Continuum Survey of the Low-z Lyman Continuum Leakers*
   PI: Sanchayeeta Borthakur

6. NRAO EVLA proposal (23A-349): *The 5 to 9 GHz Spectral Index for a Sample of SWIFT X-Ray Sources*
   PI: Ruth Daly

7. EVN proposal (E20C003): *Confirmation of a dual AGN using radio spectral indices*
   PI: Sumana Nandi

8. VLT MUSE proposal (106.21C7): *Unveiling the jet-ISM interaction in low redshift radio AGN host galaxies*
   PI: Darshan Kakkad

9. e-MERLIN proposal (CY7207): *Compact steep-spectrum source in the centre of a giant radio galaxy*
   PI: Andrzej Marecki

10. EVN proposal (E20A019): *Compact steep-spectrum source at the centre of a giant radio galaxy*
    PI: Andrzej Marecki

11. GMRT Proposal (32_060): *uGMRT deep imaging of the ATCA-GAMA Legacy Field G23: Unravelling the nature of radio AGN with low frequency data*
    PI: Minh Huynh

12. GMRT Proposal (35_022): *uGMRT deep imaging of the ATCA-GAMA Legacy Field G23: Follow-up observations of extended and interesting sources*
    PI: C. H. Ishwara-Chandra

13. GMRT Proposal (37_104): *HI imaging of the nearest known blueberry galaxy*
    PI: Omkar Suresh Bait

14. GMRT Proposal (37_031): *SuperMIGHTEE: Band-4 Imaging of the XMMLSS MIGHTEE Early Science Fields*
    PI: Russ Taylor

15. GMRT Proposal (39_100): *The uGMRT follow-up of CHIME Repeaters*
    PI: Arun Kumar Naidu

16. GMRT Proposal (40_044): *SuperMIGHTEE: Completion of Band-4 Imaging of the XMMLSS MIGHTEE Early Science Fieldss*
    PI: Russ Taylor

17. GMRT Proposal (41_094): *SuperMIGHTEE Observation of COSMOS*
    PI: Russ Taylor

18. GMRT Proposal (42_015): *Investigating Jet Feedback in NGC 5972*
    PI: Arshi Ali

19. GMRT Proposal (43_061): *Radio-SED Study of Low-z Lyman Continuum Emitters*
PI: Omkar Bait

20. GMRT Proposal (45_075): *Continuing the Radio Continuum Observations of Low-redshift metal-poor Extreme Star-forming Galaxiess*
PI: Omkar Bait

21. GMRT Proposal (ddtC095): *A search for HI 21 cm emission in a nearby high-mass blueberry galaxy*
PI: Chaitra A. Narayan

22. 2-m Himalayan Chandra Telescope (HCT) proposal (P16): *Disc-Jet Connection in the NLS1-Blazar 1H 0323+342*
PI: Savithri H. Ezhikode

23. *Astrosat* proposal (A09_019): *Disc-Jet Connection in the NLS1-Blazar 1H 0323+342*
PI: Savithri H. Ezhikode

References

- **Prof. Preeti Kharb**
NCRA-TIFR
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