

# RITABAN CHATTERJEE

## PERSONAL DATA

|                                 |                                                                         |
|---------------------------------|-------------------------------------------------------------------------|
| ADDRESS                         | School of Astrophysics, 86/1 College Street, Kolkata-700073, WB, India. |
| EMAIL                           | ritaban.astro@presiuniv.ac.in                                           |
| PHONE                           | (091) 801-744-7597                                                      |
| INSTITUTION                     | Presidency University, Kolkata                                          |
| DATE OF BIRTH                   | September 21, 1980.                                                     |
| NATIONALITY                     | Indian.                                                                 |
| GENDER                          | Male.                                                                   |
| CATEGORY                        | General.                                                                |
| WHETHER<br>DIFFERENTLY<br>ABLED | No.                                                                     |

## ACADEMIC QUALIFICATION

|      |                                                                                                                                                                                                                           |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2009 | Ph.D. in Astronomy, Boston University, Boston, Massachusetts, USA. Thesis : Multi-Wavelength Time Variability of Active Galactic Nuclei. Advisor : Prof. Alan P. Marscher. Cumulative GPA in graduate courses: 3.76/4.00. |
| 2003 | M.Sc. in Physics, Indian Institute of Technology, Kanpur, India. CPI: 7.4/10.0.                                                                                                                                           |
| 2001 | B.Sc. in Physics (Major) with Mathematics and Chemistry, Presidency College, University of Calcutta, India. Total marks: 72.25%.                                                                                          |

## WORK EXPERIENCE

|                           |                                                                                                    |
|---------------------------|----------------------------------------------------------------------------------------------------|
| 2022<br>JUNE–PRESENT      | Assistant Professor, School of Astrophysics, Presidency University, India.                         |
| 2013<br>JUNE–2022<br>JUNE | Assistant Professor, Department of Physics, Presidency University, India.                          |
| 2012 MAY –<br>2013 MAY    | Post-Doctoral Research Associate, Department of Physics and Astronomy, University of Wyoming, USA. |
| 2009 SEP –<br>2012 APR    | Post-Doctoral Research Associate, Department of Astronomy, Yale University, USA.                   |
| 2006 – 2009<br>AUG        | Graduate Research Assistant, Department of Astronomy, Boston University, USA.                      |
| 2003 – 2005               | Graduate Teaching Fellow, Department of Astronomy, Boston University, USA.                         |

## REFEREED PUBLICATIONS

**35 refereed publications with an average citation of approximately 45 as of 2026 March [from the SAO/NASA Astrophysics Data System (ADS)]. h-index 17.**

39. “*Disk-corona Energy Balance Evolves with Flux State in the Quasar PDS 456*”, Fida Fathima, Arijit Sar, Tathagata Saha, & **Ritaban Chatterjee, submitted to ApJ.**

38. “*Dynamic Accretion Disk-Corona Connection and Broad Fe K $\alpha$  Variability in Mrk 766 Revealed by Time-Resolved High Resolution X-Ray Spectroscopic Analysis*”, Ayon Mondal, Tathagata Saha, Arijit Sar, & **Ritaban Chatterjee, submitted to ApJ.**

37. “*Multi-Zone Modeling of Blazar Jets: Constraints from GeV-Optical Correlation and Short-Timescale Variability*”, Arit Bala & **Ritaban Chatterjee, submitted to MNRAS.**

36. “Fourier Frequency-Dependent Inter-Band X-ray Time Lags in the Blazar Mrk 421 Using *AstroSat*”, Agniva Roychowdhury, Susmita Das, & **Ritaban Chatterjee**, **submitted to ApJ**.
35. “How Plasma Properties of the Fanaroff-Riley Jet can Shape its Morphology”, Priyesh Kumar Tripathi, Indranil Chattopadhyay, Raj Kishor Joshi, **Ritaban Chatterjee**, Sanjit Debnath, M. Saleem Khan, **2026, ApJ, 998, 246**.
34. “Supermassive black holes and active galactic nuclei”, Dewangan, Gulab C.; Shukla, Amit; **Chatterjee, Ritaban**, et al. **2025, JApA, 46, 60**.
33. “Location of a Sample of GeV and Optical Outbursts in the Jets of Blazars”, Kundu, Maitreya; Bala, Arit; Barat, Saugata; **Chatterjee, Ritaban** **2025, MNRAS, 540, 1379**.
32. “Sub-day time-scale X-ray spectral variability of the TeV blazars Mrk 421 and 1ES 1959+650”, Das, Susmita and **Chatterjee, Ritaban** **2025, MNRAS, 539, 3582**.
31. “Spectral Energy Distribution Modelling of Broad Emission Line Quasars: From X-Ray to Radio Wavelengths”, Avinanda Chakraborty, Maitreya Kundu, Suchetana Chatterjee, et al. **2025, A&A, 694, A140**.
30. “Spectral Energy Distribution Modeling of BL Lacertae during a Large Submillimeter Outburst and Low X-Ray Polarization State”, Ayon Mondal, Arijit Sar, Maitreya Kundu, et al. **2025, ApJ, 978, 43**.
29. “Accretion DiscJet Decomposition from the Optical-Near Infrared Monitoring of Fermi Blazars”, Rajguru, Garima and **Chatterjee, Ritaban** **2024, MNRAS, 535, 3595**.
28. “Multi-Year Characterisation of the Broad-Band Emission from the Intermittent Extreme BL Lac 1ES 2344+514”, MAGIC Collaboration; Abe, H., et al. **2024, A&A, 682, 114**.
27. “Correlated Short Time-Scale Hard-Soft X-Ray Variability of the Blazars Mrk 421 and 1ES 1959+650 Using *AstroSat*”, Das, Susmita and **Chatterjee, Ritaban** **2023, MNRAS, 524, 3797**.
26. “Moderate Correlation between the Accretion Disk and Jet Power in a Large Sample of Fermi Blazars”, Rajguru, Garima and **Chatterjee, Ritaban** **2022, Phys. Rev. D 106, 063001**.
25. “Rapid Quasi-Periodic Oscillations in the Relativistic Jet of the Blazar BL Lacertae”, Jorstad, S. G.; Marscher, A. P.; Raiteri, C. M.; ..., **Chatterjee, Ritaban** **2022, Nature, 609, 265**.
24. “Locating the GeV Emission Region in the Jets of Blazars from Months-Timescale Multi-Wavelength Outbursts”, Barat, Saugata; **Chatterjee, Ritaban**; Mitra, Kaustav, **2022, MNRAS, 515, 1655**.
23. “Radio Dichotomy in Quasars with  $H\beta$ FWHM greater than  $15,000 \text{ km s}^{-1}$ ”, Chakraborty, A.; Bhattacharjee, A.; Brotherton, M. S.; **Chatterjee, Ritaban**, Chatterjee, S.; Gilbert, M. **2022, MNRAS, 516, 2824**.
22. “The origin of the vanishing soft X-ray excess in the changing-look Active Galactic Nucleus Mrk 590”, Ghosh, Ritesh; Laha, Sibasish; Deshmukh, Kunal; Bhalerao, Varun; Dewangan, Gulab C.; **Chatterjee, Ritaban** **2022, ApJ, 937, 31**.
21. “RMS-Flux Relation and Disc-Jet Connection in Blazars in the Context of the Internal Shocks Model”, Kundu, Aritra; **Chatterjee, Ritaban**; Mitra, Kaustav & Mondal, Sripan **2022, MNRAS, 510, 3688**.
20. “Short-Timescale Variability of the Blazar Mrk 421 from *AstroSat* and Simultaneous Multi-Wavelength Observations”, **Chatterjee, Ritaban**; Das, Susmita; Khasnovis, Archishman; Ghosh, Ritesh; Kumari, Neeraj; Naik, Sachindra; Larionov, V. M.; Grishina, T. S.; Kopatskaya, E. N.; Larionova, E. G.; Nikiforova, A. A.; Morozov, D. A.; Savchenko, S. S.; Troitskaya, Yu. V.; Troitsky, I. S.; Vasilyev, A. A. **2021, JApA, 42, 80 (JApA Special Issue on 5 Years of AstroSat)**.

19. “*Blazar Variability: A Study of Non-stationarity and the Flux-RMS Relation*”, Bhattacharyya, Souradip; Ghosh, Ritesh; **Chatterjee, Ritaban** & Das, Nabanita **2020, ApJ, 897, 25.**
18. “*Physical Inference from the  $\gamma$ -ray, X-ray, and Optical Time Variability of a Large Sample of Fermi Blazars*”, Majumder, Anwesh; Mitra, Kaustav; **Chatterjee, Ritaban**; Urry, C. M.; Bailyn, C. D.; & Nandi, Prantik **2019, MNRAS, 490, 124-134.**
17. “*The Accretion Disk-Jet Connection in Blazars*”, Sagnick Mukherjee, Kaustav Mitra & **Ritaban Chatterjee, 2019, MNRAS, 486, 1672-1680.**
16. “*Probing the Jets of Blazars Using the Temporal Symmetry of Their Multi-Wavelength Outbursts*”, Roy, Namrata; **Chatterjee, Ritaban**; Joshi, Manasvita; Ghosh, Aritra **2019, MNRAS, 482, 743-757.**
15. “*Possible Accretion Disk Origin of the Emission Variability of a Blazar Jet*”, **Chatterjee, Ritaban**; Roychowdhury, Agniva; Chandra, Sunil; Sinha, Atreyee **2018, ApJL, 859, L21-L26**
14. “*Magnetic Field Amplification and Flat Spectrum Radio Quasars*”, Chen, Xuhui; **Chatterjee, Ritaban**; Zhang, Haocheng; Pohl, Martin; Fossati, Giovanni; Boettcher, Markus; Bailyn, Charles D.; Bonning, Erin W.; Buxton, Michelle; Coppi, Paolo; Isler, Jedidah; Maraschi, Laura; Urry, Meg **2014, MNRAS, 441, 2188**
13. “*The Black Hole Binary V4641 Sagittarii: Activity in Quiescence*”, MacDonald, R. K. D.; Bailyn, C. D.; Buxton, M.; Cantrell, A. G.; **Chatterjee, Ritaban**; Kennedy-Shaffer, R.; Orosz, J. A.; Markwardt, C. B.; Swank, J. H. **2014, ApJ, 784, 2-20.**
12. “*The X-ray spectrum and spectral energy distribution of FIRST J155633.8+351758: a LoBAL quasar with a probable polar outflow*”, Berrington, Robert C.; Brotherton, Michael S.; Gallagher, Sarah C.; Ganguly, Rajib; Shang, Zhaohui; DiPompeo, Michael; **Chatterjee, Ritaban**; Lacy, Mark; Gregg, Michael D.; Hall, Patrick B.; Laurent-Muehleisen, S. A., **2013, MNRAS, 436, 3321-3330.**
11. “*A Time Resolved Study of the Broad Line Region in Blazar 3C454.3*”, Isler, J. C.; Urry, C. M.; Coppi, P.; Bailyn, C. D.; **Chatterjee, Ritaban**; Fossati, G.; Bonning, E. W.; Maraschi, L.; Buxton, M. **2013, ApJ, 779, 100-109.**
10. “*Implications of the Anomalous Outburst in the Blazar PKS 0208-512*”, **Chatterjee, Ritaban**; Nalewajko, Krzysztof; Myers, Adam **2013, ApJ, 771, L25-L30.**
9. “*An Optical-Near-Infrared Outburst with No Accompanying Gamma-Rays in the Blazar PKS 0208-512*”, **Chatterjee, Ritaban**; Fossati, G.; Urry, C. M.; Bailyn, C. D.; Maraschi, L.; Buxton, M.; Bonning, E. W.; Isler, J.; Coppi, P. **2013, ApJ, 763, L11-L16.**
8. “*Jet Spectral Breaks in Black Hole X-Ray Binaries*”, Russell, David; Markoff, Sera; Casella, Piergiorgio; Cantrell, A. G.; **Chatterjee, Ritaban**; Fender, Robert; Gallo, Elena; Gandhi, Poshak; Homan, Jeroen; Maitra, Dipankar; Miller-Jones, James; O’Brien, Kieren; Shahbaz, Tariq **2013, MNRAS, 429, 815-832.**
7. “*SMARTS Optical and Infrared Monitoring of 12 Gamma-Ray bright Blazars*”, Bonning, E. W.; Urry, C. M.; Bailyn, C.; Buxton, M.; **Chatterjee, Ritaban**; Coppi, P.; Fossati, G.; Isler, J.; Maraschi, L. **2012, ApJ, 756, 13-28.**
6. “*Optical and Near Infrared Monitoring of the Black Hole X-Ray Binary GX 339-4 during 2002-2010*”, Buxton, Michelle M.; Bailyn, Charles D.; Capelo, Holly L.; **Chatterjee, Ritaban**; Dincer, Tolga; Kalemci, Emrah; Tomsick, John A. **2012, AJ, 143, 130-145.**
5. “*Similarity of the Optical-IR and Gamma-Ray Variability of Fermi Blazars*”, **Chatterjee, Ritaban**; Bailyn, C.; Bonning, E. W.; Buxton, M.; Coppi, P.; Fossati, G.; Isler, J.; Maraschi, L.; Urry, C. M. **2012, ApJ, 749, 191-204.**
4. “*Connection between the Accretion Disk and Jet in the Radio Galaxy 3C 111*”, **Chatterjee, Ritaban**; Marscher, Alan P.; Jorstad, Svetlana G.; Markowitz, Alex; Rivers, Elizabeth; Rothschild,

Richard E.; McHardy, Ian M.; Aller, Margo F.; Aller, Hugh D.; Lähteenmäki, Anne; Tornikoski, Merja; Harrison, Brandon; Agudo, Iván; Gómez, José L.; Taylor, Brian W.; Gurwell, Mark **2011, ApJ, 734, 43-58.**

3. “*Flaring Behavior of the Quasar 3C 454.3 Across the Electromagnetic Spectrum*”, Jorstad, Svetlana G.; Marscher, Alan P.; Larionov, Valeri M.; Agudo, Iván; Smith, Paul S.; Gurwell, Mark; Lähteenmäki, Anne; Tornikoski, Merja; Markowitz, Alex; Arkharov, Arkadi A.; Blinov, Dmitry A.; **Chatterjee, Ritaban**; D’Arcangelo, Francesca D.; Falcone, Abe D.; Gómez, José L.; Hagen-Thorn, Vladimir A.; Jordan, Brendan; Kimeridze, Givi N.; Konstantinova, Tatiana S.; Kopatskaya, Evgenia N.; Kurtanidze, Omar; Larionova, Elena G.; Larionova, Liudmilla V.; McHardy, Ian M.; Melnichuk, Daria A.; Roca-Sogorb, Mar; Schmidt, Gary D.; Skiff, Brian; Taylor, Brian; Thum, Clemens; Troitsky, Ivan S.; Wiesenmeyer, Helmut **2010, ApJ, 715, 362-384.**

2. “*Disk-jet Connection in the Radio Galaxy 3C 120*”, **Chatterjee, Ritaban**; Marscher, Alan P.; Jorstad, Svetlana G.; Olmstead, Alice R.; McHardy, Ian M.; Aller, Margo F.; Aller, Hugh D.; Lähteenmäki, Anne; Tornikoski, Merja; Hovatta, Talvikki; Marshall, Kevin; Miller, H. Richard; Ryle, Wesley T.; Chicka, Benjamin; Benker, A. J.; Bottorff, Mark C.; Brokofsky, David; Campbell, Jeffrey S.; Chonis, Taylor S.; Gaskell, C. Martin; Gaynullina, Evelina R.; Grankin, Konstantin N.; Hedrick, Cecelia H.; Ibrahimov, Mansur A.; Klimek, Elizabeth S.; Kruse, Amanda K.; Masatoshi, Shoji; Miller, Thomas R.; Pan, Hong-Jian; Petersen, Eric A.; Peterson, Bradley W.; Shen, Zhiqiang; Strel’nikov, Dmitriy V.; Tao, Jun; Watkins, Aaron E.; Wheeler, Kathleen **2009, ApJ, 704, 1689-1703.**

1. “*Correlated Multi-Waveband Variability in the Blazar 3C 279 from 1996 to 2007*”, **Chatterjee, Ritaban**; Jorstad, Svetlana G.; Marscher, Alan P.; Oh, Haruki; McHardy, Ian M.; Aller, Margo F.; Aller, Hugh D.; Balonek, Thomas J.; Miller, H. Richard; Ryle, Wesley T.; Tosti, Gino; Kurtanidze, Omar; Nikolashvili, Maria; Larionov, Valeri M.; Hagen-Thorn, Vladimir A. **2008, ApJ, 689, 79-94.**

## POPULAR LEVEL PUBLICATIONS

8. *An Article in Bengali on “Astronomy in Bengal: Past and Present”*, **Chatterjee, Ritaban 2nd Year, Issue 2, Nabaparyay Shiksha Darpan (A half-yearly journal and official publication of the Department of School Education and Higher Education, Government of West Bengal).**

7. “*An Article in Bengali on the Launch of Aditya-L1 Mission*”, **Chatterjee, Ritaban Kalantar Patrika, 03 September, 2023.**

6. “*An article in Bengali on the Chandrayaan 3 Landing*”, **Chatterjee, Ritaban Kalantar Patrika, 26 August, 2023.**

5. “*An article in Bengali on five years of AstroSat*”, **Chatterjee, Ritaban Anandabazar Patrika, 2021 February 3** (<https://www.anandabazar.com/science/india-first-space-lab-astrosat-turned-6-years-old/cid/1264628>)

4. “*M. K. Das Gupta, The First Indian Radio Astronomer, and His Connection with the 2020 Physics Nobel Prize*”, Rai Choudhuri, Arnab & **Chatterjee, Ritaban 2021, Science and Culture, Vol. 87, No. 1-2, 6-13. arXiv: 2012.01001**

3. “*An article in Bengali on the 2020 Nobel prize in Physics*”, **Chatterjee, Ritaban Bengali Web Magazine Bigyan, 2020 November 20** (<https://bigyan.org.in/2020/11/20/blackhole-theory-and-observation-nobel-2020/>)

2. “*An article in Bengali on the 2020 Nobel prize in Physics and its connection to the Indian radio astronomer Mrinal Kumar Dasgupta*”, Rai Choudhuri, Arnab & **Chatterjee, Ritaban Anandabazar Patrika online, 2020 November 19** (<https://www.anandabazar.com/science/discovery-of-prof-mrinal-dasgupta-was-pillar-of-discovery-of-supermassive-black-holes-dgtls-1.1225652>)

1. “*An article in Bengali on the status of Indian higher education in the post-Covid world*”, **Chatterjee, Ritaban Porichoy Patrika, 2020 Sharod Sonkha** (<https://www.parichayapatrika.com/p/blog-page.html?fbclid=IwAR1EusdB6ktpcM8crke4Jk2Dr5rCDTk1JUTymLJr1gXSPB1hpnFd8L1zdkc>)

## CONFERENCE PROCEEDINGS

1. “Correlated Multifrequency Variability in the Blazars 3C 279 and PKS 1510-089”, **Chatterjee, R.**, Marscher, A. P., Jorstad, S. G., Aller, M. F., McHardy, I. M., **2006, Bulletin of the American Astronomical Society, 38, 904.**
2. “X-ray Dips and Superluminal Ejections in the Radio Galaxy 3C 120”, Olmstead, A., Marscher, A. P., Jorstad, S. G., **Chatterjee, R.**, Aller, M. F., **2008, Bulletin of the American Astronomical Society, 40, 218.**
3. “Multi-Wavelength Time Variability of Active Galactic Nuclei”, **Chatterjee, R.**, **2009, Bulletin of the American Astronomical Society, 41, 306.01.**
4. “Comprehensive Multi-waveband Monitoring of Gamma-ray Bright Blazars”, Marscher, A. P., Jorstad, S. G., Larionov, V. M., **Chatterjee, R.**, D’Arcangelo, F., Manne-Nicholas, E., Olmstead, A. R., McHardy, I. M., Agudo, I., Gomez, J. L., Aller, M. F., Hagen-Thorn, V. A., Gear, W. K., Porter, D., **2009, Bulletin of the American Astronomical Society, 41, 326.03.**
5. “Multiwavelength observations of Fermi blazars”, Wells Bonning, E., Bailyn, C., Buxton, M., **Chatterjee, Ritaban**, Coppi, P., Fossati, G., Isler, J., Maraschi, L., Urry, C. M., **2011, Bulletin of the American Astronomical Society, 42, 324.08.**
6. “The Exceptional Flaring Activity Of The Blazar 3C 454.3”, Wells Bonning, E., Bailyn, C., Buxton, M., **Chatterjee, Ritaban**, Coppi, P., Fossati, G., Isler, J., Maraschi, L., Urry, C., **2011, Bulletin of the American Astronomical Society, 43, 408.01.**
7. “Similarity of Optical-IR and Gamma-Ray Variability Properties of Fermi Blazars”, **Chatterjee, R.**, Bailyn, C., Bonning, E., Buxton, M., Coppi, P., Isler, J., Urry, C. M., **2011, American Astronomical Society Meeting Abstracts, 218, 327.02.**
8. “SMARTS Optical Spectroscopy of 3C 454.3”, Isler, J., Bailyn, C., Bonning, E., Buxton, M., **Chatterjee, Ritaban**, Coppi, P., Fossati, G., Maraschi, L., Scalzo, R., & Urry, C., **2011, American Astronomical Society Meeting Abstracts, 218, 408.08.**
9. “The Contrasting Nature of Gamma-Ray/Optical Variability in the Blazar PKS 0208-512 During Successive Outbursts”, **Chatterjee, Ritaban**; Fossati, G.; Urry, C. M.; Bailyn, C. D.; Maraschi, L.; Buxton, M.; Bonning, E. W.; Isler, J.; Coppi, P., **2012 Fermi Symposium proceedings - eConf C121028, arXiv: 1303.2095.**
10. “Magnetic Field Amplification and Blazar Flares”, Chen, Xuhui; **Chatterjee, Ritaban**; Fossati, Giovanni; Pohl, Martin **The Innermost Regions of Relativistic Jets and Their Magnetic Fields, Granada, Spain, Edited by José L. Gómez; EPJ Web of Conferences, Volume 61, id.05011, arXiv:1309.4180.**

## RESEARCH GRANTS

|      |                                                                                                                              |
|------|------------------------------------------------------------------------------------------------------------------------------|
| 2026 | PI of ANRF ARG Research Grant: 3 year, Rs. 36,97,453/-                                                                       |
| 2023 | PI of DST-SERB SURE Research Grant: 3 year, Rs. 26,22,210/-                                                                  |
| 2022 | PI of ISRO (Department of Space) Research Grant: 3 year, Rs. 20,27,696/- (may be extended for 1 more years).                 |
| 2020 | Co-I of BRNS (Department of Atomic Energy) Research Grant: 3 year, Rs. 31,17,000/- .                                         |
| 2019 | PI of ISRO (Department of Space) Research Grant: 3 year, Rs. 18,31,778/- (may be extended for 1 more year).                  |
| 2015 | PI of UGC BSR Research Start-Up Grant (2 years, Rs. 6,00,000/-).                                                             |
| 2012 | Co-I of Fermi Cycle 5 Guest Investigator Program titled “Detailed Modeling of Bright Fermi Blazar Flares” (PI: Paolo Coppi). |

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| 2009 | PI of Fermi Cycle 2 Guest Investigator Program titled “Investigating the Location and Mechanism of High Energy Emission in the Jets of Blazars” (1 yr, \$69,000). |
| 2008 | Co-I of the VLBA program BM256 titled “Probing Blazars through Multi-Waveband Variability of Flux, Polarization, and Structure”.                                  |

## TELESCOPE AND SUPERCOMPUTER TIME

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| 2026 JAN       | Awarded 2,00,000 CPU hours on IUCAA High Performance Computing facility for project titled “Whether Plasma Composition Can Change the Morphology of Fanaroff-Riley Radio Jets”. |
| 2025 JAN       | Awarded 3,00,000 CPU hours on IUCAA High Performance Computing facility for project titled “Modeling the Morphology of FR I Jets: Role of Plasma Composition”.                  |
| 2024 JUNE      | Awarded 90 ks time (PI: Arijit Sar, PhD Fellow) on AstroSat to observe one Seyfert galaxy.                                                                                      |
| 2023 JUNE      | Awarded 210 ks time (PI: Arijit Sar, PhD Fellow) on AstroSat to observe two Seyfert galaxies.                                                                                   |
| 2023 JUNE      | Awarded 100 ks time (PI: Susmita Das, PhD Fellow) on AstroSat to observe two TeV blazars.                                                                                       |
| 2021 JUL       | Awarded 100 ks time on AstroSat to observe a TeV blazar.                                                                                                                        |
| 2021 JUL       | Awarded 60 ks time on AstroSat to observe AGN host galaxies in the UV band.                                                                                                     |
| 2020 SEP       | Awarded 100 ks time on AstroSat to observe a TeV blazar.                                                                                                                        |
| 2020 MAR       | Awarded 50 ks time on AstroSat to observe a blazar.                                                                                                                             |
| 2018 JUNE      | Awarded 150 ks time on AstroSat to observe four blazars.                                                                                                                        |
| 2017 SEPTEMBER | Awarded two nights on the Devasthal Optical Telescope at Nainital to observe the radio galaxy 3C 111 simultaneously with Astrosat.                                              |
| 2017 AUGUST    | Awarded 50 ks time on AstroSat to observe the radio galaxy 3C 111.                                                                                                              |
| 2016 SEP       | Awarded 100 ks time on AstroSat to observe the blazar Mrk 421.                                                                                                                  |

## PROFESSIONAL SERVICES

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 2026 MAY           | External Member in the Master’s thesis evaluation committee, Department of Physics, IIT Kharagpur.                            |
| 2025 NOV – PRESENT | External Member in the Doctoral Committee of Mr. Suraj Shaw, PhD Fellow at Saha Institute of Nuclear Physics, Kolkata, India. |
| 2026               | Referee, Pramana.                                                                                                             |
| 2025 – Now         | Member, Scientific Organizing Committee, Astronomical Society of India Annual Meetings.                                       |
| 2024 MAY – PRESENT | External Member in the Research Advisory Committee of Mr. Mainak Chatterjee, PhD Fellow at Ashoka University, Sonipat, India. |

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| 2023 SEP –<br>PRESENT   | External Member in the Doctoral Committee of Ms. Chitranshi Bakshi, PhD Fellow at Saha Institute of Nuclear Physics, Kolkata, India. |
| 2023 SEP                | External Expert for JRF to SRF upgradation meeting of PhD fellow Mr. Avijit Mandal, SNBNCBS, Kolkata, India.                         |
| 2023 — Now              | External moderator for final examination question at the Department of Physics, St. Xavier's College (Autonomous), Kolkata.          |
| 2022 SEP –<br>2025      | Member, Astronomical Society of India Vision Document Working Group for the Chapter on Supermassive Black Holes and AGN.             |
| 2021 DEC –<br>PRESENT   | Member, AstroSat Time Allocation Committee.                                                                                          |
| 2021                    | Referee, Astrophysics and Space Sciences, Publications of the Astronomical Society of the Pacific.                                   |
| 2021 APRIL –<br>PRESENT | Member, Physics News Editorial Board, Quarterly Bulletin of the Indian Physics Association.                                          |
| 2021 MARCH              | External expert, Interview committee for recruitment of Junior Research Fellow in ISRO research project.                             |
| 2020 DEC –<br>2024      | Member, Astronomy and Astrophysics Working Group of Mega Science Vision-2035 for India.                                              |
| 2020 – PRESENT          | Reviewer for time allocation of Devasthal Optical Telescope (DOT) proposal.                                                          |
| 2020 DEC                | External Expert for PhD Thesis defense of Ms. Anindita Mondal, SNBNCBS, Kolkata, India.                                              |
| 2020 OCT —<br>2025      | External Member, Doctoral Committee of PhD Fellow Mr. Habib Ahammad Mondal, SINP, Kolkata, India.                                    |
| 2020 SEP                | External Examiner, Second Year Review of PhD Fellow Mr. Raj Kishor Joshi, ARIES, Nainital, India.                                    |
| 2019, 2020,<br>2024     | Referee, Journal of Astrophysics and Astronomy.                                                                                      |
| 2019 – 2022             | Member, Working Group for Gender Equity (WGGE) of the Astronomical Society of India.                                                 |
| 2019 JAN –<br>PRESENT   | Member, AstroSat Science Working Group.                                                                                              |
| 2019                    | Referee, Advances in Space Research.                                                                                                 |
| 2018 MAY                | External reader of the PhD thesis and external examiner in the PhD viva-voce of Ms. Gayathri Raman, RRI, Bengaluru, India.           |
| 2017 – PRESENT          | Reviewer, AstroSat proposal.                                                                                                         |
| 2016 MAY                | External expert, Interview committee for recruitment of Junior Research Fellow in ISRO-RESPOND research project.                     |

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| 2015 – PRESENT        | Reviewer, Giant Metre-Wave Radio Telescope (GMRT) Proposal.                                                                             |
| 2015 MAY              | External reviewer, Proposal submitted to the Indo-French Centre for the Promotion of Advanced Research-CEFIPRA.                         |
| 2011 – PRESENT        | Referee, Astronomical Journal, Astrophysical Journal, Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society. |
| 2010, 2012, 2015      | Member, NASA proposal review panel.                                                                                                     |
| 2011 FEB – 2012 APRIL | Assistant queue manager for the 1.3 meter telescope operated by Small and Moderate Aperture Research Telescope System (SMARTS).         |

## CONFERENCE ORGANIZATION

|                |                                                                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2025 NOV       | Co-organizer, 5th Amal Kumar Raychaudhury Memorial Lecture at Presidency University, Kolkata.                                                                               |
| 2024 JULY      | Convenor, “ <i>Conference on Blazars and Restless AGN: A High Energy View and its Precursor Workshop at Presidency University, Kolkata.</i> ” (Funded by IUCAA and BRNS).   |
| 2023 APR       | Co-organizer, 4th Amal Kumar Raychaudhury Memorial Lecture at Presidency University, Kolkata.                                                                               |
| 2022 AUG-SEP   | Member, Scientific Organization Committee, International Conference to Celebrate Seven Years of Operation of AstroSat, 28-29 September, 2022, ISRO Headquarters, Bengaluru. |
| 2022 JAN – FEB | Co-Chair and Co-Convenor, Astronomy and Astrophysics Sessions, Twenty-First National Space Science Symposium (NSSS 2022), hosted by IISER Kolkata, organized by ISRO.       |
| 2021 JAN       | Member, Scientific Organization Committee, Online International Conference to Commemorate Five Years of Operation of AstroSat, ISRO.                                        |
| 2019 JAN       | Co-organizer, 2nd Amal Kumar Raychaudhury Memorial Lecture at Presidency University, Kolkata.                                                                               |
| 2017 DEC       | Co-organizer, Conference titled “Universe after the first 200 million years” at Presidency University, Kolkata.                                                             |
| 2017 JAN       | Co-organizer, Amal Kumar Raychaudhury Memorial Lecture at Presidency University, Kolkata.                                                                                   |
| 2016 DEC       | Co-organizer, Advanced School on Gravitational Waves at Presidency University, Kolkata.                                                                                     |
| 2014 AUGUST    | Co-organizer, Topical Conference on Gravity and Cosmology - Eastern Region (TCGC-ER) at Presidency University.                                                              |
| 2011 MAY       | Co-organizer, New England Regional Quasar and AGN Meeting (NERQUAM) and New England Regional Accreting Binaries Annual Meeting (NERABAM) at Yale University.                |

## PROFESSIONAL MEMBERSHIPS

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|--------------------------|-----------------------------------------------------------------------------------------------|
| 2021 OCT –<br>PRESENT    | Associate Scientist, Major Atmospheric Gamma Imaging Cherenkov (MAGIC) Telescope.             |
| 2021 MAY –<br>PRESENT    | Member, International Astronomical Union.                                                     |
| 2020 OCT –<br>PRESENT    | Life Member, Indian Physics Association.                                                      |
| 2019 – PRESENT           | Life member, Astronomical Society of India.                                                   |
| 2014 SUMMER –<br>PRESENT | IUCAA Associate, Inter University Centre for Astronomy and Astrophysics (IUCAA), Pune, India. |
| 2011 – 2012              | Full member, American Astronomical Society.                                                   |
| 2006 – 2010              | Junior member, American Astronomical Society.                                                 |

## AWARDS AND FELLOWSHIPS

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|      |                                                                                                                                                                                   |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2009 | 2-yr post-doctoral fellowship at MIT Kavli Institute for Astrophysics and Space Research (declined).                                                                              |
| 2003 | Council of Scientific and Industrial Research (CSIR) fellowship through the National Eligibility Test (NET) conducted by University Grants Commission (UGC), Government of India. |
| 2002 | HRI summer research fellowship, Harish Chandra Research Institute, Allahabad, 2002. Project : Optical Image Processing and Photometry of Active Galactic Nuclei.                  |
| 2001 | Institute Merit-cum-Means Scholarship, Indian Institute of Technology, Kanpur, India.                                                                                             |
| 1998 | National scholarships for Higher Secondary Examinations, Government of India.                                                                                                     |
| 1996 | National scholarships for Secondary Examinations, Government of India.                                                                                                            |

## INVITED AND CONTRIBUTED PRESENTATIONS (INTERNATIONAL; ABROAD OR WITHIN COUNTRY)

|                  |                                                                                                                                                                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2023 FEB         | Invited online talk titled “Physics of Relativistic Jets from the Indian Space Telescope AstroSat and Other Multi-Wavelength Observations”, <b>Colloquium, Department of Physics, University at Albany-State University of New York, Feb 17, 2023.</b> |
| 2023 JAN         | Invited talk titled “Physics of Jets from Multi-Wavelength Monitoring of Blazars”, at the international conference titled <b>Advances in Astroparticle Physics and Cosmology (AAPCOS-2023), Saha Institute of Nuclear Physics, Jan 23-27, 2023.</b>    |
| 2022 JULY        | Invited online talk titled “Blazars in the AstroSat Era” at the <b>44th COSPAR Scientific Assembly, 16-24 July 2022, Athens, Greece.</b>                                                                                                               |
| 2017<br>DECEMBER | Invited talk titled “Accretion Disk-Jet Connection in the Blazar Mrk 421” at the international conference titled <b>AstroSat View of AGN Central Engines, IUCAA, Pune, India.</b>                                                                      |
| 2016 JANUARY     | Invited talk titled “Accretion Disk-Jet Connection (or Lack Thereof) in Fermi Blazars” at the international conference on <b>Jet Triggering Mechanisms in Black Hole Sources, Tata Institute of Fundamental Research, Mumbai, India.</b>               |
| 2015 OCTOBER     | Invited talk titled “Nature of Multi-band Outbursts of Fermi Blazars” at the international conference on <b>Extragalactic Relativistic Jets: Cause and Effect, ICTS, Bangalore, India.</b>                                                             |

## INVITED AND CONTRIBUTED PRESENTATIONS (NATIONAL AND LOCAL)

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|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2026 FEB   | Invited lecture titled “From Sriharikota to the Stars: The Present and Future of Indian Astrophysics”, Science Day Celebration at <b>Techno India University, Kolkata on 27 Feb, 2026.</b>                                                                                            |
| 2025 MARCH | Invited lecture titled “Astrophysics: The Indian Frontier and Vision” at <b>Scottish Church College, Kolkata on 04 March, 2025.</b>                                                                                                                                                   |
| 2024 SEP   | Invited lecture titled “Astrophysics: The Indian Frontier and Vision”, National Space Day celebration at <b>St. Xavier’s College (Autonomous), Kolkata on 27th September, 2024.</b>                                                                                                   |
| 2023 NOV   | Invited talk titled “Moderate Correlation between the Accretion Disk and Jet Power in a Large Sample of Fermi Blazars”, at the conference titled <b>Advances in Relativistic Astrophysics (AReA), ARIES, Nainital, Nov 2-4, 2023..</b>                                                |
| 2022 SEP   | Chaired Session 05 on Sep 28, and delivered an invited talk titled "Impact of AstroSat at Universities, Students and PhD Fellows" in Session 10 on Sep 29 in the conference <b>Celebrating Seven Years of AstroSat at ISRO Headquarters, Bengaluru, India, September 28-29, 2022.</b> |
| 2022 AUG   | Chaired Session 1E and delivered the conference summary talk at the <b>4th National Conference on High Energy Emission from Active Galactic Nuclei, 12-14 August, 2022, Farook College, Calicut, Kerala, India.</b>                                                                   |
| 2020 SEP   | Invited online talk titled “Addressing Long-Standing Questions about Blazar Variability with AstroSat” at the <b>Five Year Celebration of AstroSat, ISRO Headquarters, Bengaluru, India.</b>                                                                                          |

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| 2020 AUG          | Invited online talk titled “Blazars in the AstroSat Era” at the <b>Astrophysics Special Colloquium Series, Raman Research Institute, Bengaluru, India.</b>                                                                                      |
| 2020 FEB          | Contributed talk titled “Multi-Band X-ray Variability of the Blazar Mrk 421 Using AstroSat” at the <b>38th Meeting of the Astronomical Society of India, IISER Tirupati, India.</b>                                                             |
| 2019 SEP          | Invited talk titled “Emission Line Properties of Low-Luminosity Active Galactic Nuclei” at the national level conference titled <b>Saha Equation 100, Department of Physics, Calcutta University.</b>                                           |
| 2019 APR          | Invited talk titled “Probing the Time Variability of Blazars with <i>AstroSat</i> ” at the <b>Recent Trends in the Study of Compact Objects (RETCO-IV), IUCAA, Pune, India.</b>                                                                 |
| 2019 FEB          | Invited Plenary talk titled “Detailed Time Variability Properties of Blazars Using <i>AstroSat</i> ” at the <b>37th Meeting of the Astronomical Society of India, Christ (Deemed to be University), Bengaluru, India.</b>                       |
| 2018 OCT          | Invited talk titled “The Accretion Disk-Jet Connection in Blazars: A Theoretical Approach” at the <b>One Day Meeting on AGN Science, IIA, Bengaluru, India.</b>                                                                                 |
| 2017<br>SEPTEMBER | Invited talk titled “Characteristic Timescale in the X-Ray Variability of the Blazar Mrk 421” at the <b>Astrosat Science Meet, ISRO Headquarters, Bengaluru, India.</b>                                                                         |
| 2014<br>SEPTEMBER | Invited talk titled “Multi-Wavelength Study of Successive Outbursts in the Blazar PKS 0208-512” at the topical conference on <b>Hard X-Ray Astronomy: Astrosat and Beyond, held at The International Centre, Goa.</b>                           |
| 2014 MARCH        | Poster presentation titled “An Optical-Near IR Outburst with No Accompanying Gamma-Rays in the Blazar PKS 0208-512: Results from Spectral Energy Distribution Modeling, <b>Meeting of the Astronomical Society of India, Mohali, India.</b>     |
| 2013<br>DECEMBER  | Invited talk titled “Astrophysical Black Holes: Are They All the Same?” at the <b>Topical Conference on Gravity and Cosmology - Eastern Region (TCGC-ER) hosted by the Theory Division of Saha Institute of Nuclear Physics (SINP), Kolkata</b> |

## INVITED LECTURES IN WORKSHOPS AND SCHOOLS AS RESOURCE PERSON

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| 2024 MAR | Invited lecture titled “Study of Supermassive Black Holes with AstroSat and Other Observations”, at the workshop titled ‘ <b>Gravity, Cosmology and Raychaudhuri’s Equation</b> ’ in the occasion of the birth centenary of late Professor Amal Kumar Raychaudhuri, Department of Physics, Jadavpur University, 13-14 March 2024. |
| 2023 DEC | Invited lecture titled “High Energy Gamma-Ray Astrophysics”, at the <b>High Energy Physics and Astroparticle Physics - Data Analysis School</b> organized by Saha Institute of Nuclear Physics, Kolkata, Dec 5-8, 2023.                                                                                                           |
| 2023 DEC | Invited lecture titled “Astronomical Observations”, at the <b>Teachers’ Training Workshop</b> organized by the International Astronomical Union Office of Astronomy for Education, Dec 1-2, 2023.                                                                                                                                 |

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| 2022 DEC    | Invited talk titled “Active Galactic Nuclei and Their Observations with the Indian Space Telescope AstroSat” at the <b>International Workshop on Galaxy Formation and Evolution Across the Cosmic Time (GFEACT-2022), Department of Physics, Visva-Bharati, Santiniketan, India, 13-14 December, 2022.</b> |
| 2022 DEC    | Invited (online) talk titled “Physics of Jets from Multi-Wavelength Monitoring of Blazars” at the <b>3rd China-India Workshop on High Energy Astrophysics, Nov 28 - Dec 02.</b>                                                                                                                            |
| 2022 NOV    | Invited talk titled “Active Galactic Nuclei and Their Observations with the Indian Space Telescope AstroSat” at the <b>Workshop on Astronomy and Astrophysics, Government Girls General Degree College, Kolkata, India, 17-18 November 2022.</b>                                                           |
| 2018 JUNE   | Two lectures on “Active Galactic Nuclei” at the <b>IUCAA Summer School.</b>                                                                                                                                                                                                                                |
| 2014 AUGUST | Invited talk titled “AGN and X-Ray Binary Connections” at the <b>Introductory Workshop on Relativistic Astrophysics, organized by Department of Physics, Gauhati University and IUCAA, Pune.</b>                                                                                                           |

## INVITED AND CONTRIBUTED PRESENTATIONS (BEFORE JOINING IN PERMANENT POSITION)

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|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2013 MAY        | Oral presentation on “Spectral Modeling of Successive Outbursts in the Blazar PKS 0208-512: Location, Mechanism and Other Implications” at the <b>Annual New England Regional Quasar/AGN Meeting, MIT Haystack Observatory, MA, USA.</b> |
| 2012 NOVEMBER   | Poster presentation on “An Optical-Near-Infrared Outburst with No Accompanying Gamma-Rays in the Blazar PKS 0208-512” at the <b>Fourth Fermi Gamma-Ray Space Telescope Symposium, Monterey, CA, USA.</b>                                 |
| 2012 JUNE       | Oral presentation on “Universality of Black Hole Accretion” at <b>IIT Kanpur and IIT Kharagpur, India.</b>                                                                                                                               |
| 2012 MAY 24     | Oral presentation on “The Contrasting Nature of Gamma-Ray/Optical Variability in the Blazar PKS 0208-512 During Successive Outbursts” at the <b>Annual New England Regional Quasar/AGN Meeting, MIT, Cambridge, MA, USA.</b>             |
| 2011 JULY - AUG | Oral presentation on “AGN/X-Ray Binary Connection” at <b>NCRA, Pune, India (July 25); IUCAA, Pune, India (July 26); TIFR, Mumbai, India (July 29); IIA, Bangalore, India (August 1); and IISc, Bangalore, India (August 2).</b>          |
| 2011 JULY - AUG | Oral presentation on “Universality of Black Hole Accretion” at <b>IISER, Pune, India (July 22); IIT Bombay, Mumbai, India (July 28).</b>                                                                                                 |
| 2011 MAY        | Poster presentation on “Similarity of Optical-IR and Gamma-Ray Time Variability Properties of Fermi Blazars” at the <b>218th American Astronomical Society Meeting, Boston, MA, USA.</b>                                                 |
| 2010 MAY        | Oral presentation on “Accretion disk Jet Connection in the Radio Galaxies 3C 120 and 3C 111” at the <b>Annual New England Regional Quasar/AGN Meeting, Boston University, Boston, MA, USA.</b>                                           |
| 2009 NOVEMBER   | Poster presentation on “Multi-Waveband Variability of Eight Blazars in the First Year of Observations with Fermi” at the <b>Second Fermi Gamma-Ray Space Telescope Symposium, Washington DC, USA.</b>                                    |

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|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2009 FEBRUARY | Invited talk on “Multi-Wavelength Time Variability of Active Galactic Nuclei,” <b>MIT, Cambridge, MA, USA.</b>                                                                 |
| 2009 JANUARY  | Dissertation talk on “Multi-Wavelength Time Variability of Active Galactic Nuclei,” <b>213th American Astronomical Society Meeting, Long Beach, CA, USA.</b>                   |
| 2008 DECEMBER | Invited talk on “Multi-Wavelength Time Variability of Active Galactic Nuclei,” <b>Columbia University, New York, NY, USA.</b>                                                  |
| 2008 JULY     | Oral presentation on “X-ray dips and Superluminal Ejections in the Radio Galaxy 3C 120”, <b>“Radio Galaxies in the Chandra Era”, Chandra X-ray Center, Cambridge, MA, USA.</b> |
| 2008 JUNE     | Invited talk on “Time Variability of Active Galactic Nuclei: Why, How and some recent results of the Blazar 3C 279”, <b>IIA, Bangalore, and NCRA, Pune, India.</b>             |
| 2007 JUNE     | Invited talk on “Time Variability of Active Galactic Nuclei”, <b>Saha Institute of Nuclear Physics, Calcutta, India.</b>                                                       |
| 2007 JANUARY  | Poster presentation on “Correlated Multi-Frequency Variability in the Blazars 3C 279 and PKS 1510-089”, <b>209th American Astronomical Society Meeting, Seattle, WA, USA.</b>  |
| 2006 JUNE     | Participant, “Astro-statistics Summer School”, <b>Pennsylvania State University, PA, USA.</b>                                                                                  |

## TEACHING EXPERIENCE

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|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COURSES<br>TAUGHT SINCE<br>2013 ODD<br>SEMESTER | PhD Coursework: Professional Research Training (How to Give an Effective Research Talk), Numerical Methods and Computing.                                                                             |
|                                                 | MSc 2nd Yr: Introduction to Astrophysics, Astrophysics Laboratory, Extragalactic Astrophysics Elective.                                                                                               |
|                                                 | MSc 1st Yr: Classical Mechanics, General Physics Laboratory, Computational Physics (Fortran/Python based).                                                                                            |
|                                                 | BSc 3rd Yr (Major): Electrical and Solid State Laboratory, Computational Physics, Astrophysics & Cosmology Elective.                                                                                  |
|                                                 | BSc 2nd Yr (Major): Lagrangian Mechanics, Skill Enhancement Course titled “Computational and Statistical Methods.”                                                                                    |
|                                                 | BSc 1st Yr (Major): Waves and Optics, Newtonian Mechanics, Newtonian Mechanics Lab, Mathematical Methods Lab (Python Based).                                                                          |
|                                                 | BA/BSc 1st Yr (General Education curriculum): Space, Time and the Universe, Physics of Everyday Life.                                                                                                 |
| 2011 SPRING                                     | Guest-lecturer in the course “Accretion and Jets: Topics in High Energy Astrophysics (Astro 725)” at Yale University.                                                                                 |
| 2003-2006                                       | Teaching fellow for the course “Astronomy 102: Stars and Galaxies” at Boston University in five semesters. Responsibilities: Teaching the laboratory component and discussion sections with students. |

## TEACHING EXPERIENCE IN EXTERNAL INSTITUTIONS

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| 2025 SEP-2026<br>JAN | Course titled “Large Scale Structure (SDOAT 202)” as part of a Certificate/Diploma course on Observational Astronomy by S. N. Bose National Centre for Basic Sciences (SNBNCBS) and Sidho-Kanho-Birsha University (SKBU). |
| 2014 AUGUST          | Lecture titled “Introduction to Active Galactic Nuclei” at the Introductory Workshop on Relativistic Astrophysics, organized by Department of Physics, Gauhati University and IUCAA, Pune.                                |
| 2013 NOV-DEC         | Invited guest lecturer for Introduction to Astrophysics (25 lectures) for MSc 2nd yr students at the University of Gaur Banga, Malda, WB, India.                                                                          |

## MENTORING EXPERIENCE: POSTDOCTORAL FELLOW

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| 2025 Nov –<br>Now | Dr. Sangeeta Chatterjee, NPDF Fellow. |
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## MENTORING EXPERIENCE: PHD SCHOLARS

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| 2025 APR –<br>Now      | Mr. Ankit Dey, Registration: 28 April 2026, funded by NET JRF.                                       |
| 2023 OCT –<br>Now      | Mr. Arit Bala (jointly with Dr. Saumyadip Samui), Registration: 23 February 2024, funded by NET JRF. |
| 2022 JUNE –<br>Now     | Mr. Arijit Sar, Registration: 21 March 2023, funded by ISRO, ANRF.                                   |
| 2020 JAN –<br>2025 AUG | Ms. Susmita Das, Registration: 17 May 2021, Thesis Defense: 1 Aug 2025, funded by ISRO, ANRF.        |

## MENTORING EXPERIENCE: FELLOWS IN FUNDED PROJECTS

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| 2025 AUG –<br>Now        | Mr. Arijit Sar (Junior Research Fellow in ANRF funded SURE project titled “Theoretical Modeling of Jet Emission Variability for In-Depth Interpretation of Long-Term Multi-Wavelength Blazar Data”).  |
| 2022 MAY –<br>2025 APRIL | Mr. Arijit Sar (Junior Research Fellow in ISRO funded project titled “Probing the Accretion Disk corona relation in Seyfert Galaxies”).                                                               |
| 2023 NOV –<br>2025 JUNE  | Ms. Susmita Das (Junior Research Fellow in ANRF funded SURE project titled “Theoretical Modeling of Jet Emission Variability for In-Depth Interpretation of Long-Term Multi-Wavelength Blazar Data”). |
| 2019 AUG –<br>2023 JULY  | Ms. Susmita Das (Junior Research Fellow in ISRO funded project titled “Physics of Jets from the Comprehensive Timing Analyses of X-Ray Variability of Blazars”).                                      |

## MENTORING EXPERIENCE: MASTER’S LEVEL (CURRICULAR RESEARCH)

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| 2025 JUNE –<br>2026 JUNE | Ms. Jaitri Chattopadhyay (MSc thesis project titled “Discovering New TeV Blazars Using Veritas and eROSITA”) jointly with Prof. Reshmi Mukherjee, Barnard College, Columbia University, USA. |
| 2025 JUNE –<br>2026 JUNE | Mr. Hridakash Kundu (MSc thesis project titled “AGN as Possible Generators of High-Energy Neutrino”) jointly with Prof. Anirban Das, Saha Institute of Nuclear Physics, Kolkata.             |

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| 2025 JUNE -<br>2026 JUNE  | Mr. Avrajit Biswas (MSc thesis project titled “Multi-Wavelength Study of Active Galactic Nuclei Coincident With Very High Energy Neutrinos”) jointly with Prof. Pratik Majumdar, Saha Institute of Nuclear Physics, Kolkata. |
| 2024 AUGUST -<br>2025 MAY | Ms. Srija Dawn (MSc thesis project titled “X-Ray Polarization of Blazars”).                                                                                                                                                  |
| 2023 JULY -<br>2024 MAY   | Mr. Ayon Mondal (MSc thesis project titled “Modeling of the Time variable Spectral Energy Distribution of Blazars”).                                                                                                         |
| 2023 JULY -<br>2024 MAY   | Ms. Fida Fathima S. S. (MSc thesis project titled “X-ray Spectra of Seyfert Galaxies”).                                                                                                                                      |
| 2022-23                   | Mr. Maitreya Kundu (MSc thesis project titled “Multi-Wavelength Outbursts in Blazar Jets”).                                                                                                                                  |
| 2022-23                   | Ms. Swarnankee Deb (MSc thesis project titled “Application of N-Body Dynamics in Astrophysics”).                                                                                                                             |
| 2022-23                   | Mr. Anuroop Dasgupta (MSc thesis project titled “Study of Emission from Active Galactic Nuclei and Their Host Galaxies”).                                                                                                    |
| 2021-22                   | Mr. Anik Parui (MSc thesis project titled “Probing the Physics of Active Galactic Nuclei with Multi-Wavelength Data”).                                                                                                       |
| 2020-21                   | Mr. Aritra Kundu (MSc thesis project titled “Investigating the Time Variability Properties of Blazars”).                                                                                                                     |
| 2020-21                   | Ms. Garima Rajguru (MSc thesis project titled “Connection between Accretion Disk, Corona, and Jet in Active Galactic Nuclei”).                                                                                               |
| 2019-20                   | Mr. Sripan Mondal (MSc thesis project titled “Characteristics of AGN Variability”).                                                                                                                                          |
| 2019-20                   | Mr. Saugata Barat (MSc thesis project titled “Multi-Wavelength Outbursts of Blazars”).                                                                                                                                       |
| 2019-20                   | Mr. Sagnick Mukherjee (MSc thesis project titled “Photometrically Variable Stars in the Andromeda Galaxy”) jointly with Prof. Raja Guhathakurta, UCSC.                                                                       |
| 2019-20                   | Mr. Arijit Sar (MSc thesis project titled “Warm Absorbers in Active Galactic Nuclei”) jointly with Dr. Susmita Chakravorthy (formerly at IISc).                                                                              |
| 2018-19                   | Mr. Akib Javed (MSc thesis project titled “Studying the Physics of Blazars Using Their Optical-Infrared and Gamma-Ray Outbursts”).                                                                                           |
| 2018-19                   | Mr. Tathagata Saha (MSc thesis project titled “Connection Between the Corona and Accretion Process in Active Galactic Nuclei” jointly with Prof. Indranil Chattopadhyay, ARIES).                                             |
| 2018 SPRING               | Mr. Kaustav Mitra (MSc thesis project titled “Turbulence in Blazar Jets”).                                                                                                                                                   |
| 2018 SPRING               | Mr. Dhrubajyoti Sengupta (MSc thesis project titled “Broad Line Emission in Low-Luminosity Active Galactic Nuclei”) jointly with Dr. Susmita Chakraborty, IISc.                                                              |

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| 2017 SPRING | Ms. Nishat Parveen (MSc thesis project titled "Thermal Emission from Blazars").                                                        |
| 2017 SPRING | Mr. Faruk Abdulla (MSc thesis project titled "Astrophysical Fluid Dynamics (Reading Course)").                                         |
| 2016 SPRING | Ms. Namrata Roy (Co-Supervisor: MSc thesis project titled "Characteristics of Chromospheric Spectral Lines in Solar Flares").          |
| 2015 SPRING | Ms. Jhuma Ghosh (MSc thesis project titled "Comparing the Nature of GeV Variability of FSRQ and BL Lac Objects Using Fermi-LAT Data"). |
| 2015 SPRING | Mr. Pritam Pramanik (MSc thesis project titled "WISE Properties of Type-2 Quasars").                                                   |
| 2014 SPRING | Mr. Prantik Nandi (MSc thesis project titled "Probing Accretion Disk-Jet Connection Through Gamma-Ray Variability of Blazars").        |
| 2014 SPRING | Mr. Somnath Mandal (MSc thesis project titled "Studying the Gamma-Ray vs. X-ray Time variability of Fermi Blazars").                   |
| 2014 SPRING | Mr. Suryasish Ghosh (MSc thesis project titled "Physics of Blazar Jets Using Gamma-Ray vs. Optical-Infrared Time Variability").        |

## MENTORING EXPERIENCE: BACHELOR'S LEVEL (CURRICULAR RESEARCH)

|             |                                                                                                                                                       |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022 SPRING | Mr. Saikat Sinha (BSc thesis project titled "Inferring the Properties of Stellar Populations by the Comparison of Model and Data").                   |
| 2021 SPRING | Ms. Sampurna Bhar (BSc thesis project titled "Spectral Energy Distribution of Active Galactic Nuclei with AstroSat and Other Multi-Wavelength Data"). |
| 2021 SPRING | Mr. Mousam Maity (BSc thesis project titled "Study of Extra-Solar Planet Atmospheres").                                                               |
| 2020 SPRING | Mr. Archishman Khasnovis (BSc thesis project titled "X-Ray Variability of the Blazar Mrk 421 from AstroSat").                                         |
| 2019 SPRING | Ms. Nabanita Das (BSc thesis project titled "X-Ray and Optical Variability of the Radio Galaxies 3C 111 and 3C 120").                                 |
| 2018 SPRING | Mr. Sagnick Mukherjee (BSc thesis project titled "Disk-Jet Connection in Blazars").                                                                   |
| 2018 SPRING | Mr. Souradip Bhattacharya (BSc thesis project titled "Comptonization in Active Galactic Nuclei").                                                     |
| 2018 SPRING | Mr. Prasun Ranjan Das (BSc thesis project titled "Development of Some Higher Secondary and BSc 1st Yr level Physics Demonstrations and Experiments"). |
| 2017 SPRING | Mr. Anwesh Majumder (BSc thesis project titled "Spectral Energy Distribution of Quasars").                                                            |
| 2017 SPRING | Mr. Tathagata Saha (BSc thesis project titled "Accretion Disk-Corona Interaction in Active Galactic Nuclei").                                         |
| 2017 SPRING | Ms. Sukanya Mallik (BSc thesis project titled "Particle Acceleration in the Universe (Reading Course)").                                              |

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| 2016 SPRING | Mr. Agniva Roychowdury (BSc thesis project titled "Identification and Classification Quasars Using Their Variability").                               |
| 2016 SPRING | Mr. Shashwata Ganguly (BSc thesis project titled "Modeling X-ray and Optical Variability in Accretion Disk-Corona System in Active Galactic Nuclei"). |

## MENTORING EXPERIENCE: BACHELOR'S AND MASTER'S LEVEL (EXTRA-CURRICULAR RESEARCH)

|                              |                                                                                                                                                                                                                                                                     |
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| 2019-20                      | Mr. Souradip (Joy) Bhattacharya (Extra-curricular project titled "Non-Stationarity and Non-Linearity of Blazar Variability").                                                                                                                                       |
| 2016 SUMMER<br>ONWARD        | Mr. Kaustav Mitra (BSc 3rd Yr) (Extra-curricular project titled "Turbulence in Blazar Jets").                                                                                                                                                                       |
| 2016 SPRING<br>ONWARD        | Mr. Anwesh Majumder (BSc 2nd Yr) (Extra-curricular project titled "Spectral Energy Distribution of Blazars").                                                                                                                                                       |
| 2015 SUMMER -<br>2016 SUMMER | Mr. Sunip Kumar Mukherjee (BSc 3rd Yr) (Extra-curricular projects titled "Simulating Realistic Turbulent magnetic Field in a 3-dimensional Box", "Damped Random Walk Modeling of Quasar Variability," and various other computational projects Using Python and C). |
| 2015 SUMMER                  | Mr. Aritra Ghosh (BSc 3rd Yr) (Extra-curricular project titled "Reduction and Analysis of Fermi-LAT Gamma-Ray Data").                                                                                                                                               |
| 2015 SUMMER                  | Mr. Anwesh Majumder (Extra-curricular project titled "N-body Simulation and Application to Our Solar System").                                                                                                                                                      |
| 2015 SUMMER                  | Mr. Alankar Dutta and Mr. Ranajay Dutta (BSc 2nd Yr) (Extra-curricular project titled "Detection of Extrasolar Planets by the Transit Method").                                                                                                                     |
| 2014 SUMMER -<br>2016 SUMMER | Ms. Namrata Roy (MSc 1st-2nd Yr) (Extra-curricular project titled "Symmetry Properties of Gamma-Ray and Optical Outbursts in Fermi Blazars").                                                                                                                       |
| 2014 SPRING                  | Ms. Somdutta Ghosh (BSc extra-curricular project titled "Modeling the Emission Variability in Accretion Disks Around Black Holes").                                                                                                                                 |
| 2010-2011                    | Co-supervised final-year undergraduate student Laura Kreidberg in her senior thesis "Systematic Error in the Mass Distribution of Stellar-Mass Black Holes"                                                                                                         |

## PLACEMENT OF PROJECT STUDENTS

|                         |                                                                                                   |
|-------------------------|---------------------------------------------------------------------------------------------------|
| MR. MAITREYA<br>KUNDU   | PhD Scholar at Washington University in St Louis, USA.                                            |
| MR. SAIKAT<br>SINHA     | PhD Scholar at IISER Kolkata.                                                                     |
| MR. ANUROOP<br>DASGUPTA | PhD Scholar at Instituto de Estudios Astrofisicos, Universidad Diego Portales, Santiago de Chile. |
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| MS. JHUMA<br>GHOSH              | PhD student at Saha Institute of Nuclear Physics.                                                             |
| MR. PRANTIK<br>NANDI            | PhD student at S. N. Bose National Centre for Basic Sciences.                                                 |