

# *Curriculum Vitae*

## Suchetana Chatterjee

Assistant Professor, Department of Physics, Presidency University  
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Date of Birth: September 21st, 1979  
Nationality: Indian

### Education

**Ph.D. in Physics**, University of Pittsburgh, Pittsburgh, PA, Sept 2003 - Aug 2009  
Thesis: *The Sunyaev-Zeldovich Effect as a Probe of Black Hole Feedback*  
Advisor: Prof. Arthur Kosowsky (GPA: 3.8/4.0).

**M.Sc. in Physics**, Indian Institute of Technology, Kanpur, India, May 2003  
(CPI: 7.4/10.0).

**B.Sc. in Physics (Honors)** with Statistics and Mathematics,  
Presidency College, University of Calcutta, May 2001  
(578/800, 72.3%).

### Employment

**Assistant Professor**, Department of Physics, Presidency University  
Nov 2013-present.

**Postdoctoral Fellow**, Department of Physics and Astronomy, University of Wyoming  
May 2012-Nov 2013.

**Postdoctoral Fellow**, Yale Center for Astronomy and Astrophysics, Yale University  
Visiting Scholar, Department of Physics and Astronomy, University of Pittsburgh  
Sep 2011- Apr 2012.

**Postdoctoral Associate**, Yale Center for Astronomy and Astrophysics, Yale University  
Sep 2009-Aug 2011.

### Research Interests

Anisotropies in the Cosmic Microwave Background, the Sunyaev-Zeldovich Effect.

Large Scale Structure, Active Galactic Nuclei and Galaxy Evolution,

Cosmological Simulations and Multi-wavelength AGN Surveys.

## Refereed Publications

1. “X-ray Surface Brightness Profiles of Simulated Galaxy Groups: Effect of Feedback from Active Galactic Nuclei”, R. Kar Chowdhury, **S. Chatterjee**, Anto. I. Lonappan, N. Khandai, and T. DiMatteo, **2018**, submitted to the **Monthly Notices of the Royal Astronomical Society**
2. “X-ray Surface Brightness Profiles of Optically Selected Active Galactic Nuclei: Comparison with X-ray AGN”, A. Bhattacharjee, S. Mukherjee, **S. Chatterjee**, J. A. Newman, and R. Yan, **2018**, in press, **Astrophysical Journal**, IF: 5.551
3. “Direct detection of a quasar wind via the Sunyaev-Zeldovich Effect”, M. Lacy, B. Mason, C. Sarazin, S. Chatterjee, K. Nyland, A. Kimball, G. Rocha, B. Rowe, J. Surace, 483, 1, **Monthly Notices of the Royal Astronomical Society Letters**, **2019** IF: 5.194
4. “Mean Occupation Function of High Redshift Quasars from the Planck Cluster Catalog”, P. Chakraborty, **S. Chatterjee**, A. Dutta, and A. D. Myers, 130, 988, **Publications of the Astronomical Society of the Pacific**, (**2018**), IF: 4.446.
5. “Halo Occupation Distribution of Obscured Quasars: Revisiting the Unification Model”, K. Mitra, **S. Chatterjee**, M. DiPompeo, A. D. Myers, and Z. Zheng, 477, 1 **Monthly Notices of the Royal Astronomical Society**, (**2018**), IF: 5.194
6. “Sunyaev-Zel’dovich Signal from Quasar Hosts: Implications for Detection of Quasar Feedback”, D. Dutta Chowdhury and **S. Chatterjee**, 839, 1, **Astrophysical Journal**, (**2017**), IF: 5.551
7. “X-ray Emissions in Non-AGN Galaxies at  $z \simeq 1$ ”, **S. Chatterjee**, J. A. Newman, T. Jeltema, A. D. Myers, J. Aird, K. Bundy, C. Conselice, M. Cooper, E. Laird, A. Montero-Dorta, K. Nandra, & C. Willmer **Astrophysical Journal**, 806, 136, (**2015**), IF: 5.551.
8. “X-ray Surface Brightness Profiles of Active Galactic Nuclei in the Extended Groth Strip: Implications for AGN Feedback”, **S. Chatterjee**, J. A. Newman, T. Jeltema, A. D. Myers, J. Aird, A. Coil, M. Cooper, A. Finoguneov, E. Laird, A. Montero-Dorta, K. Nandra, C. Willmer, & R. Yan, **Publications of the Astronomical Society of the Pacific**, 127, 716, (**2015**), IF: 4.446.
9. “A Direct Measurement of the Mean Occupation Function of Quasars: Breaking Degeneracy of Halo Occupation Distribution Models”, **S. Chatterjee**, M. Nguyen, A. Myers, & Z. Zheng, **Astrophysical Journal**, 779, 147, (**2013**), IF: 5.551.
10. “The Halo Occupation Distribution of X-ray-bright Active Galactic Nuclei: A Comparison with Luminous Quasars”, J. Richardson, **S. Chatterjee**, Z. Zheng, A. Myers, & R. Hickox, **Astrophysical Journal**, 774, 143, (**2013**), IF: 5.551.
11. “The Halo Occupation Distribution of SDSS Quasars”, J. Richardson, Z. Zheng, **S. Chatterjee**, D. Nagai, & Y. Shen, **Astrophysical Journal**, 755, 30, (**2012**), IF: 5.551.
12. “The Halo Occupation Distribution of Active Galactic Nuclei”, **S. Chatterjee**, C. Degraf, J. Richardson, Z. Zheng, D. Nagai, & T. DiMatteo, **Monthly Notices of the Royal Astronomical Society**, 419, 2657 (**2012**), IF: 5.194.
13. “The Halo Occupation Distribution of Black Holes”, C. Degraf, M. Oborski, T. DiMatteo, **S. Chatterjee**, D. Nagai, J. Richardson, & Z. Zheng, **Monthly Notices of the**

**Royal Astronomical Society**, *416*, 1591 (2011), IF: 5.194.

14. “Tentative Detection of Quasar Feedback from WMAP and SDSS Cross Correlation”, **S. Chatterjee**, S. Ho, J. A. Newman, & A. Kosowsky, **Astrophysical Journal**, *720*, 299 (2010), IF: 5.551.
15. “Simulations of the Sunyaev-Zeldovich Effect from Quasars”, **S. Chatterjee**, T. Di Matteo, A. Kosowsky, & I. Pelupessy, **Monthly Notices of the Royal Astronomical Society**, *390*, 535 (2008), IF: 5.194.
16. “The Sunyaev-Zeldovich Effect from Quasar Feedback”, **S. Chatterjee** & A. Kosowsky, **Astrophysical Journal Letters** *661*, 113 (2007) IF: 6.634.

### Conference Proceedings

1. “Science with an ngVLA: The Sunyaev-Zeldovich Effect from Quasar and Starburst Winds”, M. Lacy, S. Chatterjee, A. Chakraborty, B. Mason, C. Sarazin, A. Kimball, K. Nyland, G. Rocha, B. Rowe, **ASP Monograph Series, Science with a Next-Generation VLA**, ed. **E. J. Murphy** (ASP, San Francisco, CA), (2019)
2. “Characterizing the evolution of WISE-selected obscured and unobscured quasars using HOD models”, A. Myers, M. DiPompeo, K. Mitra, R. Hickox, **S. Chatterjee**, & K. Whalen, **Bulletin of the American Astronomical Society**, 232, 322.01, (2018)
3. “Halo Occupation of Quasars: AGN Unification From a Cosmological Perspective”, K. Mitra, **S. Chatterjee**, M. DiPompeo, A. Myers, & Z. Zheng., **Bulletin of the American Physical Society**, S16.00001, (2018).
4. “Measuring AGN & Starburst Wind Properties with ALMA”, M. Lacy, **S. Chatterjee**, K. Nyland, K. Amy, B. Mason, & G. Rocha, **Bulletin of the American Astronomical Society**, 231, 342.27, (2018)
5. “Reverberation Mapping of two Radio-Loud Quasars”, A. Bhattacharjee et al. **Bulletin of the American Astronomical Society**, 228, 314.12, (2016).
6. “Breaking Degeneracies between Quasar Halo Occupation Distribution Models: Extending Direct Measurements of the Mean Occupation Distribution to Redshift 0.6”, M. Nguyen, **S. Chatterjee**, A. Myers, Z. Zheng, E. Rozo, & E. Rykoff, **Bulletin of the American Astronomical Society**, 224, 221.05, (2014)
7. “Breaking Degeneracies between Quasar Halo Occupation Distribution Models :Extending Direct Measurements to Redshift 0.6”, M. Nguyen, **S. Chatterjee**, A. Myers, Z. Zheng, E. Rozo, & E. Rykoff, **Bulletin of the American Physical Society**, L1.00058, 35, (2014)
8. “Diffuse X-Ray Emission in Active and Normal Galaxies in the Extended Groth Strip”, A. Bhattacharjee, **S. Chatterjee**, A. Myers et al., **Bulletin of the American Astronomical Society**, 223, 251.28, (2014).
9. “A Direct Measurement of the Mean Occupation Function of Quasars: Breaking Degeneracy of Halo Occupation Distribution Models”, M. Nguyen, **S. Chatterjee**, A. Myers & Z. Zheng, **Bulletin of the American Physical Society**, Annual Meeting of the Four Corners Section of the APS, Volume 58, Number 12, D2, 4, (2013).

10. “The Halo Occupation Distribution of X-ray-bright Active Galactic Nuclei: A Comparison with Luminous Quasars ”, **S. Chatterjee**, J. Richardson, Z. Zheng, A. Myers, & R. Hickox, **Bulletin of the American Physical Society**, APR.K2, 35, (2013).
11. “A Direct Measurement of the Mean Occupation Function of Quasars: Breaking Degeneracy of Halo Occupation Distribution Models ”, M. Nguyen, **S. Chatterjee** & A. Myers, **Bulletin of the American Physical Society**, APR.K2, 36, (2013).
12. “A Direct Measurement of the Quasar Mean Occupation Function ”, M. Nguyen, **S. Chatterjee** & A. Myers, **Bulletin of the American Astronomical Society**, 221, 430.06, (2013).
13. “Reverberation Mapping of Radio-Loud Active Galactic Nuclei ”, A. Bhattacharjee, M. Brotherton, M. DiPompeo, J. Runnoe, S. Cales, D. Cook, S. Nissim, S. Staudaher, R. Smullen, G. Long, A. Miller, R. Chatterjee, **S. Chatterjee**, M. Lundquist, S. Eftekerzadeh, & E. Woods, **Bulletin of the American Astronomical Society**, 221, 422.04, (2013).
14. “The Halo Occupation of SDSS Quasars”, J. Richardson, Z. Zheng, **S. Chatterjee**, D. Nagai, & Y. Shen, **Bulletin of the American Astronomical Society**, 220, 332.04, (2012).
15. “The Halo Occupation Distribution of Active Galactic Nuclei”, **S. Chatterjee**, D. Nagai, J. Richardson, Z. Zheng, C. Degraf, & T. DiMatteo, **Bulletin of the American Astronomical Society**, 43, 120.05, (2011).
16. “The Halo Occupation Distribution of Black Holes”, , C. Degraf, M. Oborski, T. DiMatteo, **S. Chatterjee**, D. Nagai, J. Richardson, & Z. Zheng, **Bulletin of the American Astronomical Society**, 43, 229.01, (2011).
17. “The Sunyaev-Zeldovich Effect As a Probe of Black Hole Feedback”, **S. Chatterjee**, **Bulletin of the American Astronomical Society**, 41, 328, (2009).
18. “Sunyaev-Zeldovich Effect from Active Galactic Nuclei”, **S. Chatterjee** & A. Kosowsky, **Bulletin of the American Astronomical Society**, 38, 1210, (2007).

### Project Proposals

1. Principal Investigator, *Time Domain Astronomy with a 14 inch Telescope* , submitted to CSIR, July 2018
2. Co Investigator, *Transient and Variability Studies of Astronomical Sources with a 14 inch Telescope* , submitted to ISRO for the RESPOND program, May 2018, PI: Ritaban Chatterjee (Presidency University)
3. Co Investigator, *Exploring Cosmic History and Origin*, submitted to ISRO for the new Indo-European CMB mission, April 2018, PI: Tarun Souradeep (IUCAA)
4. Co-Investigator, *Spitzer observations of the field of the hyperluminous quasar HE0515-4414*, Spitzer Proposal accepted, October 2017, PI: Mark Lacey (NRAO), Follow Up Gemini Proposal
5. Principal Investigator, *The Co-Evolution of Supermassive Black Holes with Dark Matter in the Universe*, SERB, Early Career Research Grant, INR 1.3761 Million (April 2017)
6. Co-Investigator, *The Chandra Deep Wide-Field Survey: Completing The New Generation Of Chandra Extragalactic Surveys*, July 2016, 1025 ks of *Chandra* time awarded. PI: Ryan Hickox (Dartmouth College)

7. Co-Investigator, *Direct detection of a quasar hyperwind through the Sunyaev-Zeldovich Effect*, ALMA proposal accepted, August 2016, PI: Mark Lacey (NRAO)
8. Principal Investigator, *Investigating the Halo Occupation Distribution Properties of Active Galactic Nuclei*, University Grants Commission start-up grant, INR 600,000, March (2015)
9. Co-Investigator, *Modeling AGN Feedback in Cosmological Simulations*, NASA Astrophysics Theory (2010), PI: Daisuke Nagai, Yale University.

### Teaching Experience : Classes

1. **Trends in Modern Physics Research (PHYS-1001)**, Presidency University, graduate level, **Spring 2018**,
2. **Experimental & Computational Techniques (PHYS-1002)**, Presidency University, graduate level, **Spring 2018**,
3. **Classical Electrodynamics (PHYS-0802)**, Presidency University, graduate level, **Spring 2018**, Co-Instructor: M. Acharyya
4. **PG-Lab 1 (PHYS-0791)**, Presidency University, graduate level, **Fall 2017**, Co-Instructors: D. Datta, S. Kar, N. Raha
5. **PG-Lab 2 (PHYS-0891)**, Presidency University, graduate level, **Spring 2017**, **Spring 2018**, Co-Instructor: R. Chatterjee, S.De
6. **Statistical Mechanics (PHYS-0704/PHYS-0801)**, Presidency University, graduate level, **Fall 2016**, **Spring 2018**, Co-Instructor: M. Acharyya
7. **The Observable Universe (PHYS-0603)**, Presidency University, advanced undergraduate level, **Spring 2016**, **Spring 2017**, Co-Instructor: R. Chatterjee
8. **Quantum Mechanics and Electromagnetic Theory (PHYS-0501)**, Presidency University, advanced undergraduate level, **Fall 2015**, **Fall 2016**, **Fall 2017**, Co-Instructor: S. Basak, D. Datta
9. **Quantum Reality (PHYS-0332)**, Presidency University, 4 credit course for science majors, **Fall 2015**, Co-Instructor: S. Basak
10. **Space Time and the Universe (PHYS-0131)**, Presidency University, 4 credit course for non-science majors, **Fall 2015**, **Fall 2016**, **Fall 2017** Co-Instructor: S. Raychaudhuri, R. Chatterjee
11. **Quantum Mechanics and Atomic Molecular Physics (PHYS-0402)**, Presidency University, advanced undergraduate level, **Fall 2014**, **Spring 2015**, **Spring 2016**, **Spring 2017**, **Spring 2018**, Co-Instructor: S. Basak, P. Majumdar
12. **Waves and Oscillations (PHYS-0232)**, Presidency University, 4 credit course for science majors, **Fall 2014**, Co-Instructor: K. Datta
13. **Thermal Physics and Entropy (PHYS-0331)**, Presidency University, 4 credit course for science majors, **Fall 2014**, Co-Instructor: B. Raychaudhuri
14. **Physics of Everyday Life (PHYS-0231)**, Presidency University, 4 credit course for non-science majors, **Spring 2014**, **Spring 2016**, Co-Instructor: S. Raychaudhuri (2014), R. Chatterjee (2016)

15. **General Relativity and Cosmology (PHYS-0902)**, Presidency University, graduate level (masters), **Spring 2014, Fall 2014, Fall 2015, Fall 2016, Fall 2017**, Co-Instructor: S. Samui, P. Majumdar
16. **Quantum and Statistical Mechanics**, Presidency University, advanced undergraduate level, **Spring 2014, Spring 2015**, Co-Instructor: M. Acharyya
17. **Astrophysics Lab (PHYS-0902)**, Presidency University, graduate level (masters), **Spring 2014, Fall 2014, Fall 2015, Fall 2016, Fall 2017**, Co-Instructor: S. Samui, R. Chatterjee, G. Bhattacharya
18. **Basics of Space Flight (Astronomy 0087)**, University of Pittsburgh, **Summer 2007, Spring 2009**, Recitation instructor for non-science majors.
19. **Basic Physics for Science & Engineering 2 (Physics 0175)**, University of Pittsburgh, **Spring 2005**, Recitation instructor for calculus-based introductory physics course.
20. **Basic Physics for Science & Engineering 1 (Physics 0174)**, University of Pittsburgh, **Fall 2004**, Recitation instructor for calculus-based introductory physics course.
21. **Stars, Galaxies and Cosmology (Astronomy 089)**, University of Pittsburgh, **Fall 2003**, Recitation instructor for non-science majors.

### Teaching Experience : Others

1. Design of syllabus and structure for M.Sc courses **Trends in Modern Physics Research** (Presidency University, Spring 2018), **Experimental & Computational Techniques** (Presidency University, Spring 2018)
2. Design of syllabus and structure for GenEd courses **Physics of Everyday Life** (Presidency University, Spring 2014), **Waves and Oscillations** (Presidency University, Spring 2015), **Quantum Reality** (Presidency University, Fall 2015)
3. Design of syllabus and structure for M.Sc courses **General Relativity and Cosmology; Cosmology module** (Presidency University Spring 2014), **Astrophysics Lab** (Presidency University, Spring 2014)
4. Design of syllabus and structure for B.Sc courses **The Observable Universe** (Presidency University, Spring 2016)
5. Teaching of Physics (Physics 2997), University of Pittsburgh, Fall 2003. Completed one-credit course on basic physics teaching.
6. Designed self-contained tutorials for advanced undergraduate quantum mechanics course (Advisor: Dr. Chandralekha Singh), University of Pittsburgh, Summer 2005.

### Graduate Students Supervised

1. **Rudrani Kar Chowdhury**, *X-ray Emission in Galaxy Clusters*, PhD Thesis, Presidency University, Spring 2015–present
2. **Avinanda Chakraborty**, *The Co-Evolution of Supermassive Black Holes with Dark Matter in the Universe*, JRF, SERB-ECR, May 2018-present

3. **Anto Lonappan**, *The Co-Evolution of Supermassive Black Holes with Dark Matter in the Universe*, Project Student, SERB-ECR, July 2017-April 2018
4. **Sareh Eftekharzadeh**, *Measuring Halo Occupation Distribution of Redshift 2 Quasars*, PhD Thesis Project, University of Wyoming, Summer 2013
5. **Anirban Bhattacharjee**, *Studying AGN Feedback at High Redshift Using X-ray Surface Brightness Profiles*, PhD Thesis Project, University of Wyoming, Spring 2013-present, Assistant Professor: Sul Ross State University
6. **My Nguyen**, *Mean Occupation Function of Quasars and Luminous Red Galaxies*, PhD Thesis Project, University of Wyoming, Fall 2012-present.

### Undergraduate and Masters Students Supervised

1. **Saugata Barat**, *X-ray Source Population Characterisation In High Redshift Galaxies*, B.Sc Directed Study, Presidency University, **M.Sc: Presidency University, IPhD offers: Indian Institute of Science and Tata Institute of Fundamental Research, 2018**
2. **Monabi Basu**, *Determination of the Mass and Width of the Z boson using CMS data*, B.Sc Directed Study, Presidency University, Principal Advisor: Satyaki Bhattacharya (SINP), Co-Advisor: Gour Bhattacharya, **M.Sc: Presidency University, 2018**
3. **Kazi Parvez Islam**, *Exploring Quantum Dynamics of Wavepackets Using Ehrenfests Theorem*, B.Sc Directed Study, Presidency University, Principal Advisor: Jayanta Kumar Bhattacharjee (IACS), Co-Advisor: Gour Bhattacharya, **2018**
4. **Tanima Karmakar**, *Dark Energy:  $\Lambda$ CDM or something else...?*, Presidency University, M.Sc thesis, Presidency University, **2018**,
5. **Chayan Chatterjee**, *Dark Matter Self Interaction and its Impact on Large Scale Structure*, M.Sc thesis, Presidency University, Co-Advisor: Debasish Majumdar (SINP), **2018**
6. **Writabrata Mukherjee**, *Physics of accretion in alternative theories*, M.Sc thesis, Presidency University, Principal Advisor: Sumanta Chakrabarty (IACS), Co-Advisor: Parthasarathi Majumdar (RKMVU), **2018**
7. **Avinanda Chakrabarty**, *Sunyaev Zeldovich Effect from Quasar Feedback using Data from the Very Large Array*, Presidency University, M.Sc thesis, Presidency University, **2017, PhD Position: NIT Rourkella, Currently PhD student at PU**
8. **Rana Das**, *Power Spectrum of Cold Dark Matter*, M.Sc thesis, Presidency University, **2017**
9. **Soumya Roy**, *Supervised Reading: Quantum Computation*, Presidency University, M.Sc: Presidency University, **2017, IUCAA pre-selected for PhD**
10. **Alankar Dutta**, *X-ray emissions in groups and clusters*, B.Sc thesis Project, Presidency University, **2017, IPhD: Indian Institute of Science Bangalore**
11. **Anindya Saha**, *Supervised Reading: Quantum Computation*, Presidency University, **2017**
12. **Anirban Bhattacharjee**, *Supervised Reading: Quantum Computation*, Presidency University, **2016, IPhD: Tata Institute of Fundamental Research**

13. **Dipanjali Haldar**, *Supervised Reading: Quantum Computation*, Presidency University, **2016**, **M.Sc: IIT Bhubneswar**
14. **Debopriya Sikdar**, *Supervised Reading: Quantum Computation*, Presidency University, **2016**, **M.Sc: Presidency University**
15. **Ipsita Bar**, *Supervised Reading: Quantum Computation*, Presidency University, **2016**, **M.Sc: IIT Chennai**
16. **Priyanka Chakraborty**, *Direct Measurement of the Mean Occupation Function of Quasars from Planck*, M.Sc thesis, Presidency University, **2016**, **PhD Position: University of Kentucky**
17. **Kaustav Mitra**, *Halo Occupation Properties of Obscured Quasars*, B.Sc thesis Project, Presidency University, **2016**, **M.Sc: Presidency University, IUCAA pre-selected for PhD**
18. **Dhruba Dutta Chowdhury**, *The Sunyaev Zeldovich Effect from Quasar Host Dark Matter Halos*, M.Sc thesis, Presidency University, **2015**, **PhD Position: Yale University**
19. **Palash Nandi**, *Characterizing Photometric and Spectroscopic Data using a Charge Coupled Device*, Presidency University, M.Sc thesis, **2015**, Co-advisor: Saumyadip Samui
20. **Anirban Roy**, *Modeling Sunyaev Zeldovich Effect in Active Galaxies*, Burdwan University, **2014**, **PhD Position: SISSA, Italy**
21. **Rudrani Kar Chowdhury**, *Deriving X-ray Surface Brightness Profile in Simulated Clusters*, M.Sc thesis, Presidency University, **2014**, **PhD Position: Presidency University**
22. **Sanchita Chanda**, *Characterizing Galaxy X-ray Luminosities as a Function of Local Environments*, M.Sc thesis, Presidency University, **2014**
23. **Rukaiya Khatoun**, *Deriving Luminosity Functions of Active Galactic Nuclei from HOD models*, M.Sc thesis, Presidency University, **2014**, **PhD Position: Joint program IUCAA and Tezpur University**
24. **Ian Vorbach**, *AGN Evolution in Galaxy Clusters*, Senior Thesis, Yale University, Fall **2012**
25. **Jonathan Richardson**, *The Halo Occupation Distribution of X-ray AGN*, Fall 2012, **PhD Position: University of Chicago**  
Jonathan Richardson, *The Halo Occupation Distribution of SDSS Quasars*, Senior Thesis, Yale University, **Fall 2009 - Summer 2011**.
26. **Pearson Miller**, *Visualization of Cosmological Simulations*, Freshman Project, Yale University, **Fall 2010 - Spring 2011**.
27. **Adam Solomon**, *Detecting the Sunyaev-Zeldovich Effect in the Wilkinson Microwave Anisotropy Probe Data*, Senior Thesis, Yale University, **Fall 2009 - Spring 2010**, **PhD Position: Cambridge University**

#### Contributed and Invited Presentations

1. Invited Talk, "Supermassive Black Holes and their Host Dark Matter Halos", One day conference on AGN Science, IIA, October 6th, **(2018)**



2. Invited Talk, “Diversity and Inclusion in Science: The Road Forward”, Indo-French Women in Science Seminar, CNRS-Paris, September 24th, **(2018)**
3. Invited Talk, “Diversity and Inclusion in Physics: Past Present and Future”, Presidency University 150th Colloquium, April 18th, **(2018)**
4. Invited Talk, “Diversity and Inclusion in Physics: Past Present and Future”, “Pressing for Progress: A Discussion Meeting on the Gender Gap in Physics”, ICTS, March 22nd, **(2018)**
5. Invited Talk, “Supermassive Black Holes and their Host Dark Matter Halos ”, Invited Seminar, ICTS, March 22nd, **(2018)**
6. Invited Talk, “Supermassive Black Holes and their Host Dark Matter Halos ”, Introductory School on Galaxy Formation, NISER, March 13th-16th, **(2018)**
7. Contributed Poster, “X-ray Surface Brightness Profiles of Optically Selected Active Galactic Nuclei: Comparison with X-ray AGN”, Astronomical Society of India, Hyderabad, February 5th-9th, **(2018)** First-author Sagnick Mukherjee
8. Contributed Poster, “Halo Occupation Distribution of Quasars : Revisiting the AGN Unification”, Astronomical Society of India, Hyderabad, February 5th-9th, **(2018)** First-author Kaustav Mitra
9. Invited Poster, “Cosmological Evolution of Supermassive Black Holes”, ICWIP, IUPAP, University of Birmingham, July 16th-19th, **(2017)**
10. Contributed Poster, “X-ray Properties of Galaxy Groups”, Astronomical Society of India, Jaipur, March 6th-10th, **(2017)** First-author Rudrani Kar Chowdhury
11. Invited Talk, “Cosmological Evolution of Supermassive Black Holes”, Introductory Workshop on Astrophysics & Cosmology organized by Department of Physics, Aliah University In collaboration with IRC, Kolkata, September 27th, **(2016)**
12. Invited Talk, “ Supermassive Black Holes in the Cosmic Web”, TIFR DAA Colloquium, Mumbai, June 21st, **(2016)**
13. Contributed Poster, “Feedback from Active Galactic Nuclei: Implications from X-ray Surface Brightness Profiles of Galaxies”, Astronomical Society of India, Kashmir University, May 10th-13th, **(2016)**
14. Contributed Poster, “Halo Occupation Distribution of Quasars ”, Astronomical Society of India, Kashmir University, May 10th-13th, **(2016)** First-author Kaustav Mitra
15. Contributed Poster, “Thermal Sunyaev-Zeldovich Signal from Quasar Hosts ”, Astronomical Society of India, Kashmir University, May 10th-13th, **(2016)** First-author Dhruba Dutta Chowdhury
16. Contributed Talk, “ Feedback from Active Galactic Nuclei: Implications from X-ray Surface Brightness Profiles of Galaxies”, 5th TCGCA-ER, ISI Kolkata, March 19th **(2016)**
17. Contributed Talk, “ The Co-Evolution of Supermassive Black Holes with Cosmic Structures in the Universe”, International Conference on Gravity and Cosmology, IISER Mohali, Dec 14-18 **(2015)**
18. Contributed Poster, “ Sunyaev-Zeldovich Signal from Quasar Hosts: Implications for Quasar Feedback”, International Conference on Gravity and Cosmology, IISER Mohali, Dec 14-18 **(2015)** First-author Dhruba Dutta Chowdhury.

19. Invited Talk, “ Supermassive Black Holes and their Host Dark Matter Halos”, AAP-COS, Saha Institute of Nuclear Physics, Oct 12-17 **(2015)**
20. Invited Poster, “ Presidency University Cosmology Research Highlights”, Indo-US Frontiers of Science Conference, Irvine, California, Aug 10-12 **(2015)**
21. Invited Talk, “ Supermassive Black Holes and their Host Dark Matter Halos ”, University of Wyoming Colloquium, Laramie, Wyoming, Aug 7th **(2015)**
22. Contributed Talk, “The Halo Occupation Distribution of Active Galactic Nuclei”, StatCosmo, Indian Statistical Institute, Kolkata, Feb 10–13, **(2015)**.
23. Contributed Talk, “A Direct Measurement of the Quasar Mean Occupation Function: Breaking Degeneracies between Halo Occupation Distribution Models”, Cosmology at the Interface, Saha Institute of Nuclear Physics, Jan 28–30, **(2015)**.
24. Contributed Talk, “A Direct Measurement of the Quasar Mean Occupation Function: Breaking Degeneracies between Halo Occupation Distribution Models”, Astronomical Society of India, Indian Institute of Science Education and Research, Mohali, March 20–22, **(2014)**.
25. Invited Talk, “ Cosmological Evolution of Supermassive Black Holes”, Topical Conference on Gravity and Cosmology, Saha Institute of Nuclear Physics, Dec 13th, **(2013)**
26. Contributed Poster, “A Direct Measurement of the Mean Occupation Function of Quasars: Breaking Degeneracy of Halo Occupation Distribution Models”, Fifty Years of Quasars, California Institute of Technology, Sep 9–10, **(2013)**.
27. Contributed Talk, “X-ray Surface Brightness Profiles of Active Galactic Nuclei in the Extended Groth Strip: Implications for AGN Feedback”, AEGIS collaboration meeting, University of Kentucky, Aug 25, **(2013)**.
28. Contributed Poster, “The Halo Occupation Distribution of X-ray-bright Active Galactic Nuclei: A Comparison with Luminous Quasars ”, Massive Black Holes: Birth, Growth and Impact, KITP, Santa Barbara, Aug 5–9, **(2013)**.
29. Contributed Talk, “ The Halo Occupation Distribution of X-ray-bright Active Galactic Nuclei: A Comparison with Luminous Quasars ”, 23rd New England Regional Quasar and AGN Meeting, MIT Haystack Observatory, May 21, **(2013)**.
30. Invited Talk, “Studying Structure Formation in the Universe: New Frontiers and Future Challenges”, Indian Institute of Technology, Kharagpur, May 9, **(2013)**.
31. Invited Talk, “Probing Structure Formation in the Universe: New Frontiers and Future Challenges”, Indian Institute of Technology, Guwahati, June 29, **(2012)**.
32. Invited Talk, “Probing Structure Formation in the Universe: New Frontiers and Future Challenges”, Indian Institute of Technology, Kanpur, June 25, **(2012)**.
33. Contributed talk, “The Halo Occupation Distribution of SDSS Quasars”, 22nd New England Regional Quasar and AGN Meeting, MIT, May 24, **(2012)**.
34. Contributed Poster, “The Halo Occupation Distribution of Active Galactic Nuclei”, Tristate Astronomy Conference, City University of New York, Oct 28, **(2011)**.
35. Invited Talk, “Cosmological Evolution of Supermassive Black Holes”, Indian Institute of Science, Bangalore, Aug 03, **(2011)**.
36. Invited Talk, “Cosmological Evolution of Supermassive Black Holes”, Indian Institute of Astrophysics, Bangalore, Aug 02, **(2011)**.

37. Invited Talk, “Cosmological Evolution of Supermassive Black Holes”, Tata Institute of Fundamental Research, Mumbai, July 28, **(2011)**.
38. Invited Talk, “Cosmological Simulations of Structure Formation: New Frontiers and Future Challenges”, Indian Institute of Technology, Mumbai, July 27, **(2011)**.
39. Invited Talk, “Cosmological Evolution of Supermassive Black Holes”, Inter University Center for Astronomy and Astrophysics, Pune, July 25, **(2011)**.
40. Invited Talk, “Cosmological Evolution of Supermassive Black Holes”, National Center for Radio Astrophysics, Pune, July 22, **(2011)**.
41. Invited Talk, “Cosmological Simulations of Structure Formation: New Frontiers and Future Challenges”, Indian Institute of Science Education and Research, Pune, July 21, **(2011)**.
42. Contributed talk, “The Halo Occupation Distribution of Active Galactic Nuclei”, AEGIS collaboration meeting, University of Pittsburgh, June 22–24, **(2011)**.
43. Contributed talk, “The Halo Occupation Distribution of Active Galactic Nuclei”, 21st New England Regional Quasar and AGN Meeting, Yale University, May 19, **(2011)**.
44. Invited Talk, “The Sunyaev-Zeldovich Effect As a Probe of Black Hole Feedback”, MIT Kavli Institute for Astrophysics and Space Research, March 05, **(2009)**.
45. Contributed Poster, Science 2008, University of Pittsburgh, Pittsburgh, Oct 2–3, **(2008)**.
46. Invited Talk, “The Sunyaev-Zeldovich Effect as a Probe of Black Hole Feedback”, Raman Research Institute, Bangalore, June 13, **(2008)**.
47. Invited Talk, “The Sunyaev-Zeldovich Effect as a Probe of Black Hole Feedback”, Inter University Centre for Astronomy And Astrophysics, Pune, June 11, **(2008)**.
48. Contributed Poster “Simulated Sunyaev-Zeldovich Maps From Black Hole Feedback”, 21cm Cosmology Conference, Center for Astrophysics, Cambridge, May 12–15, **(2008)**.
49. Contributed Poster, Science 2007, University of Pittsburgh, Pittsburgh, Oct 11–12, **(2007)**.
50. Contributed talk, “Sunyaev-Zeldovich Effect from Quasar Feedback”, Atacama Cosmology Telescope workshop, Princeton University, August 8–10, **(2007)**.
51. Invited Talk, “Anisotropies in the Cosmic Microwave Background”, Saha Institute of Nuclear Physics, Calcutta, May 28, **(2007)**.

### **Awards and Fellowships**

1. International Travel Scheme, SERB, 2017
2. Kavli Fellow, Kavli Foundation, IUSSTF, US National Academy of Sciences, 2015
3. University Associate, Inter University Center for Astronomy and Astrophysics, 2017–2020
4. University Associate, Inter University Center for Astronomy and Astrophysics, 2014–2017
5. Andrew Mellon Predoctoral Fellowship, University of Pittsburgh, 2008.
6. Zaccus Daniel Fellowship, University of Pittsburgh 2007.

7. Winner of the Thomas Lain Essay Competition, Department of Physics & Astronomy, University of Pittsburgh, 2007 .
8. Mary E. Warga Predoctoral Fellowship, University of Pittsburgh, 2003.
9. National Eligibility Test (CSIR Level) qualified, University Grants Commission, Government of India, 2003.
10. HRI summer research fellowship, Harish Chandra Research Institute, Allahabad, 2002.
11. Sukhamay Chakraborty Memorial Award, Presidency College, Calcutta, 2000.
12. National Scholarships for secondary (1996) and higher secondary (1998) examinations, Government of India.

### **Professional Activities**

1. External Expert, CSIR Minor Research Project, Saint Xaviers College, PI: Prof. Sarbari Guha, **2018**
2. Referee, United States-India Educational Foundation, **2018**
3. Invited Panelist, Indo-French Women in Science Seminar, CEFIPRA, Sept 24-25, **2018**
4. Member of the science team, ‘CMB-Bharat: An Indian Cosmology Consortium’, Presidency University, **2017**
5. Chief Organizer, ‘Physics Weekly Colloquium’, Presidency University, **2013-ongoing**, <https://sites.google.com/site/physpu/home/past-lectures>
6. Participant, ‘Frontiers of Statistical Physics’, Feb 26th-28th, Indian Statistical Institute and Presidency University, **2018**
7. Member, National Gender Working Group, Indian Physics Association, **2017-2020**
8. Chief Faculty Advisor, Undergraduate Research Symposium, Presidency University **2017**
9. Member, Local Organizing Committee, ‘Universe after the first 200 million years’, Dec 11th-13th, Presidency University, **2017**
10. Invited Participant to represent the country team, ICWIP, IUPAP, Jul 16-20, **2017**
11. Life Member, Indian Physics Association, since **2017**
12. Life Member, Indian Association for General Relativity and Gravitation, since **2017**
13. Chief Organizer, Workshop on Digital Learning with Prof. Sanjay Sarma, MIT Digital Learning Labs, April 19th, Presidency University, **2017**
14. Session Chair, Cosmology and General Relativity Session, Astronomical Society of India, March 6th-10th, Jaipur, **2017**
15. Convener, AKR Memorial Lecture Committee, Presidency University, 7th Jan **2017**
16. Member, Scientific Organizing Committee (**2017-2020**), ‘Astronomical Society of India’
17. Convener, Local Organizing Committee, Advanced School on Gravitational Waves, Dec 12th-16th, Presidency University, **2016**
18. Chief Organizer, ‘Advanced Lectures on Topics on Condensed Matter Physics’, Lecturer: Prof. Krishnendu Sengupta, IACS, Kolkata, August **2016**, Venue: Presidency University

19. Session Chair, Extragalactic Astronomy Session, Astronomical Society of India, May 10th-13th, Srinagar, **2016**
20. Chief Organizer, 'Teaching and Learning Workshop', Speaker: Dr. Shiladitya Raj Chaudhury, Auburn University, USA, Dec 15th, **2015**, Venue: Presidency University
21. Invited Participant, '4th TCGC Meeting', IISER Kolkata, Sept 19th, **2015**
22. Invited Participant, 'Trends and Challenges in Astronomy and Astrophysics', University of Calcutta and IUCAA Resource Center, Sept 9th-12th, **2015**
23. Invited Participant, Kavli Indo-US Frontier of Science Conference, August, **2015**
24. PhD thesis Committee member, My Nguyen, University of Wyoming, August, **2015**
25. Session Chair, Astrophysics Session, Topical Conference on Gravity and Cosmology, Eastern Region, IIT KGP, Feb 28th, **2015**
26. Convener, Local Organizing Committee, 2nd Topical Conference on Gravity and Cosmology meeting, Aug 9th, **2014**
27. Life Member, Astronomical Society of India, since **2014**

### **Administrative Services**

1. Member, Technical Advisory Committee for "School of Astrophysics", 2nd campus of Presidency University
2. Convener, International Programs coordination committee, Presidency University
3. Chief Coordinator of the MoU between Presidency University Department of Physics and UMass Lowell
4. Member, NAAC-Teaching and Learning Committee, Presidency University
5. Member-coordinator, Presidency University 3rd campus academic committee, Presidency University
6. Member, Board of Studies, Department of Physics, Presidency University
7. Member, University Student Feedback Committee, Presidency University
8. Convener, Local Organizing Committee, Presidency University Physics Alumni Meet, December 22nd-23rd, 2014
9. Convener, Outreach Committee, Presidency University Physics Alumni Meet, December 22nd-23rd, 2014
10. Convener, Cultural Committee, Presidency University Physics Alumni Meet, December 22nd-23rd, 2014
11. Convener of the university GenEd committee, Presidency University
12. Coordinator of weekly astro-particle tea at Presidency University
13. Coordinator, Physics PhD program, Presidency University
14. Coordinator of Weekly Astronomy Journal Club, Department of Physics and Astronomy, University of Pittsburgh, 2007–2008.
15. Assistant Queue Manager for the 1.3m Small and Moderate Aperture Research Telescope System Observing Queue Team

## **Educational Outreach**

1. Public Lecture at Gorabazar Ishwar Chandra Institution, Dec 27th, 2015, “Observation Confronts theory: What is the Universe made up of??”
2. Public Lecture to M.sc students at Burdwan University, June 9th, 2015, “Observation Confronts theory: Is all our understanding of theoretical Physics account for only 4% of the Universe??”
3. Public Lecture to B.Tech and M.sc students at Indian Institute of Technology Mumbai, July 30, 2011, “Observation Confronts theory: Is all our understanding of theoretical Physics account for only 4% of the Universe??”
4. Developing Visualizations for the Leitner Family Observatory, Yale University, Fall 2009
5. Science Volunteer, SciTech festival, Carnegie Science Center, Fall 2007. Science demonstration to middle school students from the Pittsburgh area.
6. Science Volunteer, Investing Now, University of Pittsburgh, Fall 2006. Demonstrating optical experiments to 10th grade students from the local schools in Pittsburgh area.
7. Science Volunteer, Allegheny Observatory Open House, Fall 2007, Fall 2005.