# Dhruba Dutta Chowdhury

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Nationality: Indian

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| **RESEARCH INTERESTS** | Classical Dwarfs and Ultra Diffuse Galaxies, Globular Clusters, Fuzzy Dark Matter, Galaxy Dynamics |

**EDUCATION**

**Yale University, New Haven, CT, USA** — 2016-
– Ph.D. in Astronomy, Expected May 2022
– Advisors: Frank van den Bosch and Pieter van Dokkum
– M.S., M.Phil. in Astronomy, May 2018

**Presidency University, Kolkata, India** — 2013-2015
– M.Sc. in Physics
– Thesis: The Sunyaev-Zel'dovich Signal from Quasar Host Halos
– Advisor: Suchetana Chatterjee

**Presidency College, University of Calcutta** — 2010-2013
– B.Sc (Honors) in Physics
– Minor in Mathematics and Chemistry

**POSITIONS**

**Yale University, Astronomy Department** — 2018-
– Graduate Research Assistant
– Advisors: Frank van den Bosch and Pieter van Dokkum

**Presidency University, Physics Department** — 2015-2016
– Project Assistant (Junior Research Fellow)
– Project Title: Modeling the 21 cm Signal from the Dark Ages
– Advisor: Kanan Kumar Datta

**AWARDS**

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| – Sheldon Wise Pre-Doctoral Fellowship, Yale University | 2017-2018 |
| – Department of Science and Technology, Government of India Junior Research Fellowship | 2015-2016 |
| – Department of Science and Technology, Government of India INSPIRE scholarship | 2010-2015 |
| – Lilabati Ray Memorial Prize for Best Student Seminar, Presidency University, Kolkata | 2015 |

**PROFESSIONAL ACTIVITIES**

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| – Referee for ApJ | 2019- |
| – Yale Astronomy Graduate Student Talks SOC Member | Spring 2019 |
| – Galaxy Lunch Moderator, Yale Astronomy Department | 2017-2018 |

**TEACHING EXPERIENCE**

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| – Teaching Fellow, Planets and Stars, Yale University | Spring 2017 |
| – Teaching Fellow, Galaxies and the Universe, Yale University | Fall 2017, 2019 |

**TUTORING EXPERIENCE**

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| – Private Tutor of High School Physics and Mathematics | 2014-2016 |

**FIRST AUTHOR PAPERS**

1. **Dutta Chowdhury, D.**, van den Bosch, F.C., and van Dokkum, P. "On the Evolution of the Globular Cluster System in NGC 1052-DF2: Dynamical Friction, Globular-Globular Interactions, and Galactic Tides" 2020, ApJ, 903, 149

2. **Dutta Chowdhury, D.**, van den Bosch, F.C., and van Dokkum, P. "On the Orbital Decay of Globular Clusters in NGC 1052-DF2: Testing a Baryon Only Mass Model" 2019, ApJ, 877, 133

3. **Dutta Chowdhury, D.** and Chatterjee, S. "Sunyaev-Zel'dovich Signal from Quasar Hosts: Implications for Detection of Quasar Feedback" 2017, ApJ, 839, 34

**CO-AUTHOR PAPERS**

1. Ansar, S., Datta, K.K. and **Dutta Chowdhury, D.** "Impact of Inhomogeneous CMB Heating of Gas on the HI 21-cm Signal During Dark Ages" 2018, PhysRevD, 98, 103505

**PAPERS IN PREPARATION**

1. **Dutta Chowdhury, D.**, van den Bosch, F.C., Robles, V.H., van Dokkum, P. et al. "On the Random Motion of Nuclear Objects in a Fuzzy Dark Matter Halo"

**CONTRIBUTED TALKS**

1. "Imprints of the Recombination History of the Universe on the HI 21-cm Signal from the Dark Ages, Epoch of Reionization Workshop, IIT Kharagpur, India, July 2016

2. "Sunyaev–Zel'dovich Signal from Quasar Hosts: Implications for Quasar Feedback Detection", Topical Conference on Gravity, Cosmology, Astronomy and Astrophysics, Eastern Region, IISER, Kolkata, India, Sept 2015

**INVITED TALKS**

1. "On the Dynamics of the Globular Cluster System in NGC 1052-DF2: The Galaxy Lacking Dark Matter", Physics Club Talk, Presidency University, Kolkata, India, June 2019

**POSTER PRESENTATIONS**

1. "On the Orbital Decay of Globular Clusters in NGC 1052-DF2: Testing a Baryon Only Mass Model", Santa Cruz Galaxy Workshop, University of California, Santa Cruz, USA, Aug 2019

2. "On the Orbital Decay of Globular Clusters in NGC 1052-DF2: Testing a Baryon Only Mass Model", Small Galaxies, Cosmic Questions Conference, Durham University, Durham, UK, July 2019

3. "Sunyaev–Zel'dovich Signal from Quasar Hosts: Implications for Quasar Feedback Detection", International Conference on Gravitation and Cosmology, IISER Mohali, India, Dec 2015

**COMPUTATIONAL SKILLS**

– N-Body simulations with GADGET
– Fuzzy Dark Matter simulations with GAMER (AMR Code)
– Programming skills in C, C++, FORTRAN 77, and Python
– Familiarity with MATLAB and Yt (data analysis and visualisation package)