Dr. Urmila Chadayammuri

60 Garden St, Cambridge, MA - 02138 • uchadayammuri@cfa.harvard.edu • milchada.github.io

EDUCATION

PhD Astronomy, Yale University

2017 - 2021

Unravelling the Intra-Cluster Medium with Numerical Simulations and Multi-Wavelength Observations

Advisors: Daisuke Nagai (Yale) and Paul Nulsen (Smithsonian Astrophysical Observatory)

MPhil & MA Astronomy, Yale University

2015 - 2017

BSc (Hons) Physics, Brown University

2009 - 2013

Thesis: Mining the Sloan Digital Sky Survey for dwarf satellite galaxies of the Milky Way

Advisor: Savvas Koushiappas

EMPLOYMENT

Postdoctoral Fellow, Harvard-Smithsonian Center for Astrophysics

Jul 2021 - Present

Observational and theoretical research in extragalactic astrophysics and cosmology with X-ray telescopes. Funded by NASA's Chandra X-Ray Center.

Data Analysis Consultant, Tekal.ai

Mar - Jul 2020

Built a model to predict the spread of COVID-19 and wrote an explanation for the President of Argentina. Sponsored by the Inter-American Development Bank and the Ministry of Health of Argentina.

Graduate Writing Fellow, Yale University

Dec 2017 - May 2018

Developed and taught workshops to students in the Natural Sciences about communicating their research to different audiences.

Student Liaison, Greenberg World Fellows Program, Yale University

Aug - Dec 2017

Organized events for education pioneer Lin Kobayashi Asia and Belgian Member of Parliament Annemie Turtelboom on issues of education, immigration and women in leadership.

Staff Writer, Yale Scientific Magazine

Aug 2016 - May 2018

Explain current research in astronomy, medicine and material science to a general audience.

PUBLICATIONS

The first measurement of the X-ray surface brightness profiles of the circum-galactic medium of galaxies. Chadayammuri et al, Submitted to MNRAS (2021)

MHD effects in merging clusters: A case study of Abell 2146. Chadayammuri et al, Submitted to MNRAS (2021)

Constraining Merging Galaxy Clusters with X-ray and Lensing Simulations and Observations: The case of Abell 2146. Chadayammuri et al, Accepted to MNRAS (2021)

Fountains and storms: The role of AGN and mergers in disrupting the cool-core in the RomulusC simulation. Chadayammuri et al, MNRAS V 504 I 3 (2021)

Introducing ROMULUSC: a cosmological simulation of a galaxy cluster with an unprecedented resolution. Tremmel, ..., Chadayammuri et al, MNRAS, 483, 3 (2019)

Mapping substructure in the HST Frontier Fields cluster lenses and in cosmological simulations. Natarajan, Chadayammuri et al, MNRAS 468 2 (2017)

TEACHING EXPERIENCE

Graduate Teaching Assistant, Yale University

Fall 2017: Galaxies in the Universe
Fall 2016: Research Methods in Astrophysics
Spring 2016: Galaxies in the Universe

Lead Instructor, Yale Young Global Scholars Program

Summer 2016 & 2017

Session I: Applied Science and Engineering
Session II: Technology, Innovation and Entrepreneurship

Grader, Brown University

Spring 2013

Introduction to General Relativity

Peer Tutor, Brown University

Fall 2010 - Fall 2012

PHYS0030 Introduction to Mechanics
PHYS0040 Introduction to Electricity & Magnetism
MATH0090 Calculus I
MATH0100 Calculus II

SELECTED PUBLIC TALKS

PBS NOVA: The Universe. Episodes on Black Holes and Cosmology. Streaming October 27, 2021.

NASA Data Challenge Explainer: The M87 Galaxy. https://www.youtube.com/watch?v=-femHarhbKQ July 2021.

"Working Scientist podcast: How films and festivals can showcase your science". Interview for Nature Podcast. Published June 11, 2020. https://www.nature.com/articles/d41586-020-01724-8

"What if the Universe weren't uniform?" Episode written for SciShow Space. Published Apr 7, 2020. https://www.youtube.com/watch?v=YGVW4BaA0qA&t=67s

Computational Cosmology: Testing theory in the era of big data. Invited talk at Lenovo Innovation Challenge, Supercomputing 2017, Denver, CO, USA.

AWARDS

2019 Fidelity Data Visualization Prize at MIT Reality Virtually Hackathon

2018 Smithsonian Astrophysical Observatory/Chandra X-Ray Center Pre-Doctoral Fellowship

2017 Henry A Smith Fellowship in Astronomy, Yale University

2016 Bunker Fellow, Graduate School of Arts and Sciences, Yale University

2013 Smiley Award for Excellence in Astronomy, Office of the Dean, Brown University

2012 Undergraduate Teaching and Research Assistantship, Brown University

2011 Brown International Scholars Program Fellow

2009 Davis United World Scholars Program

2009 Harrison Family Presidential Scholarship

LANGUAGES

Computer: Python, C | Some SQL, HTML/CSS

Human: English, Russian, Malayalam, Hindi | Some German, French, Italian