

Hora D. Mishra

1 Personal Data

POSITION: PhD Researcher at The University of Oklahoma
DEPARTMENT: Homer L. Dodge Department of Physics and Astronomy
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2 Employment History

AUGUST 2018 - CURRENT Graduate Research Assistant, University of Oklahoma
Advisor: Xinyu Dai

JANUARY 2017 - DECEMBER 2017 Graduate Teaching Assistant, University of Oklahoma
Introduction to Astronomy Discussion Instructor

AUGUST 2015 - DECEMBER 2016 Graduate Teaching Assistant, University of Oklahoma
General Physics I Lab Instructor

AUGUST 2013 - MAY 2015 Undergraduate Teaching Assistant, South Dakota State University
General Physics I and II Discussion Instructor

JANUARY 2012 - MAY 2015 Undergraduate Teaching Assistant, South Dakota State University
Math Help Center Tutor

3 Education

EST. SPRING 2021 **Ph.D., Physics**, University of Oklahoma
Advisor: Xinyu Dai
Thesis title: AGN and their environment: A multi-wavelength photometric and spectroscopic study of AGNs, galaxy clusters, and the co-evolution of AGN and the large-scale structure.

FALL 2018 **M.S., Physics**, University of Oklahoma

SPRING 2015 **B.S., Physics**, South Dakota State University
Minor: Mathematics

4 Observational Experience

Observations:

Spring 2017 APO ARC 3.5m - 3 nights. Graduate Student for Observational Astrophysics Course

2018Q3-AS02 APO ARCSAT 0.5m - 1 week. Principle Observer

Observational Techniques Used:

Optical : imaging, spectroscopy

Near-IR: imaging

X-ray: data reduction

Software Experience:

PYTHON, IDL, IRAF, HEASoft, CIAO, C, C++, R, SQL

5 Refereed Publications

1. **Mishra, H.D.** and Dai, X. 2020, “Lower AGN Abundance in Galaxy Clusters at $z < 0.5$ ”, AJ, 159, 69 (<https://ui.adsabs.harvard.edu/abs/2020AJ....159...69M/abstract>)
2. **Mishra, H.D.**, Dai, X., Bersier, D., Bhatiani, S., Bose, S., Chen, P., Cheng, J., Cox, J., DeFrancesco, C., Do, A., Dong, S., Hololien, T. W.-S., Huber, M. E., Kochanek, C.S., Jayasinghe, T., Liang, E., Payne, A., Prieto, J., Shappee, B.J., Shen, Z., Stanek, K.Z., Thompson, T.A., Tucker, M.A., Vallyly, P.J., Wang, J. 2021, “The Changing-Look Blazar B2 1420+32”, ApJ, 913, 146 (<https://ui.adsabs.harvard.edu/abs/2021ApJ...913..146M/abstract>)
3. **Mishra, H.D.**, Dai, X., Guerras, E. 2021, “Active Galactic Nuclei Abundance in Cosmic Voids”, accepted in ApJL

In preparation

1. **Mishra, H.D.** et al. 2021, in prep, “SWIFT AGN and Cluster Survey II: Number Count of Galaxy Clusters”

6 Press Coverage

- August 2021 SciTechDaily news “Astronomers Discover a”Changing-Look” Blazar – A Powerful Active Galactic Nucleus”
- August 2021 The TUNDRA | Beyond Space “Changing-Look Blazars”
- June 2021 OU Vice-President for Research and Partnerships “OU Astronomers Discover a ‘Changing-Look’ Blazar”
- June 2021 PHYS.org “Astronomers discover a ‘changing-look’ blazar”
- June 2021 EurekAlert.org “Astronomers discover a ‘changing-look’ blazar”

7 Conferences and Workshops

- 2021 - 13th Serbian Conference on Spectral Line Shapes in Astrophysics, virtual, Serbia; “Dramatic Variability in a Changing-Look Blazar, B2 1420+32”
- 2021 - 237th AAS Meeting, virtual, USA; “The Changing Look Blazar B2 1420+32”
- 2020 - 235th AAS Meeting, Hawaii, USA; “Lower AGN Abundance in Galaxy Clusters at $z < 0.5$ ”
- 2019 - ‘Supermassive Black Holes: Environment and Evolution’ Conference, Corfu, Greece; ”AGN Fraction in X-ray Selected Clusters and Fields at $z=0-0.5$ ”
- 2019 - ‘CosmoGold IAP 2019 The golden age of cosmology from Planck to Euclid’ Conference, Paris, France; “AGN Fraction in X-ray Selected Clusters at $z=0-0.5$ ”
- 2018 - Summer School in Statistics for Astronomers XIV, Center for Astrostatistics, Pennsylvania State University, PA, USA
- 2018 - 48th Saas-Fee Advanced Course:Black hole formation and growth, Swiss Society for Astronomy and Astrophysics, Switzerland
- 2018 - Johns Hopkins Center for Talented Youth Summer Program, MD, USA; Instructor, Introduction to Astronomy
- 2015 - Conference for Undergraduate Women in Physics, TX, USA
- 2014 - Nebraska MRSEC Women in Physical Sciences Conference, NE, USA

8 Education and Outreach

- Mentored undergraduate student for capstone project in the Department of Physics and Astronomy, University of Oklahoma
- President of astronomy student outreach organization, Lunar Sooners, the University of Oklahoma, from April 2018 to Present.
- Vice-President of astronomy student outreach organization, Lunar Sooners, from April 2017 to April 2018.
- Member of the University of Oklahoma chapter of Women in Physics.
- Organizer of Astronomy Journal Club, Department of Physics and Astronomy, University of Oklahoma, from August 2019 to Present

9 Awards

Graduate:

- College of Arts and Sciences Travel Grant, 2019, University of Oklahoma, USA
- CosmoGold IAP Conference Travel Grant, 2019, Institut d’Astrophysique de Paris, France
- Kenneth and Joyce Harwell Scholarship, 2020, University of Oklahoma, USA

Undergraduate:

- Dean's List x4

10 Personal References

1. Dr. Xinyu Dai
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