

MANSI PADAVE
Arizona State University

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EDUCATION

2018 - Present **Ph.D. in Astrophysics**
Arizona State University, Arizona, USA
2015 - 2017 **M.Sc. in Astronomy & Astrophysics**
Pondicherry University, India
2012 - 2015 **B.Sc. in Physics (Hons.)**
St. Xavier's College, Mumbai, India

RESEARCH EXPERIENCE

2024-Present **Postdoctoral Fellow at UCSD**
Advisor: Dr. Karin Sandstrom
2018-Present **Research Assistantship at ASU**
Advisor: Dr. Sanchayeeta Borthakur
Sep 2023 **Visiting student at Johns Hopkins University**
Advisor: Dr. David Thilker

PUBLICATIONS

Total 4 publications + 3 submitted; 3 as first-author [[ADS link to all publications](#)]  [0000-0002-3472-0490]
* *Forthcoming publications*

Lead Author

1. ***DIISC-V: FUV-to-H α ratios in Nearby Galaxies**
Padave, M., Borthakur, S., Jansen, R. A., Thilker, D. A., Gim, H. B., Monckiewicz, J., Heckman, T. M., et al., *submitted to ApJ* [[ArXiv](#)]
1. **DIISC-III: Signatures of Stellar Disk Growth in Nearby Galaxies**
Padave, M., Borthakur, S., Gim, H. B., Jansen, R. A., Thilker, D. A., Monckiewicz, J., Kennicutt, R. C., Kauffmann, G., Fox, A. J., Momjian, E., Heckman, T. M., 2023, *ApJ*, 960, 24 [[ADS](#)]
2. **DIISC-II: Unveiling the Connections between Star Formation and ISM in the Extended Ultraviolet Disk of NGC 3344**
Padave, M., Borthakur, S., Gim, H. B., Jansen, R. A., Thilker, D., Heckman, T. M.; Kennicutt, R. C., Jr., Momjian, E., Fox, A. J., 2021, *ApJ*, 923, 199 [[ADS](#)]

Contributing Author

1. ***DIISC Survey: Deciphering the Interplay Between the Interstellar Medium, Stars, and the Circumgalactic Medium Survey**
Borthakur, S., Padave, M., Gim, H. B., DIISC Collaboration, 2024. – *submitted to ApJ*
2. ***DIISC-IV: DIISCOVERY of Anomalously Low Metallicity H II Regions in NGC 99: Indirect Evidence of Gas Inflows**
Olvera A.J., Borthakur S., Padave M., Heckman T.M., Gim H. B., Koplitz B., Dupuis C., Momjian E., Jansen R. A. – *submitted to ApJ*
3. **DIISC-I: The Discovery of Kinematically Anomalous HI Clouds in M 100**
Gim, H. B., Borthakur, S., Momjian, E., Padave, M.; Jansen, R. A., Nelson, D.; Heckman, T. M.; Kennicutt, R. C., Jr., Fox, A. J., Pineda, J. L., Thilker, D., Kauffmann, G., Tumlinson, J. 2021, *ApJ*, 922, 69 [[ADS](#)]

4. **Discovery of a Low-Redshift Damped Ly α System in a Foreground Extended Disk Using a Starburst Galaxy Background Illuminator**
Dupuis, C. M., Borthakur, S., **Padave, M.**, Jansen, R. A., Alexandroff, R. M., Heckman, T. M. 2021, ApJ, 903, 103 [\[ADS\]](#)

In Preparation

1. ***DIISC-VII: Unveiling the Stellar Populations and Star Formation History in the Extended Ultra-violet Disk of NGC 3344**
Padave, M., Borthakur, S., Jansen, R. A., Thilker, D., et al., *expected submission in Dec 2024*

AWARDS & HONORS

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| 2024 | Arijit Guha Advocacy Award Received recognition for involvement, service, research, and leadership in advancing a cause through advocacy efforts |
| 2023 | ASU FWA Distinguished Graduate Student Award Received recognition for exceptional research, creative activities, and noteworthy performance in leadership and service. Read here |
| 2023 | GPSA Student Service Award Received recognition for exemplary service at Arizona State University |
| 2020 | Chambliss Astronomy Achievement Student Award Received recognition for exemplary research presented at AAS 234 poster session. Read here |
| 2017 | Gold Medalist in M.Sc. (Astronomy & Astrophysics) at Pondicherry University Received for holding 1st rank in the Astronomy & Astrophysics Department |
| 2015 | Bronze Medalist in B.Sc. (Physics) at St. Xavier's College Received for holding 3rd rank in the Physics Department |

FELLOWSHIPS & GRANTS

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| 2024 | ASU Focus on Finishing your Degree Award Total Award: \$10,000 |
| 2023 | Graduate and Professional Student Association Travel Grant Total Award: \$950 |
| 2022 | Vivian Forde Graduate Fellowship Read here Total Award: \$10,000 |
| 2022 | Graduate and Professional Student Association Travel Grant Total Award: \$950 |
| 2022 | Graduate and Professional Student Association Travel Grant Total Award: \$900 |
| 2021 | Graduate and Professional Student Association Travel Grant (<i>Declined</i>) Total Award: \$850 |
| 2021 | Soffen Fund Travel Grant Read here Total Award: \$200 |
| 2019 | SESE Summer Exploration Graduate Fellowship Read here Total Award: \$8,000 |
| 2017 | Spring Merit Scholarship at Pondicherry University Total Award: ₹20,000 |
| 2016 | Fall Merit Scholarship at Pondicherry University Total Award: ₹20,000 |
| 2016 | Spring Merit Scholarship at Pondicherry University |

Total Award: ₹20,000

SELECTED TALKS, SEMINARS, & POSTERS

- Dec 2023 **Resolving Galaxy Ecosystems Across All Scales**, Hongkong, PRC
Contributed Talk: *Probing Disk build-up and Galaxy Growth with the DIISC survey*
- Sep 2023 **Informal Science Hour at STScI**, Baltimore, MD
Discussion: *Inside Out Galaxy Growth*
- Jul 2023 **New Views on Feedback & the Baryon Cycle in Galaxies Meeting**, Healesville, Australia
Contributed Talk: *Probing Disk build-up and Galaxy Growth with the DIISC survey*
- Feb 2023 **Oases in the Cosmic Desert: Understanding the Structure of the CGM**, Tempe, AZ
Contributed Talk: *Connecting the CGM to Stellar Disk Growth in Nearby Galaxies*
- Jan 2023 **241st Meeting of the American Astronomical Society**, Seattle, WA
Contributed Talk: *Signs of Disk Growth in Nearby Galaxies* [[ADS link](#)]
- Aug 2022 **School of Earth & Space Exploration Internal Symposium**, ASU, Tempe, AZ
Contributed Talk: *Signs of Disk Growth in Nearby Galaxies*
- Jun 2022 **From Stars to Galaxies II**, Gothenburg, Sweden
Poster: *Star formation in the Outer Disk and Clues to Disk Growth*
- Apr 2022 **NOIR Lab Friday Lunch Seminar**, Virtual
Contributed Talk: *The XUV Disk of NGC 3344 - Connecting Star Formation, ISM, and CGM*
- Feb 2022 **Extragalactic Research Group Meeting of Osservatorio Astrofisico di Arcetri, INAF**, virtual
External Guest Speaker: *The XUV Disk of NGC 3344 - Connecting Star Formation, ISM, and CGM*
- Oct 2021 **Star Formation: From Clouds to Discs Meeting**, Ireland
Virtual Poster: *Connecting Star formation in the outer regions of galaxies to the ISM* [[Zenodo](#)]
- Aug 2021 **School of Earth & Space Exploration Internal Symposium, ASU, Tempe, AZ**
Contributed Talk: *The Story of NGC 3344 - Connecting Star Formation, ISM, and CGM*
- Nov 2019 **Steward Observatory Internal Symposium**, Tucson, AZ
Contributed Talk: *Unveiling the Connections between Star Formation and ISM Kinematics in the Extended Disk of NGC 3344*
- Jun 2019 **234th Meeting of the American Astronomical Society**, St. Louis, MO
Poster: *Tracing Young Stars in the Outer Disks of HI-rich Galaxy* [[ADS link](#)]

OBSERVING EXPERIENCE & SUCCESSFUL PROGRAMS

Observing Experience

1. Certified observer at the Vatican Advanced Technology Telescope, Mt. Graham, AZ.
Total 36 nights of observing from 2019-2022
2. Certified observer at the 90' BOK Telescope, Kitt Peak National Observatory, Tucson, AZ
Total 7 nights of observing from 2022-2023
3. Virtual observing run with 12m telescope, Kitt Peak National Observatory, Tucson, AZ
Total 51 hours of observing
4. Virtual observing run with MMT, Mt. Hopkins, AZ
Total 6.5 nights of observing from 2019-2020

Successful Observing Proposals

1. **PI, 12m Telescope (AZ)** – Oct 2023
Connecting Molecular Gas to the Circumgalactic Medium in Nearby Galaxies
Time Awarded: 51 hours to obtain CO(1-0) observations

2. **PI, Large Binocular Telescope** – 2023, 2022, 2021 (Spring & Fall)
Tracing Stellar Populations in the Outer Disks of Nearby Galaxies
Time Awarded: Total 3 nights of Band-B time
3. **Co-I, Vatican Advanced Technology Telescope, AZ** – 2023, 2022
A Delayed Hunt for Supernovae in Nearby HI-rich Galaxies
Time Awarded: 4 nights (2022), 7 nights (2023)
4. **PI, 90' BOK Telescope, AZ** – 2024, 2023
Tracing the Radial Gradient in the [NII]/H α Ratios in Nearby Galaxies, 2022
Time Awarded: 4 (+3 upcoming) nights with B&C Spectrograph
5. **Co-I, MMT** – 2023, 2022, 2021
Linking HII Region Metallicity Distributions and Other Properties to Gas Flows in L $_$ Galaxies*
Time Awarded: 4 nights with BinoSpec
6. **PI, Vatican Advanced Technology Telescope, AZ** – 2022, 2021
Understanding Star Formation in the Extended Ultraviolet Disk Galaxies
Time Awarded: 8 nights with VATT4K Imager
7. **PI, Vatican Advanced Technology Telescope, AZ** – 2021, 2020, 2019
Tracing Star Formation in the Outer Disks of Nearby Galaxies
Time Awarded: 19 nights with VATT4K Imager
8. **Co-I, Karl G. Jansky Very Large Array (VLA)** – 2020
xVLA-Disk survey: Tracing gas flows in and around the HI-disk of L $_$ galaxies*
Time Awarded: 330 hours
9. **Co-I, Karl G. Jansky Very Large Array (VLA)** – 2019
Unveiling the Triggers and Impact of Star Formation in Extended Disks
Time Awarded: 48 hours

MENTORING EXPERIENCE

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| Fall 2022–Present | Research Mentor to NASA Space Grant Undergraduate Students Project: <i>Understanding Stellar Populations in the Outer Disks of Galaxies.</i> Students: Naomi Carl, Eyan Weissbluth, Anandi Hudson (Fall 2022) |
| Spring 2023–Present | Research Mentor to ASUOnline Undergraduate Student Project: <i>Investigating Galaxy Rotation Curves using Hα Emission Line</i> Student: Sara Holeman |
| Fall 2019–Fall 2020 | Research Mentor to Undergraduate Student Project: <i>Panchromatic Power Spectrum in Nearby Galaxies</i> Student: Lee Chiffelle |
| 2020–Present | Peer Mentor to 1st-year Astrophysics Graduate Students <i>Leading the orchestration of the Peer Mentoring Program since 2021.</i> |

LEADERSHIP

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| 2023 | Astro Representative on SESE Equity in Qualifying Exams Leadership Team |
| 2022–Present | Grad Representative for Inclusive Community Committee at SESE, ASU |
| 2021–22 | President for SESE Graduate Council, ASU |
| 2021–22 | Ambassador for Women in Science Program (WiSP) |
| 2020–21 | President for SESE Graduate Council, ASU |
| 2019–20 | Secretary for SESE Graduate Council, ASU |
| 2018–19 | International Student Advocate for SESE Graduate Council, ASU |
| 2013–2014 | Organizer for college festival, Malhar at St. Xavier's College |

SERVICE

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| 2023-Present | Astrophysics Representative on SESE Equity in Qualifying Exam Leadership Team |
| Aug 2023 | Member of REU Hiring Committee for STARsLab, ASU |
| 2023 | Received the GPSA Student Service Award |
| Feb 2023 | Member of the LOC at Oases in the Cosmic Desert Meeting, ASU |
| Jan 2023 | Chambliss Judge at the 241 st Meeting of the American Astronomical Society |
| 2021–Present | Organizer of the SESE Peer Mentoring Program, ASU |
| 2021–22 | Graduate Member on SESE Colloquium Committee, ASU |
| 2021–22 | Grant Reviewer for SESE Emergency Fund |
| 2014–15 | Social work volunteer at NGO – Teach for India |
| 2012–13 | Social work volunteer at NGO – AKANKSHA |

OUTREACH

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| Apr 2024 | Astronomy Division Proctor for AZ Science Olympiad State Tournament |
| Apr 2023 | Astronomy Division Proctor for AZ Science Olympiad State Tournament |
| Feb 2023 | Judge for AZ Junior Science & Humanities Symposium |
| Apr 2022 | Astronomy Division Proctor for AZ Science Olympiad State Tournament |
| May 2019 | Grand Awards Judge for Intel International Science and Engineering Fair |
| Mar 2019 | Astronomy Division Event Supervisor for AZ Science Olympiad State Tournament |
| Jan 2015 | Volunteer at Paradigm Science Festival, St. Xavier's College, Mumbai |
| July 2013 | Exhibitor at Physics Department Exhibition |
| 2012-13 | Editor for College Physics Magazine, Celeritas |

IN PRESS

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| Feb 2021 | ASU News | <i>New technique used to discover how galaxies grow</i> Read here |
| May 2020 | ASU News | <i>American Astronomical Society awards ASU students Chambliss medals</i> Read here |

TEACHING ASSISTANTSHIP

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| Spring 2024 | AST 112: Introduction to Stars, Galaxies, & Cosmology |
| Fall 2023 | AST 322 ASUOnline: Introduction to Galactic & Extragalactic Astrophysics |
| Fall 2022 | AST 521: Stars & ISM I : Radiative Transfer in Astrophysics (<i>Grader</i>) |
| Fall 2021 | AST 422: Astrophysics II (<i>Grader</i>) |
| Spring 2021 | AST 114: Astronomy Lab |
| Spring 2020 | AST 112: Introduction to Stars, Galaxies, & Cosmology |

WORKSHOPS ATTENDED

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| 2024 | ALMA Cycle 11 Workshop |
| 2022 | Understanding mid- and far-IR data organized by SOFIA School |
| 2021 | Summer School in Astrostatistics organized by Penn State University |
| 2017 | ASTROSAT-CZT Instrumentation at Tata Institute of Fundamental Research, Mumbai |
| 2013 | Telescope Making at Nehru Planetarium, Mumbai |
| 2013 | Instrumentation in Analytical Chemistry at Dr. P.S. Ramanathan Advanced Instrumentation School |

REFERENCES

Dr. Sanchayeeta Borthakur
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Arizona State University
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Dr. Rolf Jansen
Research Scientist
Arizona State University
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Dr. Timothy Heckman
Professor
Johns Hopkins University
theckma1@jhu.edu