

Sumit K. Sarbadhicary – Curriculum Vitae

Work Address Michigan State University,
Biomedical & Physical Sciences Bldg.,
567 Wilson Road,
East Lansing, MI

Office BPS 2173
Email sarbadhi@msu.edu

ORCID ID: 0000-0002-4781-7291

EMPLOYMENT

Sep 2021 – *CCAPP Postdoctoral Fellow, Astronomy*
The Ohio State University

2018-2021 *Postdoctoral Researcher, Astronomy*
Michigan State University
Supervisor: Laura Chomiuk

EDUCATION

2014-2018 PhD, Astronomy - University of Pittsburgh
Advisor: Carles Badenes (Pitt)
Thesis: *Progenitor Scenarios of Supernovae from Local Group
Stellar Populations and Supernova Remnants*

2012-2014 M.S., Astronomy
University of Pittsburgh

2008-2012 B.S., Physics (Astronomy conc.)
Louisiana State University

PUBLICATIONS

Lead-author

1. **Sarbadhicary, S. K.**, Tremou E., Stewart A.J., Chomiuk L., Peters C., Strader J., Momjian E., Fender R., and Wilcots E.M., *CHILES VERDES: Radio variability at an unprecedented depth and cadence in the COSMOS field*, 2020, submitted to ApJ, arXiv:2009.05056 [Citations: 5]
2. **Sarbadhicary S.K.**, Martizzi D., Ramirez-Ruiz E., Koch, E., Badenes C., Auchettl K., & Chomiuk L., *Testing the Momentum-driven Supernova Feedback Paradigm in M31*, 2020, submitted to ApJ
3. **Sarbadhicary S.K.**, Heiger M., Badenes C., Mateu C., Newman J.A., Ciardullo R.C., Hallakoun N., Maoz D., Chomiuk L., *The RR Lyrae Delay-Time Distribution: A Novel Perspective on Models of Old Stellar Populations*, 2020, ApJ, 912, 120
4. **Sarbadhicary, S. K.**, Chomiuk L., Badenes C., Tremou, Evangelia, Soderberg, A. M., Sjouwerman L., *The two most recent thermonuclear supernovae in the Local Group: Radio constraints on the progenitors and evolution*, 2019, ApJ, 872, 191S [Citations: 5]
5. **Sarbadhicary, S. K.**, Badenes C., Chomiuk L., Caprioli D., Huizenga D., *Supernova Remnants in the Local Group I: A model for the radio luminosity function and visibility times of supernova remnants*, 2017, MNRAS, 464, 2326. [Citations: 32]

Co-authored

1. Burke J., Howell D. A., **Sarbadhicary S. K.** and 16 co-authors, *A Bright Ultraviolet Excess in the Transitional 02es-like Type Ia Supernova 2019yvq*, arXiv:2101.06345
2. Nyland, K., Dong D., Patil P., Lacy M., van Velzen S., Kimball A. E., **Sarbadhicary, S.K.** and 11 co-authors, *Quasars that have Transitioned from Radio-quiet to Radio-loud on Decadal Timescales Revealed by VLASS and FIRST*, 2020, ApJ, 905, 74 [Citations: 14]
3. Pellegrino, C., Howell, D. A., **Sarbadhicary, S. K.** and 16 co-authors, *Constraining the Source of the High-velocity Ejecta in Type Ia SN 2019ein*, 2020, ApJ, 897, 159 [Citations: 7]
4. Cendes, Yvette, Drout, Maria R., Chomiuk, Laura; **Sarbadhicary, S. K.**, *Thirty Years of Radio Observations of Type Ia SN 1972E and SN 1895B: Constraints on Circumstellar Shells*, 2020, ApJ, 894, 39 [Citations: 5]
5. Launey, K. D., **Sarbadhicary, S. K.**, Dytrych P., Draayer J. P., *Program in C for studying characteristic properties of two-body interactions in the framework of spectral distribution theory*, 2014, Computer Physics Communications, 185, 284 [Citations: 7]

HONORS AND AWARDS

- 2019 AAS International Travel Grant
- 2019 NASA Travel Fund for *The Deaths and Afterlives of Massive Stars*
- 2017 Andrew Mellon Pre-doctoral Fellowship
- 2016 Thomas-Lain Scholarship
- 2014 Best Speaker Award (shared w. Amanda Yoho out of 48 speakers), Neighborhood Workshop in Astrophysics and Cosmology, Pennsylvania State University
- 2008-12 LSU Golden Oak Scholarship

OUTREACH, EQUITY AND INCLUSION WORK

- 2018-21: Presenter, *Astronomy on Tap*, Lansing
- 2017: Presenter: *Investing Now* (Science demonstrations as part of a college-preparatory program for pre-college students from historically under-represented groups in STEM), University of Pittsburgh
- 2015-18: Organizer: *Astrosnacks* Career development seminars at Dept of Physics & Astronomy, University of Pittsburgh
- 2016: Telescope operator/presenter: White House Frontiers Conference Astronomy Night at Allegheny Observatory, Pittsburgh, PA.
- 2012: Presenter: Open-house nights at Landolt Astronomical Observatory, Baton Rouge, LA.
- 2011: Presenter: Louisiana Junior Science and Humanities Symposium (for high-school students), Baton Rouge, LA

MENTORING

- Jasmin Washington, undergraduate (part of NRAO NAC program for under-represented minorities in STEM), University of Virginia (now PhD student at U. Arizona)
(**AAS 235 Poster:** Constraining Type Ia Supernova Progenitor Environments with Late-Time Radio Observations (307.11))
- Mairead Heger, undergraduate, University of Pittsburgh (now PhD student at U. Toronto)
(**Senior Thesis:** Delay-time distribution of variable stars)
- Hazirah Sanani, undergraduate, Michigan State University
(**Senior Thesis:** A Case Study of Nova Progenitors in the Andromeda Galaxy)
- Charee Peters, PhD, University of Wisconsin, Madison (now working in private sector)
(**PhD Thesis:** The Radio Transient and Variable Universe).
- Jessica Maldonado, MS, Michigan State University (now working in private sector)
(Topic: Radio Supernova Remnants in M31)
- Christina Conner, undergraduate, Michigan State University
(Topic: Optical transients in the COSMOS field)

COLLABORATIONS

- VLA Local Group Legacy Survey, *Radio-continuum lead*
- VLASS (Very Large Array Sky Survey) *Scheduling, transients*
- CHILES-VERDES (COSMOS HI Large Extragalactic Survey – Variable & Explosive Radio Dynamic Evolution Survey)
- ThunderKAT (Astrophysical Transients with MeerKAT) Radio observations of Type Ia supernovae

OBSERVING PROPOSALS

- **PI:** VLA study of the youngest SN Ia progenitors (8hrs, 19B-346, 20A-577, 20B-355).
- **Co-I:** VLA Local Group Legacy Survey (100hrs pilot, 1800 hrs total, 20A-346, PI: A Leroy)
- **Co-I:** *Chandra Cycle 22* Pilot study of Radio-changing-state Quasars identified in the VLASS survey (84 ks, PI: K. Nyland)
- **Co-I:** *VLBA Follow-up* of VLASS AGN Transients at High redshift (48 hrs, 20A-201, PI: Nyland K.)
- **Co-I:** *GMRT Cycle 38* Radio SED Modeling of Compact AGN with Extreme Radio Variability (28 hrs, 38_040, PI: Nyland K.)
- **Co-I:** VLA The Search for Radio Supernova Remnants in M31 (22.5 hrs, 19A-110, PI: Maldonado, J.)

TALKS

[6 invited + 17 contributed talks. Below are 5 highest visibility talks]

- *The Deaths and Afterlives of Stars*, STSCI, 2019
- *CCAPP Astro-particle Lunch*, Ohio State University, 2017
- *AAS 231st Meeting*, Washington DC, 2018, Dissertation talk
- *FOE17: Fifty-One-Erg*, Oregon State University, 2017
- *Supernova Remnants: An Odyssey in Space after Stellar Death*, Greece, 2016

PROFESSIONAL EXPERIENCE

- Founder and coordinator of the weekly *Pitt-CMU Astrosnacks* seminars (2014-2017).
- Student representative of 2016, 2018 Astrophysics Faculty Search Committee, University of Pittsburgh
- Participant, 2014, *Summer School in Statistics for Astronomers*, Pennsylvania State University
- Participant, 2014, *SciCoder*, New York University,
- Participant, 2016, *Gas on top of Quasars*, University of Pittsburgh
- Participant, 2016, *Preparing for Supernova Science in the LSST Era*, University of Pittsburgh
- Participant, 2017, *Eta Carinae, LBV and Supernova Imposters*, University of Pittsburgh
- Chambliss Student Award Judge, *AAS 231st Meeting*, Washington DC

TEACHING

- April 2016: Guest lecturer, Galactic & Extra-galactic Astronomy (Instructor: C. Badenes).
- Sep-Dec, 2013: Teaching Assistant, Stars, Galaxies and Cosmos (Instructor: M. Wood-Vasey)
- June-July 2013: Teaching Assistant, Stars, Galaxies and Cosmos (Instructor: D. Turnshek)
- Jan-April 2013: Teaching Assistant, Basics of Space Flight (Instructor: R. S. Ladbeck)
- Sep-Dec 2012: Teaching Assistant, Basic Physics for Science and Engineering I (Instructor: B. D'urso)
- Sep-Dec 2012: Grader, Physics and Society (Instructor: E. Gerjuoy)

REFERENCES

Prof. Carles Badenes (University of Pittsburgh) - badenes@pitt.edu
Prof. Laura Chomiuk (Michigan State University) - chomiuk@pa.msu.edu
Prof. Adam Leroy (Ohio State University) - leroy.42@osu.edu
Prof. Dave Sand (University of Arizona, Tucson) - dave.j.sand@gmail.com