Sumit K. Sarbadhicary – Curriculum Vitae

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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. et al 2022**, ApJ, 928, 54
Testing the Momentum-driven Supernova Feedback Paradigm in M31

2. **Sarbadhicary, S. K. et al 2021**, ApJ, 923, 31 [Citations: 11]
CHILES VERDES: Radio variability at an unprecedented depth and cadence in the COSMOS field

3. **Sarbadhicary S.K. et al 2020**, ApJ, 912, 120 [Citations: 2]
The RR Lyrae Delay-Time Distribution: A Novel Perspective on Models of Old Stellar Populations

4. **Sarbadhicary, S. K. et al 2019**, ApJ, 872, 191S [Citations: 5]
The two most recent thermonuclear supernovae in the Local Group: Radio constraints on the progenitors and evolution

5. **Sarbadhicary, S. K. et al 2017**, MNRAS, 464, 2326. [Citations: 37]
Supernova Remnants in the Local Group I: A model for the radio luminosity function and visibility times of supernova remnants

Co-authored

1. Harris, C. E., **Sarbadhicary, S. K.** et al 2022, submitted to ApJ
   Radio Gaga: Radio Observations of Six Type Ia Supernovae in their Infancy

2. Dong, Y., Milisavljevic, D., Leja, J., **Sarbadhicary, S. K.** et al 2022, 927, 199 [Citations: 3]
   Physical Properties of the Host galaxies of Ca-rich Transients

3. Sand, D., **Sarbadhicary, S. K.** et al 2021, ApJ, 922, 21 [Citations: 5]
   Circumstellar Medium Constraints on the Environment of Two Nearby Type Ia Supernovae: SN 2017cbv and SN 2020nlb

4. Burke J., Howell D. A., **Sarbadhicary S. K.** et al 2021, ApJ, 919, 142 [Citations: 7]
   A Bright Ultraviolet Excess in the Transitional 02es-like Type Ia Supernova 2019yvq

5. Nyland, K., Dong D., Patil P., Lacy M., van Velzen S., Kimball A. E.,
   Sarbadhicary, S.K. et al 2020, ApJ, 905, 74 [Citations: 33]
   Quasars that have Transitioned from Radio-quiet to Radio-loud on Decadal Timescales Revealed by VLASS and FIRST

6. Pellegrino, C., Howell, D. A., **Sarbadhicary, S. K.** et al 2020, ApJ, 897, 159 [Citations: 9]
   Constraining the Source of the High-velocity Ejecta in Type Ia SN 2019ein

7. Cendes, Yvette, Drout, Maria R., Chomiuk, Laura; **Sarbadhicary, S. K.** et al 2020, ApJ, 894, 39 [Citations: 8]
   Thirty Years of Radio Observations of Type Ia SN 1972E and SN 1895B: Constraints on Circumstellar Shells

8. Launey, K. D., **Sarbadhicary, S. K.** et al 2014, Computer Physics Communications, 185, 284 [Citations: 8]
   Program in C for studying characteristic properties of two-body interactions in the framework of spectral distribution theory

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 Alleghany 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]

- *ApJ Journal Series*
- *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

- Organizer: 2022 CCAPP Fellows Symposium, OSU (w. William Luszczak)
- 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
- Reviewer: ApJ, MNRAS

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