

NAMAN S. BAJAJ

namanbajaj@arizona.edu — Google Scholar Profile — LinkedIn
Lunar and Planetary Laboratory, Department of Planetary Sciences
The University of Arizona, 1629 E. University Blvd., Tucson, AZ 85721-0092

1 EDUCATION

B.Tech in Mechanical Engineering 2017 - 2021
4-year technical education in Engineering
COEP Technological University, India

M.S. in Planetary Science 2022 - 2025
Lunar and Planetary Laboratory (LPL), The University of Arizona

Ph.D. in Planetary Science 2022 - present
Lunar and Planetary Laboratory (LPL), The University of Arizona
Minor in Astronomy from Steward Observatory, The University of Arizona
Ph.D. Advisor : Prof. Ilaria Pascucci

2 HONORS AND AWARDS

Recipient of the 2025 Curson Travel Award to present my research at ESO, Germany 2025

Selected as the College of Science (The University of Arizona) Galileo Circle Scholar 2025-26

Best Oral Presentation at the Lunar and Planetary Laboratory Conference (LPLC) 2025

Late Prof. Dr. S. R. Kajale Best Outgoing Mechanical Engineering Student 2020-21 2021

Institute's Best Outgoing Student 2020-21 by COEP Technological University 2021

Felicitation for Outstanding Research by Higher & Technical Education Minister, Maharashtra, India 2021

Fellow of the Royal Astronomical Society, London 2020

3 SERVICE/OUTREACH/PRESS RELEASES

Winds of change: James Webb Space Telescope reveals elusive details in young star systems, press release by U.Arizona and MPIA 2024

James Webb Space Telescope captures the end of planet formation, press release by U.Arizona, U.Cambridge, SETI, and U.Leicester 2024

25 years of exoplanet hunting hasn't revealed Earth 2.0 — but is that what we're looking for?, news article by Space.com 2024

LPL Journal Club Co-ordinator (Spring and Fall semesters) 2024

Telescope demonstration at Mansfield Middle School STEM+ night, Tucson, AZ	2023
Conducted General Astronomy Sessions once a week for 50 weeks for 40 students aged 9-13 years (virtual)	2021
Head of Events at the COEP Astronomy Club	2020

4 SKILLS

- **Programming:** Python (Astropy, Photutils), L^AT_EX, C, C++
- **Software:** SAOImageDS9, CASA, Aperture Photometry Tool
- **Languages:** English, Hindi, Marathi

5 RESEARCH PRESENTATIONS

Poster titled “Probing Class I/II Jets with JWST Mass-loss Rates, Asymmetries and Binary-Induced Wiggings” at the Gordon Research Conference, Mount Holyoke College 2025

Talks titled “JWST View of the emerging paradigm of disk wind-driven accretion in protoplanetary disks” at

- The Solar System in Context Conference, The University of Arizona 2025
- Lunar and Planetary Laboratory Conference, The University of Arizona 2025

Talk titled “The Wind-Jet-Accretion Connection: Insights from Spatially Resolved Jets and Winds with JWST” at the RAVEYSO Conference, ESO, Garching, Germany 2025

Talk titled “Unveiling the Role of Winds in Disk Evolution and Planet Formation with JWST” at the Tata Institute for Fundamental Research, Mumbai, India 2024

Poster titled “Probing Jets with JWST: Spatially Resolved Observations of Low-Mass Edge-on Disk Systems” at Jets and Young Stars Conference, Dublin Institute for Advanced Studies 2024

Talks titled “Discovery of a Spatially Resolved Disk Wind using JWST MIRI/MRS” at

- Origins Seminar Series, The University of Arizona 2024
- Stars/Planets Lunch and Talks, Institute for Astronomy, University of Hawai’i (Virtual) 2024
- Star and Planet formation journal club, The University of Michigan (Virtual) 2024
- PSF Coffee Seminar, Max Planck Institute for Astronomy (Virtual) 2024
- ESO SPF Seminar, European Southern Observatory (Virtual) 2024
- Jets and Young Stars Conference, Dublin Institute for Advanced Studies 2024
- Gordon Research Seminar, Mount Holyoke College 2023
- Institute of Astronomy, University of Cambridge 2023
- First year of JWST Science Conference, Space Telescope Science Institute 2023

Poster titled “Discovery of a Spatially Resolved Disk Wind using JWST MIRI/MRS” at Gordon Research Conference 2023

Graduate Student **Colloquium** titled “A New Era of Discovery: JWST’s View of Spatially Resolved Jets and Winds” at LPL, University of Arizona 2023

6 PUBLICATIONS

Bajaj, N. S., Sandell, G., Kumar, M. S. N. (in preparation). *SMA observation of multiple outflows from a young star in the Cygnus X complex.*

Bajaj, N. S., Pascucci, I., Beck, T. L. et al. 2025. AJ, 169, 6, pg 296. *Class I/II Jets with JWST: Mass loss rates, Asymmetries, and Binary induced Wiggings.*

Xie, C., Pascucci, I., Deng, D., **Bajaj, N. S.** et al. 2024. ApJ, 978, 34. *JWST captures a sudden stellar outburst and inner disk wall destruction.*

Pascucci, I., Beck, T. L., Cabrit, S., **Bajaj, N. S.** et al. 2024. Nat Astron. *The nested morphology of disk winds from young stars revealed by JWST/NIRSpec observations*

Sellek, A. D., **Bajaj, N. S.**, Pascucci, I. et al. 2024. AJ, 167, 5, pg 223. *Modeling JWST MIRI-MRS Observations of T Cha: Mid-IR Noble Gas Emission Tracing a Dense Disk Wind*

Bajaj, N. S., Pascucci, I., Gorti, U. et al. 2024. AJ, 167, 3, pg 127. *JWST MIRI MRS Observations of T Cha: Discovery of a Spatially Resolved Disk Wind*

Sandell, G., Reipurth, B., Vacca, W. D., & **Bajaj, N. S.** 2021. ApJ, 920, 1, pg 7. *FORCAST Imaging of Two Small Nearby Clusters: The Coronet and B 59*

Bajaj, N. S., Patange, A. D., Jegadeeshwaran, R. et al. 2023. Intelligent Systems with Applications, 18, 200196. *Application of metaheuristic optimization based support vector machine for milling cutter health monitoring*

Bajaj, N. S., Patange, A. D., Jegadeeshwaran, R. et al. 2021. ASME J Nondestructive Evaluation, 5, 2, 021002. *A Bayesian Optimized Discriminant Analysis Model for Condition Monitoring of Face Milling Cutter Using Vibration Datasets*

Patange, A. D., Jegadeeshwaran, R., **Bajaj, N. S.** et al. 2022. Sound & Vibration, 56, 2, pg 127. *Application of Machine Learning for Tool Condition Monitoring in Turning*

7 REFERENCES

Prof. Ilaria Pascucci, Full Professor, Lunar and Planetary Laboratory, University of Arizona.
Email: pascucci@arizona.edu

Dr. Goran Sandell, Research Affiliate, Institute for Astronomy, University of Hawai'i. Email: gsandell@hawaii.edu

Dr. Uma Gorti, Research Scientist, SETI. Email: ugorti@seti.org