

Jiwon (Jesse) HAN

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EDUCATION & EMPLOYMENT

POSTDOC	Stanford University: Stanford Science Fellow, Sept 2025 ~ Current
PHD	Harvard University: Astronomy & Astrophysics, Sept 2025
MSC	Harvard University: Astronomy & Astrophysics, May 2022
BSC	University of Virginia: Physics-Astronomy, May 2019 w. Highest Distinction, Jefferson Scholar

RESEARCH INTERESTS

Dark Matter Halo, Galactic Archaeology, Supermassive Black Holes, Stellar Atmospheres, Circum-Galactic Medium.

SELECT PUBLICATIONS

- **Han, J. J.**, El-Badry, K., Lucchini, S., and 5 colleagues, *Hypervelocity Stars Trace a Supermassive Black Hole in the Large Magellanic Cloud*, *The Astronomical Journal*, 2025, 10.3847/1538-4357/adb967
- Lucchini, S., **Han, J. J.**, *Threading the Magellanic Needle: Hypervelocity Stars Trace the Past Location of the LMC*, Submitted to the *Astrophysical Journal*
- **Han, J. J.**, Conroy, C., Zaritsky, D., and 4 colleagues, *Our Halo of Ice and Fire: Strong Kinematic Asymmetries in the Galactic Halo*, Accepted to *The Astronomical Journal*, 2024, 10.48550/arXiv.2406.12969
- **Han, J. J.**, Conroy, C., and Hernquist, L., *A tilted dark halo origin of the Galactic disk warp and flare*, *Nature Astronomy*, 2023, 10.1038/s41550-023-02076-9
- **Han, J. J.**, Semenov, V., Conroy, C., and Hernquist, L., *Tilted Dark Halos Are Common and Long-lived, and Can Warp Galactic Disks*, *The Astrophysical Journal*, 2023, 10.3847/2041-8213/ad0641
- **Han, J. J.**, Chiti, A., Chen, K.-F., and 93 colleagues, *A Path to an All-Sky Survey with Roman*, arXiv e-prints, 2026, 10.48550/arXiv.2602.21280
- **Han, J. J.**, Dey, A., Price-Whelan, A. M., and 206 colleagues, *NANCY: Next-generation All-sky Near-infrared Community survey*, arXiv e-prints, 2023, 10.48550/arXiv.2306.11784
- Cooper, A. P., Koposov, S. E., Allende Prieto, C., and 62 colleagues incl. **Han, J. J.**, *Overview of the DESI Milky Way Survey*, *The Astrophysical Journal*, 2023, 10.3847/1538-4357/acb3c0
- DESI Collaboration, Adame, A. G., Aguilar, J., and 262 colleagues incl. **Han, J. J.**, *The Early Data Release of the Dark Energy Spectroscopic Instrument*, arXiv e-prints, 2023, 10.48550/arXiv.2306.06308
- **Han, J. J.**, Conroy, C., Johnson, B. D., and 7 colleagues, *The Stellar Halo of the Galaxy is Tilted and Doubly Broken*, *The Astronomical Journal*, 2022, 10.3847/1538-3881/ac97e9
- **Han, J. J.**, Naidu, R. P., Conroy, C., and 9 colleagues, *A Tilt in the Dark Matter Halo of the Galaxy*, *The Astrophysical Journal*, 2022, 10.3847/1538-4357/ac795f
- **Han, J. J.**, *A Study on the Coffee Spilling Phenomena in the Low Impulse Regime*, *Achievements in the Life Sciences*, 2016, doi.org/10.1016/j.als.2016.05.009
- Lucchini, S., **Han, J. J.**, Hernquist, L., and Conroy, C., *On the Origin of High Velocity Clouds in the Galaxy*, Accepted to *The Astrophysical Journal*, 2024, 10.48550/arXiv.2406.04434
- Lucchini, S., **Han, J. J.**, Hernquist, L., and 2 colleagues, *Invisible Accretion: Ionized Envelopes of TNG50 HVCs can Sustain Star Formation*, Accepted to the *Astrophysical Journal*

MEDIA COVERAGE

NPR All Things Considered	“That galaxy next door? It’s home to a monster black hole” (March 6, 2025)
Forbes	“Supermassive Black Hole Lurks In Nearby Large Magellanic Cloud” (Mar 08, 2025)
Washington Post	“How to never spill your coffee, according to science” (Aug 29, 2016)
NPR Short Wave	“How To Keep Your Coffee In Its Cup: The Claw Grip” (Aug 13, 2019)

DISTINCTIONS & AWARDS

SPRING 2025	Eric R. Keto Prize for Best Thesis in Theoretical Astrophysics	Harvard-Smithsonian CfA ITC
FALL 2023	Multidisciplinary Student Research Collaborative	Harvard Radcliffe Institute
FALL 2020	Bok Distinction in Teaching	Harvard College
SPRING 2019	Limber Prize	UVA award for best graduating student in Astronomy
FALL 2017	Ig Nobel Prize	Award for scientific achievements that make people laugh, then think
SPRING 2015	Silver Medal, INTERNATIONAL YOUNG PHYSICISTS’ TOURNAMENT	Representative for South Korea

TEACHING

FALL 2024	Cosmology (college senior level)	Harvard Astronomy
FALL 2021	Galaxies & Cosmology (graduate level)	Harvard Astronomy
FALL 2020	Astronomy 1 (college freshman level)	Harvard Astronomy
FALL 2018	Astrophysical Processes (college senior & graduate level)	UVA Astronomy
SPRING 2018	Quantum Mechanics 2 (college senior level)	UVA Physics
FALL 2017	Quantum Mechanics 1 (college junior level)	UVA Physics

SUCCESSFUL PROPOSALS

PI, <i>Chandra</i> Cycle 27:	X-ray signatures of the LMC SMBH candidate (100 ks, 2025)
Co-I, <i>Hubble</i> Cycle 33:	Proper motions of hypervelocity stars (7 orbits, 2025)
PI, Magellan/LLAMAS:	Introducing $(MC)^2$: The Magellanic Clouds Magellan Campaign (8 nights across Stanford, Smithsonian, and MIT)
Co-I, ATCA DDT:	Radio counterpart of LMC SMBH candidate (14 hours, 2024)
PI, VLT DDT:	Infrared characterization of LMC SMBH candidate (3 hours, 2024)
PI, MMT:	Mapping Na D in High-velocity Clouds (14 nights, 2024)
PI, VLA DDT:	Imaging High-velocity Clouds (13 hours, 2023)

DDT = Director’s Discretionary Time

MISCELLANEOUS

Journal Refereeing:	The Astrophysical Journal, The Astrophysical Journal Letters, Nature Astronomy, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics
Programming Languages:	Python, C, C++, IDL, ROOT, MATLAB
La Serena School for Data Science:	Machine learning intensive school funded by NSF (Summer 2019)
CMS Data Analysis School:	Particle physics data analysis training for CMS collaborators (Winter 2017)
Trail Work:	Overseer of the Southern District of Shenandoah National Park (2017 ~ 2019)
Climbing:	Ascents of 5.14 routes, V11 boulders, and WI5 ice routes.