

SAHIL HEGDE

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EDUCATION

University of California, Los Angeles Los Angeles, CA <i>Ph.D. Astronomy & Astrophysics, Advisor: Steve Furlanetto</i>	2021 - present
<i>M.S. Astronomy & Astrophysics</i>	2021 - 2023
Columbia University New York, NY <i>B.A. Physics & Mathematics, Cum Laude, Advisors: Greg Bryan, Zoltan Haiman</i>	2017 - 2021

RESEARCH APPOINTMENTS

· NSF & NASA Graduate Research Fellow, <i>University of California, Los Angeles, CA</i>	2021-present
· Undergraduate researcher, <i>Columbia University, Center for Computational Astrophysics, NY</i>	2018-2021
· Computational physics summer intern, <i>Los Alamos National Lab, NM</i>	2019
· Summer research intern, <i>Stanford University, CA</i>	2018

AWARDS AND HONORS

· NASA FINESST Fellowship	2023-2026
· NSF Graduate Research Fellowship	2023-2026
· UCLA Grad Slam Semifinalist	2024
· UCLA Graduate Dean's Fellowship	2021
· Columbia College Dean's List	2018-2021
· Los Alamos National Lab Computational Physics Summer Fellowship	2019
· National Merit Scholarship	2017
· Second Place in Physics and Astronomy at Intel International Science and Engineering Fair	2017
· Siemens Competition Semifinalist	2017
· Saratoga Rotary Scholarship	2017
· Elks Lodge Scholarship	2017

SELECTED PUBLICATIONS

- S. Hegde, M. M. Wyatt, S. R. Furlanetto; 2024; *A hidden population of active galactic nuclei can explain the overabundance of luminous $z > 10$ objects observed by JWST*; JCAP
- S. Hegde, S. R. Furlanetto; 2023; *A self-consistent semi-analytic model for Population III star formation in mini-haloes*; MNRAS
- B. L. Lewis, Astrobites Collaboration, et al. (incl. S. Hegde); 2023; *Improving Undergraduate Astronomy Students' Skills with Research Literature via Accessible Summaries: A Case Study with Astrobites-based Lesson Plans*; arXiv
- S. Hegde, G. L. Bryan, S. Genel; 2022; *Reorientation Rates of Structural and Kinematic Axes in Simulated Massive Galaxies and the Origins of Prolate Rotation*; ApJ
- S. Hegde, M. G. Bobra, P. Scherrer; 2018; *Classifying Signatures of Sudden Ionospheric Disturbances*; RNAAS

MENTORING

- Jacob Laurel, UCLA undergraduate (now Stanford postbac) Spring 2024-present
Jake is exploring the effects of stochasticity in IMF sampling on feedback and bursty star formation histories in simple analytical and semi-analytical models of galaxy formation.

- Brijesh Molala, UCLA undergraduate Winter 2023-present
Brijesh is exploring the implications of physically-motivated bursty star formation models on galaxy luminosity functions and their clustering.
- Malachy Bloom, Carleton undergraduate 2023
Malachy explored the effects of warm and fuzzy dark matter cosmologies on the formation and abundance of high-z star forming systems.
- Roy Zhao, UCLA undergraduate (now UChicago graduate student) 2022
Roy worked on developing a framework to constrain the pop III IMF using transients associated with the first stars.

ACADEMIC PRESENTATIONS

- Galaxy formation and evolution in Southern California, Carnegie Observatories, Pasadena (talk) 2024
- Cosmic Dawn revealed by JWST, KITP, Santa Barbara (talk) 2024
- Cosmic Dawn at High Latitudes, NORDITA, Stockholm (talk) 2024
- First Stars VII, Flatiron, NYC (talk) 2024
- Center for Computational Astrophysics galaxy group meeting, NYC (talk) 2024
- Global 21-cm Workshop (virtual talk) 2023
- NASA Exploration Science Forum (poster) 2022
- Los Alamos National Lab XCP Summer Workshop (talk) 2021
- AAS 229, 237, 241 (posters) 2017, 2021, 2023

TEACHING

UCLA Department of Physics and Astronomy Sept. 2021 - June 2022
Graduate Teaching Assistant Los Angeles, CA

- ASTR 3: The Nature of the Universe (lower division astronomy lab); ASTR 115: Statistical Mechanics in Astronomy; ASTR 117: Radiative Processes & Fluid Dynamics in Astronomy

bitWise Academy 2022-2024
Math & Physics Tutor Los Angeles, CA

Columbia Department of Mathematics Jan. 2019 - May 2020
Undergraduate Teaching Assistant New York, NY

- MATH 2030: Differential Equations

OUTREACH AND PROFESSIONAL EXPERIENCE

ComSciCon Southwest Sept 2024-present
Co-founder Los Angeles, CA

UCLA Physics & Astronomy Intro to Coding Seminar Series Jan 2024-present
Co-founder Los Angeles, CA

UCLA Astronomy June 2024-present
Graduate student representative Los Angeles, CA

Astrobites Dec 2021-present
Author, Committee Chair (DEI, Recruitment), Admin committee Los Angeles, CA

UCLA Planetarium Fall 2023-present
Senior coordinator Los Angeles, CA

UCLA Astronomy Live! High School Summer Workshop May 2022-present
Workshop lead Los Angeles, CA

UCLA Marginalized Identities in Physics and Astronomy Sept. 2022-present
Undergraduate Mentor Los Angeles, CA

UCLA Math & Physical Sciences Council Sept. 2022-present
Graduate Student Representative, Treasurer Los Angeles, CA

Math Reading Team <i>Volunteer Elementary School Tutor</i>	2018-2020 Harlem, NY
Columbia BlueShift (Astronomy Club) <i>Exec. Board Member, Webmaster, Arts & Astro Coordinator</i>	2017 - 2022 New York, NY
Columbia Residential Life <i>Resident Advisor</i>	Aug 2019 - May 2020 New York, NY
Columbia Undergraduate Recruitment Committee <i>Tour Guide, Student Interviewer</i>	2017-2021 New York, NY

PUBLIC TALKS AND WRITING

Santa Barbara Astronomical Unit <i>The formation of the first stars in the universe</i>	July 2023
iTelescope <i>The first stars in the universe</i>	February 2023
UCLA Planetarium	Fall 2021-present

- Delivered shows for general public and school groups
- Organized shows celebrating particular identity groups/heritage months
- Created collaborations with LA area comedians
- Developed climate justice related show series

Astrobites

- S. Hegde, *Equitable access in an increasingly computational world*, Sept. 5, 2024
- S. Hegde, *A journey through space and time with #BlackInAstro*, June 15, 2024
- S. Hegde, *Modeling the structure of the circumgalactic bathtub*, Feb. 3, 2024
- S. Hegde, *Peering at stellar streams through a myrmecological magnifying glass*, Dec. 28, 2023
- S. Hegde, *The Rainbow Village at AAS: Dr. Arianna Long and VanguardSTEM*, Dec. 11, 2023
- S. Hegde, *Carnivalgoing galaxies and a billion dollar guessing game*, Oct. 14, 2023
- S. Hegde, *A quantitative perspective on the impact of diversity in academia*, Sept. 28, 2023
- S. Hegde, *Interview series: Ronald López*, Aug. 25, 2023
- S. Hegde, *The terrible twos: the detection of a toddler black hole in the baby universe*, July 6, 2023
- S. Hegde, *Juggling black holes in star clusters*, May 24, 2023
- S. Hegde, *How to build an infrared luminosity function (at high redshifts)*, April 18, 2023
- S. Hegde, *#BlackInAstro Experiences: Dr. Chris Moore*, Feb. 24, 2023
- S. Hegde, *A grad student seat at the faculty hiring table*, Jan. 23, 2023
- S. Hegde, *Meet the AAS Keynote Speakers: Prof. Norman Murray*, Jan. 10, 2023
- S. Hegde, *Meet the AAS Keynote Speakers: Prof. Erin Kara*, Jan. 8, 2023
- S. Hegde, *Cracking the Code for Galaxy Spectra*, Nov. 26, 2022
- S. Hegde, *Moonspotting: An Indirect Channel to Observe Rocky Planet Moons*, Oct. 24, 2022
- S. Hegde, *Pulling Back the Curtain on the Formation of the First Supermassive Black Holes*, Aug. 25, 2022
- S. Hegde, *Adding Gal-ax-ies, It's Easy as One-Two-Three*, Aug. 1, 2022
- S. Hegde, *(almost) No Time (for stars) to Die*, June 27, 2022
- S. Hegde, O. Cooper, *Meet the AAS Keynote Speakers: Prof. Victoria Kaspi and Dr. Paul Scholz*, June 12, 2022
- S. Hegde, *A Missing Link Between High-Redshift Galaxies and Quasars*, May 11, 2022
- S. Hegde, *Women's History Month: Dr. Ekta Patel*, May 1, 2022
- S. Hegde, *Judging a Galaxy by its Cover*, Mar. 1, 2022
- S. Hegde, *#BlackInAstro Experiences: Dr. Gibor Basri*, Feb. 27, 2022
- S. Hegde, *RRoW RRoW RRoW Your [Tele]scope, Gently Down the [Orphan] Stream*, Feb. 14, 2022