

# SAHIL HEGDE

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## EDUCATION

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

## RESEARCH APPOINTMENTS

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- Graduate Student Researcher** Jan 2022 - present  
*UCLA Department of Physics and Astronomy*  
*Advisor: Steve Furlanetto*  
“Semi-analytic modeling of the formation of the first stars and the transition to metal-enriched star formation”
- Undergraduate Research Assistant** May 2020 - Dec 2021  
*Columbia Astrophysics Laboratory & Center for Computational Astrophysics*  
*Advisors: Greg Bryan & Shy Genel*  
“Evolution of kinematic and morphological properties of massive galaxies in the IllustrisTNG simulation suite”
- Undergraduate Research Assistant** November 2018 - August 2020  
*Columbia Astrophysics Department*  
*Advisors: Zoltan Haiman & Andrea Derdzinski*  
“Numerical simulations of circumbinary disk structure around massive black hole binary systems following mass-loss in mergers”
- Computational Physics Summer Intern** June 2019 - August 2019  
*Los Alamos National Lab Computational Physics Division*  
*Advisors: Chris Fryer, Scott Elliot, Brandon Wiggins, Chris Mauney*  
“Smooth particle hydrodynamic simulations and chemical kinetics processing of particles in giant impacts to proto-Uranus”
- Summer Research Intern** May 2018 - August 2018  
*Stanford Solar Physics Group*  
*Advisors: Monica Bobra & Phil Scherrer*  
“Machine learning classification of Sudden Ionospheric Disturbance (SID) monitor timeseries data”

## PUBLICATIONS

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- **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, 937, 1
- C. L. Fryer, ..., **S. Hegde**, L. Lin, 2019; *Chemical Signatures of Giant Impacts on Gas Giants: Proto-Uranus* (in prep.)
- **S. Hegde**, M. G. Bobra, P. Scherrer; 2018; *Classifying Signatures of Sudden Ionospheric Disturbances*; Res. Notes AAS, 2, 162

## PRESENTATIONS

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- AAS 241 (poster): **S. Hegde**, et al.; “Radio Astrophysics from the Moon: Signatures of the First Stars” 2023
- Nasa Exploration Science Forum (poster): **S. Hegde**, et al.; “Predicting Radio Signals from the First Stars...” 2022
- AAS 237 (poster): **S. Hegde**, et al.; “The time evolution of the (mis)alignment... in simulated Massive ETGs” 2021
- LANL XCP Summer Workshop (talk): **S. Hegde** & L. Lin; “Chemical Consequences of Giant Impacts on Proto-Uranus” 2021
- AAS 229 (poster): **S. Hegde**, et al.; “On the Supermassive Black Hole-Galaxy Coevolution” 2017

## AWARDS AND HONORS

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- 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

## TEACHING

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<b>UCLA Department of Physics and Astronomy</b> <i>Graduate Teaching Assistant</i>	Sept. 2021 - June 2022 Los Angeles, CA
· ASTR 3: The Nature of the Universe; ASTR 115: Statistical Mechanics in Astronomy; ASTR 117: Radiative Processes & Fluid Dynamics in Astronomy	
<b>bitWise Academy</b> <i>Math &amp; Physics Tutor</i>	June 2022-present Los Angeles, CA
<b>Columbia Department of Mathematics</b> <i>Undergraduate Teaching Assistant</i>	Jan. 2019 - May 2020 New York, NY
· MATH 2030: Differential Equations	
<b>Excel Test Prep</b> <i>SAT Teacher</i>	Summer 2018 Fremont, CA

## OUTREACH AND PROFESSIONAL EXPERIENCE

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<b>Astrobites</b> <i>Author, DEI Committee Chair</i>	Dec 2021-present Los Angeles, CA
<b>UCLA Astronomy Live! High School Summer Workshop</b> <i>Workshop Lead</i>	May 2022-present Los Angeles, CA
<b>UCLA Marginalized Identities in Physics and Astronomy</b> <i>Undergraduate Mentor</i>	Sept. 2022-present Los Angeles, CA
<b>UCLA Math &amp; Physical Sciences Council</b> <i>Graduate Student Representative</i>	Sept. 2022-present Los Angeles, CA
<b>Math Reading Team</b> <i>Volunteer Elementary School Tutor</i>	2018-2020 Harlem, NY
<b>Columbia BlueShift (Astronomy Club)</b> <i>Exec. Board Member, Webmaster, Arts &amp; Astro Coordinator</i>	2017 - 2022 New York, NY
<b>Columbia Residential Life</b> <i>Resident Advisor</i>	Aug 2019 - May 2020 New York, NY
<b>Columbia Undergraduate Recruitment Committee</b> <i>Tour Guide, Student Interviewer</i>	2017-2021 New York, NY

## PUBLIC TALKS AND WRITING

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<b>UCLA Planetarium</b>	
· Night sky show (for elementary school students)	Oct. 2022
· Night sky show (for “Physics and Astronomy for Everyone” outreach program)	May 2022
· “ <i>Black Holes</i> ” (for middle school students) with Devon Williams	May 2022
· “ <i>The Big Bang: A Timeline of the Early Universe</i> ” with Claire Williams	May 2022

### Astrobites

- 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