VEDANT CHANDRA

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Professional Appointments

Graduate Student, Center for Astrophysics | Harvard & Smithsonian — September, 2021–Present

Research Intern, Space Telescope Science Institute — June, 2020–May, 2021

Research Assistant, Johns Hopkins University — November, 2018–May, 2021

Education

Harvard University — 2021–Present

- A.M., Ph.D. Astronomy & Astrophysics (intended)

Johns Hopkins University — 2017–2021

- B.S. Physics & Applied Mathematics, minor in Space Sciences

Awards & Honors

James Mills Peirce Fellowship, Harvard University — 2021

Chambliss Medal, American Astronomical Society — 2021

$\Sigma\,\Pi\,\Sigma$ — 2020

Summer Student Fellowship, JHU IDIES — 2020

Provost's Undergraduate Research Award, JHU — 2019

Dean's Undergraduate Research Award, JHU — 2019

Dean's List 7/7 Semesters, JHU — 2017-2021

Grant Allocations

STScI JWST Discretionary Fund ($42,740) — 2020

- "The Initial Mass Function of Resolved Stellar Populations in the Local Group"
- PI: Mario Gennaro, Co-I: Vedant Chandra

Various Undergraduate Research Grants ($13,500) — 2019-2020

- PI: Vedant Chandra, Co-Is: Nadia Zakamska, Hsiang-Chih Hwang, Kevin C. Schlaufman

Selected Press Coverage

ScienceNews Magazine — August, 2020

- "Paradoxically, white dwarf stars shrink as they gain mass"

JHU Press Release — July, 2020

- "Johns Hopkins astrophysicists observe long-theorized quantum phenomena"

Invited Talks

Summer Symposium, Space Telescope Science Institute — July, 2020

- "Fitting the Stellar Birth Function of Resolved Stellar Populations with Approximate Bayesian Computation", 19:30 onwards.

Summer Symposium, Space Telescope Science Institute August, 2019

- "White Dwarf Spectroscopy with Machine Learning", 21:00 onwards.

Annual Symposium, Maryland Space Grant Consortium July, 2019

- "White Dwarf Astronomy with Machine Learning".

Poster Presentations

237th Meeting of the American Astronomical Society January, 2021

- "Resolved Stellar Populations in the Era of JWST and Roman", iPoster

IDIES and MINDS Annual Symposium October, 2020

- "Hunting for Metal-Poor Main-Sequence Stars in SDSS", awarded Best Poster.

NASA HRP Investigators Workshop January, 2020

- "Multivariate Analysis of Human Health and Performance in Spaceflight Simulation"

IDIES Annual Symposium October, 2019

- "Characterizing White Dwarf Spectra with Neural Networks"

JHU DREAMS Conference April, 2019

- "Hunting for Binary White Dwarf Stars with Spectroscopic Analysis"

Observatory Allocations

As Principal Investigator:

Gemini Observatory (GMOS) 2021

- "A Short-period Double White Dwarf Binary from SDSS-V", 3 hours.
- "Monitoring a Dynamic Gaseous Debris Disk around a White Dwarf", 2 hours.
- "Double White Dwarf Binaries from SDSS-V", 5 hours.

Apache Point Observatory 3.5 m (DIS, ARCTIC) 2020-2021

- "Monitoring Circumstellar Debris around a Runaway SN Ia Donor", 12 hours.
- "Peculiar Hypervelocity Stars from Gaia EDR3", 23 hours.
- "Time-resolved Radial Velocities of Massive White Dwarfs in Close Binary Systems", 10 hours.

As Co-Investigator/Observer:

Apache Point Observatory 3.5 m, 25 hours 2020-2021

Neils Gehrels Swift Observatory, 1 hour 2021

Gemini Observatory, 8 hours 2020

Undergraduate Research Mentorship

John Magardino (JHU Physics & Astronomy) Summer, 2020

Felix Yu (JHU Physics & Astronomy) Summer, 2020

Rebecca Mosier (JHU Human Spaceflight Lab) 2019-2020

Jessica Nguyen (JHU Human Spaceflight Lab) 2019-2020

Teaching

Teaching Assistant, 360.133 Great Books at Hopkins, JHU Fall, 2018

Teaching Assistant, 171.101 General Physics I, JHU Summer, 2018

Professional Service

Member, Sloan Digital Sky Survey V 2020-Present

Outreach

Head of Logistics, JHU MedHacks Hackathon 2018-2019

Volunteer, JHU Physics Spring Fair 2018-2019

Contributing Writer, space.stackexchange.com 2014-2018

References

Professor Charlie Conroy, Harvard University (cconroy@cfa.harvard.edu)

Professor Nadia L. Zakamska, Johns Hopkins University (zakamska@jhu.edu)

Dr Mario Gennaro, Space Telescope Science Institute (gennaro@stsci.edu)

Peer-Reviewed Publications

5. **Vedant Chandra**, Hsiang-Chih Hwang, Nadia L. Zakamska, Simon Blouin, Andrew Swan, Thomas R. Marsh, Ken J. Shen, Boris T. Gänsicke, J.J. Hermes, Odelia Putterman, Evan B. Bauer, Evan Petrosky, Vikram S. Dhillon, Stuart P. Littlefair & Richard P. Ashley (2021)
"The SN Ia Runaway LP 398-9: Detection of Circumstellar Material and Surface Rotation"
Monthly Notices of the Royal Astronomical Society, submitted

4. **Vedant Chandra**, Hsiang-Chih Hwang, Nadia L. Zakamska, Boris T. Gänsicke, J.J. Hermes, Axel Schwope, Carles Badenes, Gagik Tovmassian, Evan B. Bauer, Dan Maoz, Matthias R. Schreiber, Odette F. Toloza, Keith P. Inight, Hans-Walter Rix & Warren R. Brown (2021)
"A 99-minute Double-lined White Dwarf Binary from SDSS-V"
The Astrophysical Journal, in press

3. **Vedant Chandra** & Kevin C. Schlaufman (2021)
"Searching for Low-mass Population III Stars Disguised as White Dwarfs"
The Astronomical Journal, 161, 197

2. **Vedant Chandra**, Hsiang-Chih Hwang, Nadia L. Zakamska & Sihao Cheng (2020)
"A Gravitational Redshift Measurement of the White Dwarf Mass–Radius Relation"
The Astrophysical Journal, 899, 146

1. **Vedant Chandra**, Hsiang-Chih Hwang, Nadia L. Zakamska & Tamás Budavári (2020)
"Computational Tools for the Spectroscopic Analysis of White Dwarfs"
Monthly Notices of the Royal Astronomical Society, 497, 2688

Co-Authored Publications

1. Evan Petrosky, Hsiang-Chih Hwang, Nadia L. Zakamska, **Vedant Chandra** & Matthew Hill (2021)
"Variability, periodicity and contact binaries in WISE"
Monthly Notices of the Royal Astronomical Society, 503, 3975

Other Published Works

astrobites September, 2020

- "Measuring the White Dwarf Mass-Radius Relation using Thousands of Stars"