

AKSHAY SURESH

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EDUCATION

PhD (Astronomy), Cornell University	08/2017 – 06/2023 (expected)
MS (Astronomy), Cornell University	08/2017 – 12/2019
BS–MS (Physics) Dual Degree with Distinction, IISER Pune	08/2012 – 05/2017

WORK EXPERIENCE

Graduate Research and Teaching Assistant at Cornell University Adviser: James M. Cordes Ph.D. thesis: <i>Radio Transient Searches from Millisecond to Hour-long Timescales</i>	08/2017 – Present
Machine Learning Researcher, Frontier Development Lab USA <i>Climate Adaptation: Geomechanics for CO₂ Sequestration</i>	06/2022 – 08/2022
Visiting Student Researcher at UC Berkeley Hosts: Vishal Gajjar & Andrew P. V. Siemion	09/2021 – 06/2022
Masters Thesis Research Student at NCRA–TIFR, Pune Adviser: Divya Oberoi MS thesis: <i>Investigation of Small Scale Weak Solar Emissions at Low Radio Frequencies</i>	05/2016 – 05/2017
Undergraduate Summer Internships: DAAD–WISE internship at the Max Planck Institute for Extraterrestrial Physics	2015
NIUS–Physics fellow at NCRA–TIFR, Pune	2014

AWARDS AND SCHOLARSHIPS

Research Travel Grant, Cornell University	2022
IAU Travel Grant for IAU Symposium 369	2022
Cornell Graduate Student Travel Grant	2022
IAU Symposium 363 (virtual) Grants Support: Registration Fee Waiver	2021
Cranson and Edna B. Shelley Outstanding Teaching Assistant Award (Cornell Univ.)	2019
Institute Gold Medal (IISER Pune)	2017
Outstanding Student Paper Award in Space Physics and Aeronomy (AGU Fall Meeting)	2016
DAAD–WISE Summer Scholarship	2015
National Initiative on Undergraduate Sciences – Physics Fellowship	2013
Kendriya Vaigyanik Protsahan Yojana Fellowship	2012 – 2017

REFEREED JOURNAL PUBLICATIONS

8 publications: 6 first-author, 2 co-author.

1. **Suresh, A.**, Cordes, J. M., Chatterjee, S., Gajjar, V., et al. (9 authors), *4–8 GHz Fourier-domain Searches for Galactic Center Pulsars*, [2022 *ApJ* 933 121](#).

2. **Suresh, A.**, Cordes, J. M., Chatterjee, S., Gajjar, V., et al. (7 authors), *4–8 GHz Spectro-temporal Emission from the Galactic Center Magnetar PSR J1745–2900*, [2021 ApJ 921 101](#).
3. **Suresh, A.**, Chatterjee, S., Cordes, J. M., & Crawford, F., *An Arecibo Search for Fast Radio Transients from M87*, [2021 ApJ 920 16](#).
4. **Suresh, A.**, Chatterjee, S., Cordes, J. M., Bastian, T. S. & Hallinan, G., *Detection of 2–4 GHz Continuum Emission from ϵ Eridani*, [2020 ApJ 904 138](#).
5. **Suresh, A.**, & Cordes, J. M., *Induced Polarization from Birefringent Pulse Splitting in Magneto-ionic Media*, [2019 ApJ 870 29](#).
6. **Suresh, A.**, Sharma, R., Oberoi, D., et al. (39 authors), *Wavelet-based Characterization of Small-scale Solar Emission Features at Low Radio Frequencies*, [2017 ApJ 843 19](#).
7. Gajjar, V., et al. (22 authors including **Suresh, A.**), *Searching for broadband pulsed beacons from 1883 stars using neural networks*, [2022 ApJ 932 81](#).
8. Gajjar, V., et al. (26 authors including **Suresh, A.**), *The Breakthrough Listen Search For Intelligent Life Near the Galactic Center I*, [2021 AJ 162 33](#).

ACADEMIC PRESENTATIONS

Contributed Conference Talks

IAU Symposium 363: Neutron Star Astrophysics at the Crossroads <i>4–8 GHz Emission of the Galactic Center Magnetar PSR J1745–2900</i>	2021
The Past, Present, and Future of the VLA: Celebrating 40 Years <i>Radio Emission from ϵ Eridani</i>	2021
NANOGrav Fall Meeting <i>The Breakthrough Listen Galactic Center Survey using the Green Bank Telescope</i>	2019

Seminars

Curtin University Department-wide Lunch Talk <i>Fast Transient Searches of the Galactic Center</i>	2022
Green Bank Observatory Community Zoom <i>A Galactic Center Search for Fast Transients at 4–8 GHz</i>	2022
UC Berkeley Astronomy Short Talk <i>4–8 GHz Searches for Galactic Center Pulsars</i>	2022
Caltech Radio Astronomy Lunch Talk <i>A 4–8 GHz Search for Fast Transients at the Galactic Center</i>	2021
Breakthrough Listen Standing Seminar <i>4–8 GHz Emission Morphology of the Galactic Center Magnetar</i>	2021
Event Horizon Telescope Pulsar Working Group <i>Galactic Center Pulsar Searches with Breakthrough Listen Data</i>	2020

NCRA-TIFR Seminar <i>Birefringent Pulse Splitting in Magnetoionic Media</i>	2019
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UC Berkeley SETI Seminar <i>Propagation-induced Effects on Fast Radio Bursts and Extraterrestrial Intelligence Signals</i>	2018
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Posters

IAU Symposium 369: Cosmology and Multi-messenger Studies with Fast Radio Bursts <i>An Arecibo Survey of M87 for Fast Radio Bursts</i>	2022
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240th Meeting of the American Astronomical Society <i>A 4–8 GHz Search for Fast Transients at the Galactic Center (link)</i>	2022
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35th Meeting of the Astronomical Society of India <i>Exploring the Spatial Distribution of Weak Non-thermal Energy Releases on the Solar Surface</i>	2017
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American Geophysical Union Fall Meeting <i>Wavelet Based Characterization of Low Radio Frequency Solar Emissions</i>	2016
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34th Meeting of the Astronomical Society of India <i>Statistical analysis of weak solar bursts seen with the Murchison Widefield Array</i>	2016
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COMPETITIVELY AWARDED ALLOCATIONS

Observing Proposals (as PI)

Very Large Array: VLA/19A-283: Precise Localization of Flares from the ϵ Eri Exoplanetary System	(12 hrs.)
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Green Bank Telescope: GBT/21A-332: A Pilot Search for Galactic Transients from VLASS-identified Sources	(12 hrs.)
GBT/19A-407: A FLAG Survey of Virgo and Coma Clusters for Fast Radio Bursts	(64 hrs.)

Arecibo radio telescope: P3315: L-band Survey of M87 for Fast Radio Bursts	(12 hrs.)
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Supercomputing Proposals (as Co-PI)

XSEDE allocations PHY200054 and PHY210038:
Searches for Bursts, Pulses, and Periodic Signals in the Time Domain Radio Sky

TEACHING EXPERIENCE

Head Teaching Assistant (Cornell University) ASTRO 1101: From New Worlds to Black Holes	Fall 2018
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Teaching Assistant (Cornell University) ASTRO 1102: Our Solar System	Spring 2018
ASTRO 1101: From New Worlds to Black Holes	Fall 2017

MENTORING EXPERIENCE

Supervised Ryan J. Hill & Ethan S. Bair (both Cornell undergrads) during Fall 2019 on “Radio Frequency Interference Classification using Convolutional Neural Networks.”

ACTIVE MEMBER AFFILIATION

Graduate student member, American Astronomical Society 2019 – Present

TECHNICAL SKILLS

Computer Languages	Python, PyTorch, \LaTeX , HTML, Slurm batch scripting
Astronomy Software	CASA, DS9, PRESTO
Other Software	Microsoft Office

PROFESSIONAL SERVICE

Journal Referee
Monthly Notices of the Royal Astronomical Society 2020

OUTREACH

“Ask an Astronomer” team member at Cornell University 2017 – 2020
Answer astronomy-related questions submitted by the public on an online forum.

Scientific Poster-making Workshop Organizer 2020
A tutorial on scientific poster-making and presentation for Cornell Astronomy REU students.

Lead Organizer of TESS hackathon 2019
Organized a TESS planet-hunting workshop for the Carl Sagan Institute at Cornell University

4H Career Explorations for high school students 2018
Conducted lectures and demonstrations on blackbody radiation and spectral lines.

Museum in the Dark 2018
Organized stargazing sessions as part of a Halloween-themed night-time event at a local museum.