

# AKSHAY SURESH

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## EDUCATION

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

## WORK EXPERIENCE

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Visiting Student Researcher at UC Berkeley	09/2021 – Present
Advisors: Vishal Gajjar & Andrew P. V. Siemion	

Graduate Research and Teaching Assistant at Cornell University	08/2017 – 08/2021
Advisor: James M. Cordes	
Ph.D. thesis: <i>Radio Transient Searches from Millisecond to Hour-long Timescales</i>	

Masters Thesis Research Student at NCRA–TIFR, Pune	05/2016 – 05/2017
Advisor: Divya Oberoi	
<a href="#">MS thesis</a> : <i>Investigation of Small Scale Weak Solar Emissions at Low Radio Frequencies</i>	

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

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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

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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  $\epsilon$  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

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### 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 <math>\epsilon</math> Eridani</i>	2021
NANOGrav Fall Meeting <i>The Breakthrough Listen Galactic Center Survey using the Green Bank Telescope</i>	2019

### Seminars

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

UC Berkeley SETI Seminar 2018  
*Propagation-induced Effects on Fast Radio Bursts and Extraterrestrial Intelligence Signals*

#### Posters

IAU Symposium 369: Cosmology and Multi-messenger Studies with Fast Radio Bursts 2022  
*An Arecibo Survey of M87 for Fast Radio Bursts*

240th Meeting of the American Astronomical Society 2022  
*A 4–8 GHz Search for Fast Transients at the Galactic Center* ([link](#))

35th Meeting of the Astronomical Society of India 2017  
*Exploring the Spatial Distribution of Weak Non-thermal Energy Releases on the Solar Surface*

American Geophysical Union Fall Meeting 2016  
*Wavelet Based Characterization of Low Radio Frequency Solar Emissions*

34th Meeting of the Astronomical Society of India 2016  
*Statistical analysis of weak solar bursts seen with the Murchison Widefield Array*

#### **APPROVED ALLOCATIONS**

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##### Observing Proposals (as PI)

Very Large Array:

VLA/19A-283: Precise Localization of Flares from the  $\epsilon$  Eri Exoplanetary System (12 hrs.)

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.)

##### Super-computing Proposals (as Co-PI)

XSEDE allocations PHY200054 and PHY210038:

Searches for Bursts, Pulses, and Periodic Signals in the Time Domain Radio Sky

#### **TEACHING EXPERIENCE**

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Head Teaching Assistant (Cornell University)

ASTRO 1101: From New Worlds to Black Holes Fall 2018

Teaching Assistant (Cornell University)

ASTRO 1102: Our Solar System Spring 2018

ASTRO 1101: From New Worlds to Black Holes Fall 2017

#### **MENTORING EXPERIENCE**

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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

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Graduate student member, American Astronomical Society	2019 – Present
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## TECHNICAL SKILLS

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<b>Computer Languages</b>	Python, L <sup>A</sup> T <sub>E</sub> X, HTML, Slurm batch scripting
<b>Astronomy Software</b>	PRESTO, CASA, DS9
<b>Other Software</b>	Microsoft Office

## PROFESSIONAL SERVICE

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Journal Referee	
Monthly Notices of the Royal Astronomical Society	2020

## OUTREACH

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“Ask an Astronomer” team member at Cornell University <i>Answer astronomy-related questions submitted by the public on an online forum.</i>	2017 – 2020
Scientific Poster-making Workshop Organizer <i>A tutorial on scientific poster-making and presentation for Cornell Astronomy REU students.</i>	2020
Lead Organizer of TESS hackathon <i>Organized a TESS planet-hunting workshop for the Carl Sagan Institute at Cornell University</i>	2019
4H Career Explorations for high school students <i>Conducted lectures and demonstrations on blackbody radiation and spectral lines.</i>	2018
Museum in the Dark <i>Organized stargazing sessions as part of a Halloween-themed night-time event at a local museum.</i>	2018