AKSHAY SURESH

Space Sciences Building 614, 122 Sciences Drive, Ithaca, NY 14853, USA
https://akshaysuresh1.com 0000-0002-5389-7806 as3655@cornell.edu

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 — 08/2017 – Present
Adviser: James M. Cordes
Ph.D. thesis: *Radio Transient Searches from Millisecond to Hour-long Timescales*

Machine Learning Researcher, Frontier Development Lab USA — 06/2022 – 08/2022
Climate Adaptation: Geomechanics for CO_2 Sequestration

Visiting Student Researcher at UC Berkeley — 09/2021 – 06/2022
Hosts: Vishal Gajjar & Andrew P. V. Siemion

Masters Thesis Research Student at NCRA–TIFR, Pune — 05/2016 – 05/2017
Adviser: Divya Oberoi
MS thesis: *Investigation of Small Scale Weak Solar Emissions at Low Radio Frequencies*

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

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

GRANTS

Cornell University Graduate School:
Research Travel Grant — 2022
Conference Travel Grant — 2022

International Astronomical Union (IAU):
IAU General Assembly Travel Grant — 2022
IAU Symposium 363 (virtual) Registration Waiver — 2021

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 — 2021
4–8 GHz Emission of the Galactic Center Magnetar PSR J1745−2900

The Past, Present, and Future of the VLA: Celebrating 40 Years — 2021
Radio Emission from ε Eridani

NANOGrav Fall Meeting — 2019
The Breakthrough Listen Galactic Center Survey using the Green Bank Telescope

Seminars

Curtin University Department-wide Lunch Talk — 2022
Fast Transient Searches of the Galactic Center

Green Bank Observatory Community Zoom — 2022
A Galactic Center Search for Fast Transients at 4–8 GHz

UC Berkeley Astronomy Short Talk — 2022
4–8 GHz Searches for Galactic Center Pulsars

Caltech Radio Astronomy Lunch Talk — 2021
A 4–8 GHz Search for Fast Transients at the Galactic Center

Breakthrough Listen Standing Seminar 2021
4–8 GHz Emission Morphology of the Galactic Center Magnetar

Event Horizon Telescope Pulsar Working Group 2020
Galactic Center Pulsar Searches with Breakthrough Listen Data

NCRA-TIFR Seminar 2019
Birefringent Pulse Splitting in Magnetoionic Media

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

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.)

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.)

Supercomputing Proposals (as Co-PI)

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

MENTORING EXPERIENCE

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

TEACHING EXPERIENCE

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

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.