

PRANAV SATHEESH

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RESEARCH INTERESTS

Massive black hole dynamics, Galaxy-black hole co-evolution, Massive black hole formation, Gravitational Waves

EDUCATION

University of Florida 2022 - Present
Ph.D. in Physics
Advisor: Dr. Laura Blecha

Indian Institute of Technology Madras 2017 - 2022
BS-MS Dual Degree in Physics

APPOINTMENTS

Graduate Research Assistant 2023 - Present
University of Florida
Department of Physics

Graduate Teaching Assistant 2022 - 2023
University of Florida
Department of Physics

AWARDS AND SCHOLARSHIPS

[Steigleman fellowship](#) for graduate research in theoretical astrophysics in UF Physics 2024
[Graduate fellowship](#) for first-year graduate students from UF Physics 2022
[62nd Institute day award](#) for academic performance in Physics from IIT Madras 2021
Selected for [ThinkSwiss Research Scholarship](#) 2020
Recipient of the [INSPIRE-DST Scholarship for Higher Education](#) 2017 - 2022

PUBLICATIONS

- **Satheesh, P.**, Blecha, L., & Kelley, L. Z. (2025). *Mergers and Recoil in Triple Massive Black Hole Systems from Illustris*, (in prep.)
- Paul, K., Maurya, A., Henry, Q., Sharma, K., **Satheesh, P.**, Divyajyoti, Kumar, P., & Mishra, C.K. (2024). *ESIGMAHM: An Eccentric, Spinning inspiral-merger-ringdown waveform model with Higher Modes for the detection and characterization of binary black holes*, [arXiv:2409.13866](#).

PRESENTATIONS

Talks

- **Satheesh, P.**, Blecha, L. *Studying gravitational wave and slingshot recoil of massive black holes in cosmological simulations*, **33rd Midwest Relativity meeting, University of Chicago**, November 2023

Posters

- **Satheesh, P.**, Blecha, L., & Kelley, L. *Mergers, recoil and slingshot in triple massive black hole systems, The era of binary supermassive black holes*, **Aspen Center for Physics**, February 2025

- **Satheesh, P.**, Blecha, L., & Kelley, L. *Studying gravitational wave and slingshot recoil of massive black holes in cosmological simulations*, **Nanograv Fall collaboration meeting, University of Michigan**, October 2024
- **Satheesh, P.**, Gandhi, S., & Mishra, C.K. *Fisher analysis of eccentric binaries with higher mode frequency domain inspirals*, **LIGO-Virgo-KAGRA collaboration meeting (virtual)**, March 2022
- **Satheesh, P.**, Saha, P., Schmid, H. *A spectropolarimetric method for predicting the gravitational wave polarization of LISA verification binaries*, **237th American Astronomical Society meeting**, 2021

PROFESSIONAL MEMBERSHIPS

Associate Member, Nanograv collaboration	2024 - Present
Graduate Member, American Astronomical Society	2023 - Present
Graduate Member, American Physical Society	2022-2023
Member, LIGO Scientific Collaboration	2021 - 2022

TECHNICAL SKILLS

Programming Languages	Python, C/C++
Software & Tools	Mathematica, LaTeX, Git, GitHub, Shell scripting, hpg
High Performance Computing	Slurm, OpenMP
Python Packages	Pandas, Matplotlib, Numpy, Scipy, Astropy, Scikit-learn
Operating Systems	Linux, Windows, macOS

TEACHING EXPERIENCE

Teaching Assistant, Code-Astro 2023 <i>Taught sessions at this software engineering workshop for astronomy supported by the Heising-Simons Foundation.</i>	Summer 2023
Teaching Assistant, Physics-1 with calculus lab <i>Introductory laboratory course for undergraduates taking Physics I with calculus at the University of Florida.</i>	Fall 2022
Grader, Complex Networks <i>Graduate-level course at IIT Madras.</i>	Spring 2021

SCIENCE COMMUNICATION AND OUTREACH

Service

- Organizer, [Comscicon Flagship Workshop](#) 2025
- Writer and Illustrator, [ComSciWri](#) 2025 - Present
- Author, [Astrobites](#) 2023-2025
- Organizer, [Physics Graduate Community](#) 2023-Present
- Head, [Horizon: The Physics and Astronomy Club of IIT Madras](#) 2019-2020

Science-communication pieces

- Comic on massive black hole formation 2024
- Comic on gravitational wave background 2024
- AAS Nova article 2024
- Articles written by as an author for Astrobites. 2023-2025

Talks

- *Python for Astronomy*, An Youtube lecture series offered by me as part of Horizon Jul 2020
- *Relativity and Gravitation*, Horizon-IITM Summer School July 2021
- *Analysis of Globular Clusters Using Colour-Magnitude Diagrams*, Shaastra IITM Jan 2020

WORKSHOPS ATTENDED

Nanograv student workshop, Michigan	2024
Comscicon flagship workshop, Boston	2024
ICTS Summer School on Gravitational Wave Astronomy	2023
School on Black Holes and Gravitational Waves, Chennai, India	2022
Physics of the Early Universe, ICTS (Online)	2020