# Pranav Satheesh

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**Reserach Interests**

Gravitational Wave Astronomy and Astrophysics, Post-Newtonian theory and Numerical Relativity, Stochastic Gravitational wave background and Cosmology

**Education**

**Indian Institute of Technology Madras, Chennai, India** 2017 - 2022 (expected)
**BS-MS Dual Degree Physics**
CGPA: 9.20/10

**Projects and Research Experience**

**Including Spin effects in eccentric ENIGMA waveform** Jul 2021 - *Present*
*Mentored by Dr. Chandra Kant Mishra, IIT Madras and Dr. Prayush Kumar, ICTS*
- Final year thesis

**Constructing ready-to-use frequency domnain model for eccentric binary black holes including higher modes**
*Mentored by Dr. Chandra Kant Mishra, IIT Madras* Aug 2019 - July 2021
- SPA waveform model

**Polarimetric method for prediciting gravitational wave polarization of LISA verification binaries**
*Mentored by Prof. Prasenjit Saha, University of Zurich* May 2020 - Present
- HP Librae variable star

**Studying the primordial gravitational waves from inflation and preheating phase**
*Mentored by Prof. L. Sriramkumar , IIT Madras* Aug 2020 - Present
- Mini-Project

**Signal detection and parameter estimation using LIGO O1 and O2 data**
*Mentored by Prof. Rajesh Nayak , IISER Kolkata* Summer 2019
- Data analysis

**Publications**

- (In preperation) **Pranav Satheesh**,Chandra Kant Mishra
  *Ready-to-use eccentric frequency domain templates with non quadrapole* modes
- (In preperation) Tamal RoyChowdhury, Abhishek Chattaraj, **Pranav Satheesh**, Chandra Kant Mishra
  *Eccentric time domain and frequency domain Inspiral-Merger-Ringdown hybrid waveforms*

**Conferences**

**Contributed talks and posters**

- KAGRA conference
- Amaldi 2021
- 237th American Astronomical Society meet, 2021
- RAS Early career research

**Attended meetings**

- BitGrav meeting
- CMU meeting

## Schools and Workshops

- Participant, **ICTS Summer School on Gravitational Wave Astronomy**, ICTS, Bengaluru, India, July 2021 (Online)
- Tutor, **Code Astro 2021**, June 2021 (Online)
- Participant, ICERM, Brown University (online)
- Participant, Bilby workshop
- Participant, **Physics of the Early Universe**, ICTS, Bengaluru, India, September 2020 (Online)
- Participant, **ICTS Summer School on Gravitational Wave Astronomy**, ICTS, Bengaluru, India, May-June 2020 (Online)
- Participant, **Code Astro 2020**, June 2020 (Online)

## Relevant Coursework

Physics Courses Math Courses

## Technical Skills

**Programming Languages** - Python, C, C++
**Softwares** - Mathematica, SAO DS9
**Tools/Frameworks** - LaTeX, Git

## Scores and Awards

- Selected for **ThinkSwiss Research Scholarship** by Swissnex, India
- Recepient of the INSPIRE-DST Scholarship for Higher Education for the period 2017 to 2021

## Outreach Talks