

# Aswin N

Curriculum vitae (9th Jan 2025)

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## EDUCATION

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### Indian Institute of Science Education and Research (IISER) Berhampur

Expected May 2027

*BS-MS, Physics*

*Berhampur, Odisha*

- **Relevant Coursework:** Mathematical methods, Mechanics, Electromagnetism, Calculus of one variable, Waves and introductory optics, Linear algebra, Quantum physics, Multivariable calculus, Technical writing, Classical mechanics, Quantum mechanics - I, Thermal physics, Numerical methods and analysis (computational).

## RESEARCH INTERESTS

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I am interested in many facets of theoretical physics, particularly general relativity, its applications in astrophysics and quantum field theories, alongside some string related theories.

## RESEARCH EXPERIENCE

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### QSO's as tracers of our Universe

Jun 2024 - Present

*Advisor: Dr.Shadab Alam, TIFR Mumbai*

*Mumbai, Maharashtra*

- \* Worked on arriving at the projected correlated function to validate theory with respect to observed data from surveys like eBOSS and eROSITA.
- \* Working on a relation between LSS traced by QSO's and the underlying dark matter halo mass distribution.
- \* Investigating possible signatures of black hole mergers, by creating the mass merger history, to be further correlated with kick velocities in LSS.

## LEADERSHIP AND OUTREACH

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### TEDx

May 2024 - Sep 2024

*Core member + Website lead*

*Berhampur, Odisha*

- Lead the process of making the website, worked on integration with the main fest's website.
- Handling maintenance, upkeep and updates to the website.
- Coordinated with tedx speakers, gained insights with regards to their expertise in their various fields.

### Episteme - science magazine

May 2024 - Present

*Core member + Website lead*

*Berhampur, Odisha*

- Managing, structuring, publishing and proof reading science communication material to be added to the magazine
- Remade the website, after a catastrophic loss of the prior one, due to hosting service migration problems.
- Handling maintenance, upkeep and updates to the website as well.

### Science Sub-council

Feb 2024 - Present

*Member*

*Berhampur, Odisha*

- Hosted and participated in multiple meetings related to improvement of scientific temperament across campus students.
- Formed communication channels for active communication between the student body and the various active clubs.

### Stream - Outreach

Jan 2024 - Feb 2024

*Member of Organizing committee*

*Berhampur, Odisha*

- Was an outreach event aimed at developing a scientific temperament in young school students.
- Created multiple engaging presentations and experiments, that were showcased to the students, to foster their growth and interest in the fields of astronomy, physics and programming.
- Arranged food, and other basic necessities for the visiting students.

## Naxatra - Astronomy club

Dec 2023 - Present

*Core member*

*Berhampur, Odisha*

- Organized events aimed at increasing interest in, and awareness about astronomy, in a holistic and engaging manner.
- Organized telescope sessions, especially during celestial events, aimed at teaching the population of the university about the inner workings of a telescope and the skills necessary to operate one.
- Hosted multiple online and offline talks presented by both students and professors.

## Lovelace society - Coding and robotics club

Sep 2023 - Present

*Coordinator*

*Berhampur, Odisha*

- Organized events and workshops to test and improve the coding skills of the participants.

## 137 Inverse - Physics club

Sep 2023 - Present

*Core member*

*Berhampur, Odisha*

- Organized educational and fun events to foster a scientific approach to thinking amongst college students, like, "Pandora's box" and "2024: A Space Odyssey"
- Managed the club-run physics newsletter, "Matter matters", to ensure routine and timely publishing, along with quality and reach of articles.
- Hosted, arranged and organized multiple online and offline talks presented by both professors and students.

## Covid care teens - NGO

May 2021 - Dec 2021

*Core member*

*Chennai, Tamil Nadu*

- Organized and created easy access mechanisms for the large amounts of data regarding the available government and private health services during the pandemic.
- Participated in upkeep of website and management of communication channels.

## COURSES AND PROJECTS

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- Supervised Machine Learning: Regression and Classification | *Stanford Online*
- From big bang to dark energy | *University of Tokyo*
- Holographic Principle - Report

## SKILLS

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**Programming:**  $\text{\LaTeX}$ , Python, HTML, CSS, JS, Jupyter, Git, Linux

**Other:** Microsoft Office, Adobe Creative Suite