

Mubashshir Uddin

BS Physics, Sophomore at Indian Institute of Technology Kanpur

I am a Physics Enthusiast, aspiring Cosmologist/Astrophysicist, at the heart of all of my endeavour's lie, the zest to know more and understand the world that I am inevitably a part of. My main research interests are: **The evolution of our universe (Big Bang Nucleosynthesis, early Galaxy formation, Stellar evolution), Role of Black-holes in galaxy formation and the Entropic/Informational aspect of Black holes.** I am also interested in- **Human Cognition and possibility of its implementation in AI**, if and when we discover the cause of consciousness.

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RELEVANT COURSEWORK AND SKILLS

- **Physics:** Physics of Information Processing*, Thermal Physics, Special Theory of Relativity*, Electrodynamics, Classical Mechanics.
- **Mathematics:** PDE, ODE, Linear Algebra, Introduction to calculus.
- **Programming:** C, Python, Bash, Java, HTML, MatLab, \LaTeX .
- **Other proficiencies:** Blender, Autodesk Fusion, Ansys.

* - ongoing

EDUCATION

Bachelor of Science (BS)

Indian Institute of Technology Kanpur
2019 – 2023 (expected)
• Major in Physics
• Cumulative Performance Index (CPI): 6.7⁺/10

Intermediate (12th Grade)

St. Joseph's Convent school
2016 – 2018 Varanasi
• Aggregate - 86.6%

High School (10th Grade)

St. Joseph's Convent school
2014 – 2016 Varanasi
• Aggregate - 85.6%

⁺ - Reevaluation request underway

PROJECTS AND WORKSHOPS

Cosmic Neutrino Observations at Ultra High Energy

IIT Kanpur 16th Dec, 2019 – 23rd Dec, 2019 (total 18 hours of lecture)

- **Winter School jointly instructed by:**
P.K. Jain [IITK] | Dave Besson [Kansas University] | Sukanta Panda [IISER Bhopal] | P.K. Mohanty [TIFR, Mumbai]
- Extensive Cosmic Rays Air Showers and Observation of Ultra High Energy Neutrinos

Summer project

Astronomy Club, IITK Jun-Jul, 2020

Keywords: Research and Documentation (RAD) project, Cosmology, Evolution and mysteries of our universe.

- We closely followed the Book: **A Physical Universe**, by-Frank Shu
- And finally compiled and documented our work in form of a **Handbook**
- My contributions to the project were: Introduction, Compilation/Consolidation and Sections-6,7,8

OTHER ACTIVITIES AND POSITIONS OF RESPONSIBILITY

- **Secretary, Astronomy Club, IIT Kanpur** (Jan,2020- present)
 - Research and analyse scientific articles and texts related to astronomy.
 - Writing articles and short Summaries for club to host over various social media handles and homepage, as a continuing effort to foster Astronomy among the campus community.
- **Team Member, Aerial Robotics IITK** (Mar,2020- present)
 - ArIITK is a Student team, working under the guidance of **Prof. Abhishek [IITK]**, Our purpose is: Learning and Implementing technologies in the field of Unmanned Aerial Vehicles (UAV's), and showcase that learning on platforms like international competitions (e.g. IARC)
 - My contribution for the team are Design and Mechanics oriented, using tools like- Blender, CAD, and Ansys.
- **Academic Mentor, CovEd India organisation** (April,2020 - June,2020)
 - Delivered one-on-one Academic and Emotional help to students when the studies were hampered by the Coronavirus Pandemic, 2020.

ACADEMIC ACHIEVEMENTS

- **International Astronomy and Astrophysics Competition (IAAC), 2020**
Received Silver honor in IAAC finals, after qualifying through various stages. Stood among top 7% of all participants worldwide.
– Verification ID: F-2020-E7404A927E3
- **JEE Advanced, 2019** | IIT Roorkee
Secured All India Rank 4412, among 150,000 participants. (Top 3%)

LANGUAGES

English (proficient)

Hindi (proficient)

French (learning)