

# Anjan Kar

## Curriculum Vitae

Department of Physics  
Indian Institute of Technology Kharagpur  
✉ [anjankar.phys@gmail.com](mailto:anjankar.phys@gmail.com)  
📄 [My Webpage](#)  
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### Profile

I am a PhD student at the Department of Physics, Indian Institute of Technology, Kharagpur, India. I work in Gravitational Physics under the supervision of Prof. Sayan Kar.

**Research Interest** Regular black holes, black hole shadow, gravitational lensing, quasinormal mode, perturbation, gravitational collapse and black hole thermodynamics.

### Education

- 2022 – Now **Indian Institute of Technology**, Kharagpur, India  
**Doctoral Student**, Gravitational Physics  
Advisor: *Prof. Sayan Kar*  
Thesis Title:
- 2020 – 2022 **Indian Institute of Technology**, Kharagpur, India  
**M.Sc., Physics**, CGPA: 9.12  
Advisor: *Prof. Sayan Kar*  
Thesis Title: Shadows of rotating and non-rotating black holes
- 2017 – 2020 **Vidyasagar University**, Midnapore, India  
**B.Sc., Physics**, CGPA: 8.83

### Publications

- EPJC 2024 **‘Aspects of a novel nonlinear electrodynamics in flat spacetime and in a gravity-coupled scenario’.**  
*Anjan Kar*, [European Physical Journal C](#), vol. 84, no. 12, p. 1246, 2024, [arXiv:2406.10577 \[gr-qc\]](#)
- GRG 2024 **‘Novel regular black hole: geometry, source and shadow’.**  
*Anjan Kar* and Sayan Kar, [General Relativity and Gravitation](#), vol. 56, no. 5, p. 52, 2024, [arXiv:2308.12155 \[gr-qc\]](#)

## Seminar and poster presentations

- Rs day 2024 'New regular black holes: geometry, source and shadow' poster presented at the '**Research Scholar Day**', an event organized by the Department of Physics, Indian Institute of Technology Kharagpur (IIT Kharagpur), India in 2024.
- ICGC 2023 'New regular black holes: geometry, matter source and shadow' seminar presented at '*10th International Conference on Gravitation and Cosmology: New Horizons and Singularities in Gravity (ICGC 2023)*' organised by Indian Institute of Technology Guwahati (IIT Guwahati) in December 2023 in Guwahati, India.
- GrAsCo 2023 'The regular black holes' seminar presented at '**Gravity Astrophysics and Cosmology Seminar**', a weekly event at Indian Institute of Technology Kharagpur in April 2023.

## Schools, conferences and workshops

- ICGC 2023 '10th International Conference on Gravitation and Cosmology: New Horizons and Singularities in Gravity (ICGC 2023)' organised by Indian Institute of Technology Guwahati (IIT Guwahati) in December 2023 in Guwahati, India.
- IAGRG school 2023 'Indian Association of General Relativity and Gravitation (IAGRG) School on Gravitation and Cosmology 2023' organised by 'Internation Centre for Theoretical Science (ICTS Bengaluru)' in October 2023 in Bengaluru, India.
- VBO workshop 2023 'IIA Kavalur black hole workshop: Theory and observation 2023' organised by Indian Institute of Astrophysics (IIA Bengaluru) in June 2023 in Kavalur, Tamilnadu, India.
- IAGRG school 2022 (online) 'Indian Association of General Relativity and Gravitation (IAGRG) School on Gravitation and Cosmology 2022' organised by Internation Centre for Theoretical Science (ICTS Bengaluru, India) in April 2022.

## Teaching experience

- Spring 2024 Condensed Matter Physics Lab (PH39202) at IIT Kharagpur  
Position: Lab Instructor
- Spring 2024 BTech Physics Laboratory (PH19003) at IIT Kharagpur  
Position: Lab Instructor
- Autumn 2023 Physics of Waves (PH11003) at IIT Kharagpur  
Position: Theory TA

Spring 2023 BTech Physics Laboratory (PH19003) at IIT Kharagpur  
Position: Lab Instructor

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## Skills

Programming: Python, Pandas, Mathematica

Language: Bengali (native), English (fluent), Hindi (basic), German (basic)

Writing: Writing reports and other scientific documents with LATEX