

## Aniket Basu

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CURRENT POSITION Assistant Professor  
Department of Physics  
Vidyasagar College, Kolkata March 2015–present

COURSES TAUGHT Mathematical Methods, Statistical Mechanics, Quantum Mechanics, Computer Programming in C, Computer Programming in Python

INDUSTRY EXPERIENCE

- Analyst Global Risk, Investments and Treasury Technology  
Bank of America, Hyderabad May 2009–June 2010
- First Year Analyst Total Return Swaps Trading  
Bank of America, Mumbai July 2008–April 2009  
Nature of work: Training for a trading job, mainly involving maintenance of code in C# and Java that simulated a model employed by the bank to apprehend credit risk, and picking up the necessary mathematics and software skills in that particular line of business.

EDUCATION

**Ph.D. in Theoretical High Energy Physics** (ongoing) 2015–present  
University of Calcutta  
Nature of work: Evaluation of Feynman diagrams, building up to evaluation of beta functions for non-Abelian gauge theories. We hope to achieve some simplifications in calculations in quantum chromodynamics.

**M.Phil. in Theoretical Physics** 2002–2008  
Tata Institute of Fundamental Research, Mumbai  
Nature of work: Black hole microstate counting using string theoretic approaches

Graduate Student, Department of Physics 1999–2001  
Cornell University, Ithaca, NY GPA 3.2 out of 4  
Passed qualifying exams without further requirements  
Subsequently transferred to TIFR, Mumbai

**5-year Integrated M.Sc. in Physics** 1994–99  
Indian Institute of Technology, Kharagpur Specialization: Nuclear & Elementary Particle Physics  
Thesis Advisors: (the late) Prof. G. P. Sastry and (the late) Prof. R. S. Saraswat  
Thesis title: Computer Simulations of the Tippe Top Paradox in Relativity  
code written using C, later published as *Tippe Top Paradox in Relativity*, European Journal of Physics **23**, 295 (2002) with R.S. Saraswat, G. P. Sastry, Kedar Khare, and Sougato Bose  
CGPA 8.87 out of 10 over 5 years

**PUBLICATIONS**

## Preprints:

1. Preprint: *Tachyon Perturbation on Two dimensional Black Hole*, [arXiv:1308.2734 [hep-th]], with Parthasarathi Majumdar

## Papers published in refereed journals:

1. *Gauge Invariant Matter Field Actions from an Iterative Nöther Coupling*, [arXiv:1711.05608], Phys. Rev. D **98**, 105018 (2018), with Parthasarathi Majumdar and Indrajit Mitra
2. *Dual giant gravitons in  $AdS_m \times Y^n$  (Sasaki-Einstein)*, Journal of High Energy Physics JHEP **0707**, 014 (2007) [arXiv:hep-th/0608093] with Gautam Mandal.
3. *Tippe Top Paradox in Relativity*, European Journal of Physics **23**, 295 (2002) with R.S. Saraswat, G. P. Sastry, Kedar Khare, and Sougato Bose

**CONFERENCE PROCEEDINGS**

- *Deconstructing a non-Abelian gauge theory*, at **Symmetry 2021 - The 3rd International Conference on Symmetry**, session *Physics and Symmetry*, August 7, 2021, with Parthasarathi Majumdar, Indrajit Mitra and Suman Ghosh.

**PROFESSIONAL ACTIVITIES**

- Reviewer for *Journal of Modern Optics* (Taylor and Francis Group, UK)
- Reviewer for *Journal of Physics Communications* (Institute of Physics Publishing, UK)
- Student reviewer for prepublication version of *Exploring Black Holes* by Edwin F. Taylor and John Archibald Wheeler

**MEMBERSHIP OF PROFESSIONAL SOCIETIES**

Life Member of the Indian Association of Physics Teachers.

**COMPUTER SKILLS**

- *Operating Systems*: Windows, Linux
- Programming Languages Known: C (have taught this for five years), python (have taught this for ten semesters since 2018).

**AWARDS, ACHIEVEMENTS AND SCHOLARSHIPS**

- Ranked **5** in West Bengal College Service Commission 2013–4
- Kanwal Rekhi Scholarship at TIFR from 2002 to 2006
- Senior Research Fellowship at TIFR from 2004 to 2008
- Junior Research Fellowship at TIFR from 2002 to 2004
- Ranked **1** in TIFR Graduate School Admission Test in Physics 2002
- Ranked **14** in GATE 2002 (Physics)—percentile score **99.29**
- Ranked **52** in JEST 2002 (Physics)—percentile score **97.6026**
- Qualified for JRF through CSIR-NET, December 2001; was shortlisted for the final interview for the S. P. Mukherjee Fellowship
- *J.C. Ghosh Award* in my final year of M.Sc. at IIT Kharagpur, 1998–9 for ranking 1st over four years of study
- *Encouragement Award* at the *Jagadis Bose National Science Talent Search Contest* 1995
- Ranked **1383** in IIT-JEE 1994
- Ranked **190** in WBJEE 1994
- Ranked in the **top 1 per cent** of 21000+ examinees in the National Standard Examination in Physics, 1994, conducted by the Indian Association Physics Teachers
- Ranked **6** in a Talent Search Test of the Association for Improvement of Mathematics Teaching 1992

HOBBIES

- Chess
- Chess programming

REFERENCES

Available on request, mainly from various scientific institutions in India.