



Biswajit Bhowmick

PhD Student

Department of Physics

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EDUCATION

M.Sc. in Physics

2020-2022

Banaras Hindu University

Varanasi, Uttar Pradesh-221005, India

Marks/Grade(CGPA): 8.49/10

Bachelor of Science

2017-2020

Sripat Singh College (under University of Kalyani)

Major: Physics, Minor: Chemistry, Mathematics

Jiaganj, Murshidabad, West Bengal-742122, India

Marks/Grade: 78.6%

DETAIL ABOUT THE RELEVANT COURSES TAKEN

Methods in Theoretical Physics

An introduction to 'General Theory of Relativity' up to Einstein's equation and Schwarzschild's solution was done in this course along with 'Path Integral Approach to Quantum Mechanics'.

Quantum Mechanics II

Here 'Relativistic Quantum Mechanics' was introduced and its failures which led to the formalism of quantum field theory was explained. Also 'Quantum Field theory' was introduced without any interaction term for spin 0, $\frac{1}{2}$, and 1 particles.

Quantum Field Theory: Path Integral Approach

In this course path integral quantization of scalar field theory was introduced along with interaction fields (ϕ^4 theory). Generating functionals, n-point functions for this field theory was introduced along with Feynman rules and Feynman diagram. Feynman Rules and Feynman diagram for QED were also introduced. Renormalization of ϕ^4 theory was done where cutoff regularization and dimensional regularization techniques were introduced. Introduction to 'Renormalization Group Equation' was also done.

PROJECT AND RESEARCH

Renormalization Group Approach to Dynamical Systems <i>Banaras Hindu University</i> Under the supervision of Prof. Bhabani Prasad Mandal.	Ongoing
COMSOL Multiphysics Simulation of EWOD on single bubble system <i>Banaras Hindu University</i> Under the supervision of Dr. Jitesh Barman.	Winter 2022
On COMSOL Multiphysics Simulation of Electrowetting on Dielectric <i>Banaras Hindu University</i> Under the supervision of Dr. Jitesh Barman.	Spring 2022

ACCOLADES

Qualified Joint CSIR - UGC National Eligibility Test (NET) <i>For Lectureship/Assistant Professor with AIR 86</i>	June 2022
Qualified State Eligibility Test (SET) For Assistant Professor <i>Certificate issued by the West Bengal College Services Commission (WBCSC)</i> Accredited by the University Grants Commission (UGC), New Delhi, India.	2022
Qualified Graduate Aptitude Test in Engineering (GATE)	2022
Online course on “Matrix Analysis with Applications” <i>Certificate Awarded for scoring 66% in this course, conducted by NPTEL.</i>	2021
Online course on “Electronic Theory of Solids” <i>Certificate Awarded for scoring 81% in this course, conducted by NPTEL.</i>	2021
Qualified Joint Admission Test for Masters (JAM)	2021
Participated in Workshop on ‘Recent Trends in General Science’ <i>One day science awareness workshop</i> Conducted by Department of Physics, Krishnath College under University of Kalyani, Berhampore, Murshidabad, West Bengal, India	2019

FIELD OF INTEREST

- Beyond Standard Model
- Quantum Gravity
- Quantum Field Theory
- Cosmology
- Quantum Chromodynamics

SKILLS

Languages: English, Bengali (Native), Hindi.

Programming: Python (Basics), Fortran 77, C++ (Basics), Mathematica (Basics).

Other Softwares: COMSOL Multiphysics, Origin (Basics).

Document Creation: Microsoft Office Suite, L^AT_EX.

LIST OF REFEREES

Prof. Bhabani Prasad Mandal

Professor,

Department of Physics,

Banaras Hindu University

Varanasi, Uttar Pradesh-221005, India.

Email ID: bhabani@bhu.ac.in

Dr. Jitesh Barman

Assistant Professor,

Department of Physics,

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Varanasi, Uttar Pradesh-221005, India.

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Declaration:

I hereby declare that all the information mentioned above are true to the best of my knowledge,

Biswajit Bhowmick.