

## Curriculum vitae:

Rohit Mukherjee  
Ph. D, M. Sc (Physics)  
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## Career Objective:

I Rohit Mukherjee has completed my Ph. D in Science (Department of Physics) in BIT Mesra and looking for an assistant professor position in your esteemed college/university. My research interests are in nonlinear optics, parity-time (*PT*) symmetry, diffractive optics, quantum optics, and optical communications etc. In this field I have published seven research papers in high index journal (SCI) and think some better research works in future.

## Personal Information:

- ❖ **Name:** Rohit Mukherjee
- ❖ **Sex:** Male
- ❖ **Date of Birth:** 09.04.1995
- ❖ **Nationality:** Indian
- ❖ **Category:** General
- ❖ **Sub-Caste:** Economically Weaker section (EWS)
- ❖ **Father Name:** Molay Mukherjee
- ❖ **Permanent Address:** Vill-Kalyangram-2,  
P.O-Hindustan Cables,  
P.S-Salanpur, Dist-West Bardhaman  
Pin-713335, West Bengal.
- ❖ **Present Address:** Same as permanent address

## Research Interest:

- ❖ **Theoretical Nonlinear Optics**
- ❖ **Quantum Optics**
- ❖ **Diffractive Optics**
- ❖ **Non-Hermitian Photonics**

## Educational Qualification:

Name of the Examination	Year of Passing	Board/University	Subjects	Marks in Percentage
Secondary	2010	West Bengal Board of Secondary Education ( <b>WBBSE</b> )	Beng, Eng, Hist, Geo, Math, Phys. Sc, Biology.	73.25%
Higher-Secondary	2012	West Bengal Council of Higher Secondary Education ( <b>WBCHSE</b> )	Beng, Eng, Phys, Chem, Mathematics.	67.2%
B.Sc Physics (Hons.)	2015	Ramakrishna Mission Vivekananda Centenary College ( <b>An autonomous College Affiliated with WBSU</b> )	Physics (Hons), Mathematics, Chemistry.	71.50%
M.Sc Physics	2017	West Bengal State University ( <b>WBSU</b> )	Physics	67.05%
Ph.D (Physics)	2022	Birla Institute of Technology Mesra, Ranchi ( <b>A Deemed University</b> )	Quantum Mechanics, Mathematical Physics, Classical Mechanics, Research Methodology, Term Paper.	8.50 (CGPA)

**Thesis title:** *Optical Pulse and Beam Propagations in Semiconductor Quantum Well Nanostructures with Emphasis of Development of Photonic Devices*

## Research website:

- ❖ **ResearchGate:** [https://www.researchgate.net/profile/Rohit\\_Mukherjee6](https://www.researchgate.net/profile/Rohit_Mukherjee6)
- ❖ **Google Scholar:** <https://scholar.google.com/citations?user=WyiLQqUAAAAJ&hl=en&oi=ao>
- ❖ **ORCID iD:** <https://orcid.org/0000-0001-5373-4516>

## M. Sc Dissertations Details:

- ❖ **Third Semester Project:** Path Integral Formulation of Quantum Mechanics.
- ❖ **Forth Semester Project:** Study of 1-D Ising Model Within Mean Field Approximation Beyond Exact Solution of Ising Model and Calculate Critical Exponent under Technique of Renormalization Group.

## Awards & Qualification of National Level Examinations:

- ❖ Awarded **National level Scholarship** (Merit cum means Scholarship) on the basis of performance in B.Sc. (Honors) in Physics, i.e., (10+2+3) examination.
- ❖ Qualified **IIT-JAM**, Conducted by MHRD in 2015, Rank :1736.
- ❖ **Graduate Aptitude Test Engineering (GATE)**, Conducted by MHRD in 2017, Rank: 1359.
- ❖ **Council of Scientific and Industrial Research (CSIR-NET)**  
Year: 2017 (June), NET LS: 86.
- ❖ **Council of Scientific and Industrial Research (CSIR-NET)**  
Year: 2018 (December), NET LS: 76.
- ❖ Received Defense Research & Development Organization (DRDO) **Junior Research Fellowship (JRF)** and **Senior Research Fellowship (SRF)** from April 2018-March 2021.
- ❖ Received **Best Research Award** from NESIN 2020  
**International Research Awards on New Science Inventions** (NESIN 2020).
- ❖ Received registration grant from **Optica** (Formerly **Optical Society of America (OSA)**) for attending 2021 Siegman International School on Lasers.

## Work Experiences:

- ❖ Worked as a **Junior Research Fellow (JRF)** under Department of Atomic Energy (DAE) sponsored R & D project at **Indian Institute of Technology Bhubaneswar (IIT BBS)** from June 2017 to Sep 2017.
- ❖ Worked as a **Junior Research Fellow (JRF)** under Department of Science and Technology (DST) sponsored R & D project at **National Institute of Technology Patna (NIT Patna)** from Sep 2017 to Feb 2018.

- ❖ Worked as a **Junior Research Fellow (JRF)** & **Senior Research Fellow (SRF)** under Defense Research & Development Organization (DRDO) sponsored R & D project at **Birla Institute of Technology Mesra (Deemed University)** from April 2018 to April 2021.

## Computational Skills:

- ❖ Mathematical Software: **Matlab, Maple, Mathematica.**
- ❖ Typesetting Program: **Latex.**

## Publications:

- ❖ **Rohit Mukherjee**, and S. Konar; “Effect of Quintic Nonlinearity on Self-phase Modulation and Modulation Instability in Multiple Coupled Quantum Wells under Electromagnetically Induced Transparency,” *Results in Physics* **17**, 103090 (2020). (**I. F=4.476**). (SCI, Q1)
- ❖ **Rohit Mukherjee**, and S. Konar; “Parity-Time Symmetry and Asymmetric Diffraction of Light in Four-level Triple Quantum Wells,” *Journal of Optics* **22**, 105402 (2020). (**I. F=2.516**). (SCI, Q2)
- ❖ **Rohit Mukherjee**, S. Konar, and Puspashree Mishra; “Phase-sensitive Modulation Instability in Coupled Quantum Wells,” *Physical Review A* **103**, 033517 (2021). (**I. F=3.140**). (SCI, Q1)
- ❖ **Rohit Mukherjee**, and S. Konar; “Effects of Giant Kerr and Quintic Nonlinearities on Electromagnetically Induced Grating in Multiple Quantum Wells,” *European Physical Journal D* **75**, 263 (2021). (**I.F=1.425**) (SCI, Q2)
- ❖ **Rohit Mukherjee**, and S. Konar; “Electromagnetically Induced Grating and Parity-Time Symmetry in Coupled Quantum Wells,” *Chinese Journal of Physics* **74**, 440-453 (2021). (**I.F=3.267**) (SCIE, Q1)
- ❖ **Rohit Mukherjee**, and S. Konar; Theoretical Investigation of Electromagnetically Induced Transparency Based Quantum Well Infrared Photodetectors (**Communicated**).
- ❖ Manoj Mishra, Zlatko Jovanski, **Rohit Mukherjee**, and S. Konar; Short Pulse Generation via Modulation Instability and Dissipative Soliton Resonance in the Normal Dispersion Regime in Quantum Wells (**Communicated**).

- ❖ **Rohit Mukherjee**, and S. Konar; “Giant Fifth Order Nonlinearity in *N*-type Four Level Triple Quantum Wells,” *AIP Conference Proceedings* **2136**, 050005 (2019). (Scopus)

### Publication (Book Chapter):

- ❖ **Rohit Mukherjee**, and S. Konar; Electromagnetically Induced Grating in a 3-level Symmetric Quantum Well, *Springer Proceedings in Physics*, ICOL 2019, ISBN No: 978-981-15-9258-4.

### Presentation of Papers in Conference & Colloquium:

- ❖ International Conference on Photonics, Metamaterials & Plasmonics, IIIT Noida, Dept. of Physics & Materials Science, 14-16<sup>th</sup> Feb, 2019.
- ❖ Presenting a paper in First Research Scholar Colloquium @ BIT Mesra, 1-2<sup>nd</sup> Sep, 2019.
- ❖ International Conference on Optics and Electro-optics (ICOL-2019), Instruments Research & Development Establishment (IRDE) Dehradun, Uttarkhand, India, (XLIII symposium of Optical Society of India), 19-22<sup>th</sup> Oct, 2019.

### Research Societies Membership:

- ❖ **Optical Society of America (OSA)**, Student Member (Id: 1746242)
- ❖ **Optical Society of India (OSI)**, Student Member.

### Reviewer in SCI/SCIE Journal:

- ❖ **Physica Scripta**

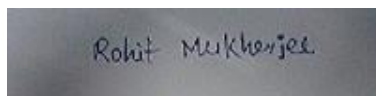
### References:

- ❖ Prof. (Dr.) S. Konar,  
B. M. Birla Institute Chair Professor  
Department of Physics, BIT Mesra, Ranchi-835215.  
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- ❖ Dr. Bibhas Bhattacharyya,  
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❖ Dr. Atis Dipankar Chakrabarty,  
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Mob: 9830467621

*I am very much aware of the all above information whatever is given in my resume as of now.*

A rectangular box containing a handwritten signature in black ink. The signature appears to read "Rohit Mukherjee".

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Signature