



Dr. Partha Pratim Bera

College Whole Time Teacher

Department of Physics

Contact Information

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Specialization

- III-V Semiconductor Material



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EDUCATION SOCIETY COLLEGE**

Biographical Sketch

Dr. Partha Pratim Bera is currently associated as College Whole Time Teacher, in the Department of Physics, The Bhawanipur Education Society College, affiliated to University of Calcutta. He completed his B.Sc. degree from Panskura Banamali College (Vidyasagar University) and M.Sc. degrees from Vidyasagar University, with Electronics Specialization. He also received Ph.D (Tech.) degree in Radio Physics and Electronics from Institute of Radio Physics and Electronics, University of Calcutta. He received UGC Research Fellowship in Science for Meritorious student. An astute learner and researcher, he has more than 1 year of experience in Teaching and 10 years in Research. He has presented his research papers in numerous international conferences and published research papers in reputed SCI journals as well. He has also participated in several national and international seminars / webinars / workshops / conferences.

Academic Qualifications

Abbreviation Of the Degree	Name of the College/ University	Class Obtained	Area of Specialization	Year of Passing
Ph.D	Institute of Radio Physics and Electronics, University of Calcutta	N.A	Solid State Physics	2023
M.Sc.	Vidyasagar University,	1 st Class	Electronics	2011
B.Sc. (Honours)	Panskura Banamali College, (Vidyasagar University)	2 nd Class	Electronics	2009

Position Holding (Full Time)

- College Whole Time Teacher, Department of Physics, The Bhawanipur Education Society College, University of Calcutta, March 2023–Present

Position Held (Part Time)

- College Part Time Teacher, Department of Physics, The Bhawanipur Education Society College, University of Calcutta, February 2022–February 2023



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Research Experience

- Junior Research Fellow, Department of Radio Physics, Institute of Radio Physics and Electronics, University of Calcutta, October 2013-September 2015
- Senior Research Fellow, Department of Radio Physics, Institute of Radio Physics and Electronics, University of Calcutta, October 2015-September 2018

Thesis Title

- “Studies On Some Significant Properties Of III-V Material and Nanostructures”

Subjects Taught

Digital Electronics | Communication System | Electrical Circuit and Network | Mathematical Physics | Quantum Mechanics | Python Programming Language

Research Interests

- Theoretical investigation of III-V compound narrow band gap semiconductors and their band diagram and effect of strain in nanostructures.
- Gr. III-V Semiconductor band structure and electronics properties.

Journal Publications

- “Influence of Sb Related Impurity States on the Band Structure of Dilute GaN_{1-x}Sbx Alloy”, P. P. Bera and S. Das. Journal of Electronic Materials (2020).
- “Evidence of the formation of small nanostructures in the growth of InGaN/GaN Multi quantum Wells”, D.Biswas, A. Mistry, P. P. Bera. Optik.130 (2016).
- "Impact of strain on the band offsets of important III-V quantum wells: In_xGa_{1-x}N/GaN, GaAs/In_xGa_{1-x}P and In_xGa_{1-x}As/AlGaAs" D.Biswas, P. P. Bera, T.Das, S.Panda. Material Science in Semiconductor Processing, 19 (2014).

Publications In International Conference

- “Effects of Width of the Quantum Well on the Shift in Transition Energy with Operating Current in InGa_{1-x}N/GaN Quantum Well” S. Panda, P. P. Bera and D.Biswas, Proc. of the 5th International Conference on Computers and Devices for Communication (CODEC 2012), Kolkata.





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- “Effect of Strain on the Band Offsets of III-V Quantum Wells: $\text{In}_x\text{Ga}_{1-x}\text{P}/\text{GaAs}$, $\text{In}_x\text{Ga}_{1-x}\text{As}/\text{Al}_{0.2}\text{Ga}_{0.8}\text{As}$ and $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ ” T. Das, S. Panda, P. P. Bera and D. Biswas, Proc. of the 5th International Conference on Computers and Devices for Communication (CODEC 2012), Kolkata.
- “Investigation on, How the Band Lineups, Band Offsets and Photoluminescence of an $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ Quantum Well change with Biaxial strain” P. P. Bera, S. Panda, and D. Biswas, Proc. of the 17th International Workshop on The Physics of Semiconductor Devices (IWPSD 2013), Noida, India.
- “Explanations of the unusual photoluminescence observed in annealed InGaN/GaN multi quantum well” D. Biswas, P.P. Bera and A. Mistry. Proc. Of the “International Conference on Condensed Matter Physics (ICOMP- 2014)” Himachal Pradesh University, Shimla, India.
- “Important inferences drawn from the unusual Photoluminescence of annealed and non-annealed $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ Multi Quantum Wells” D. Biswas, A. Mistry and P.P. Bera. ICAMET-2014, Organised by IEST, Shibpur, W.B.
- “Important Observations on the Annealing of Capped and Uncapped $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ Quantum Wells” D. Biswas, A. Mistry and P.P. Bera. ICNT-2015, W.B.
- “Important information on $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ quantum wells for the optoelectronic designer” S. Panda, A. Mistry, P. P. Bera and D. Biswas. Workshop on Photonics for Imaging and sensing, CRNN-2015, Kolkata, W.B.
- “Special features of the $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ quantum wells outlined and established for optoelectronic designers” D. Biswas, S. Panda, A. Mistry, P. P. Bera and A. Gorai, Proc. of the 6th International Conference on Computers and Devices for Communication (CODEC 2015), Kolkata.
- “Comparative studies of Ga-Face and N-Face InGaN/GaN QWs under the Capacitance-Voltage measurements” P.P. Bera, A. Gorai and D. Biswas. Proc. of the 6th International Conference on Advances in Nanomaterials and Nanotechnology (ICANN- 2016), Organized by Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi.
- “Constructive studies on some significant properties of $\text{InGaN}/\text{InGaN}$ quantum well” P.P. Bera, A. Gorai and D. Biswas, Proc. Of 2nd International Conference in Material Science, Tripura University, Agartala.

Paper Presentations At Conferences

- “5th International Conference Computers and Devices for Communication (CODEC-2012)” December 17 - 19, 2012, Institute of Radio Physics and Electronics, University of Calcutta, Kolkata.
- “17th International Workshop on The Physics of Semiconductor Devices (IWPSD 2013)”, December 10-13, 2013, Organized by Amity University, Noida, Delhi.





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- “International Conference on Condensed Matter Physics (ICOMP- 2014)”, November 4-6, 2014, Organized by Department of Physics, Himachal Pradesh University, Shimla, India.
- “Workshop on Photonics for Imaging and sensing” March 27, 2015, under UKIERI Thematic partnership (administered by British Council), Centre for Research in Nano-Science and Nano -technology, WB.
- “International Conference on Advances in Nanomaterials and Nanotechnology (ICANN- 2016)”, November 4-5, 2016, Organized by Centre for Nanoscience and Nanotechnology, Jamia Millia Islamia, New Delhi.
- “2nd International Conference in Material Science” February 16-18, 2017, Dept. of Physics Tripura University, Agartala.

Participation In Seminars/Webinars/Workshops/Conferences

- Participated in 5th International Conference Computers and Devices for Communication (CODEC-2012) December 17 - 19, 2012, Institute of Radio Physics and Electronics, University of Calcutta, Kolkata.
- Participated in 17th International Workshop on The Physics of Semiconductor Devices (IWPSD 2013), December 10-13, 2013, Organized by Amity University, Noida, Delhi.
- Participated in International Conference on Condensed Matter Physics (ICOMP- 2014), November 4-6, 2014, Organized by Department of Physics, Himachal Pradesh University, Shimla, India.
- Participated in Workshop on Photonics for Imaging and sensing, March 27, 2015, under UKIERI Thematic partnership (administered by British Council), Centre for Research in Nano-Science and Nano -technology, WB.
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- Participated in 2nd International Conference in Material Science, February 16-18, 2017, Dept. of Physics Tripura University, Agartala.

Awards/Recognitions

- Received UGC Research Fellowship in Science for Meritorious student (RFSMS) from October 2013 to October 2018.





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Vision Statement

- Encourage students to embrace enterprise, self-confidence, creativity and social justice in all their endeavors.
- Inspiring free thinking among students, and teach them to be game change rsin their chosen professions.
- Promote the virtues of research and scholarly inquiry, so that students can bring important critical thinking skills to their pursuits, both inside and outside the college.

Signature of the
Faculty Member

Date: 01st September, 2022



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