

Jayanta Barman

Associate Professor & Former H.O.D Dept of Physics. **ADP College**

Research Area: Optoelectronic, Semiconductor, Nanotechnology

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Date Of Birth 01-06-1979



Academic profile:

2002	M.Sc.	Tezpur University
2004	B.Ed	Gauhati University
2008	Ph.D.	Gauhati University (Dept of Instrumentation & USIC)

Available as Reviewer and editorial

- Indian Journal of Pure and Applied Physics
- Journal of Crystal Growth and Technology
- Editorial Board Members in Composite Materials(CM);science publishing group ,USA

Completed and ongoing major Projects

1. Synthesis and characterization of semiconductor quantum dots and magnetic nanoparticle and investigate their optical properties for application in device (UGC) 2013-2017. Project amount

6.95 Lacs

2. Green synthesis of semiconductor quantum dot and magnetic nanoparticle its antimicrobial activity and investigate their properties especially for application in Water treatment (ASTEC) Govt of Assam. 2016-2019. Project amount **3.25 Lacs**

Ongoing

3. Biotechnology intervention & pharmacological screening of medicinal and aromatic plants of NE India and Green synthesis in Nanotechnology (BT/NER/143/SP44329/2021) 2023-2026. Project amount **31.55 Lacs**

Visiting Faculty

1. NIT Nagaland
2. Guest faculty in M.Sc Course Herbel Science, A.D.P.College

Coordinator

1.PI Biotech Hub, Sponsored by Dept of Biotechnology (DBT), Govt of India **last 13 years**

2.Star College Scheme, Sponsored by Dept of Biotechnology (DBT), Govt of India. **Project amount 55.20Lacs**

3. Member Governing Body ADP College 2025-2026

4.Former IQAC, Coordinator,A.D.P. College, Nagaon

5. Acting as a Nodal Officer in Instrument repairing and Maintaining Centre at college from 2009 to till 2018.

Book Published

1. **Hand book on Nanoscience and Nanotechnology** by Kalyani Publisher (2014), New Delhi
2. **Engineering Physics to be published**
3. **Question Bank** by R.G.Publication (from 2006 to 2019)
4. **Modern Approach to Electronics for B.Sc Honors Student**, Book Land (2017)
5. **Introduction to Solid State Physics for B.Sc Honors Student**, Book Land (2017)
6. **Waves and Optics for B.Sc Honours CBCS Course** Published by Keder Nath RamNath publisher (Delhi) International Publication. (2020)
7. **Electricity and Magnetism for B.Sc Honours CBCS Course** Published by Keder Nath RamNath publisher (Delhi) International Publication. (2020)

publications in international journal all are Scopus index journal

31 numbers of publications

In 21-25

1. ISSN: 2251-7871(online)2251-788X (**Scopus Index**)
Title of the article: Effect of pH variation on size and antibacterial activities of ZnS-ZnO nanocomposite towards application in water treatment
Journal: **J Nanostructure** (web of science and Scopus)
2. ISSN: **Print ISSN** 1022-1352 (print). 1521-3935 (online) **I.F 2.99 (Scopus Index)**
Title of the article: Preparation, characterization and antimicrobial activity of Chitosan/Kaolin clay biocomposite films
Journal- Macromolecular Chemistry and Physics, Wiley-VCH
3. ISSN: **Print ISSN** 1678-5169, Impact factor 1.6 (**Scopus Index**)
Title of the article: Review Articles
Poly(methyl methacrylate) modified Starch: Their preparations, properties and applications **Journal- Polímeros (Scopus)**
4. Title of the article: Development and Evaluation of Herbal Mosquito Repellent Cream^{0,3},
Journal: **Research J. Pharm. and Tech.** ISSN: 0974-360X (Online) (**Scopus Index**) 0974-3618 (Print)
5. ISSN: 1843-424X (**UGC CARE LIST**)
Title of the article: Effect of Fe doping variation on size and structure in Composite ZnS /CdS quantum dot towards efficiency in antimicrobial activity
Journal: **Romanian J. Biophysics**
6. ISSN: 0973-4929, Online ISSN: 2320-8031(**Scopus**)
Title of the article: Optimizing ZnO/CdS Nanocomposite controlled by Fe doping towards efficiency in water treatment and antimicrobial activity
Journal: **Current World Environment**
7. Title of the article- Optimizing the synthesis parameter and characterization of nanocomposite starch-g-poly(methyl methacrylate-co-styrene) prepared via emulsion polymerization process for biodegradable application
Journal- **Iranian Journal of Chemistry and Chemical Engineering (IJCCE)** . ISSN: **Print ISSN** 1021-9986, Impact factor 1.9 (**Scopus Index**)
8. ISSN: 2277-1808 (online) (**Web of Science**)
Title of the article: Effect of size and photo variation on antioxidant and antibacterial activities of silvernanoparticles from Dioscorea alata L. aqueous Bulbil extract

Journal: **Bulletin of Environment, Pharmacology and Life Sciences**

9. ISSN: 0975-1041 (Online); 0019-5596 (Print) (**Scopus**)

Title of the article: Opto electronics and antimicrobial activity of composite Zinc Sulphide and Cadmium sulphide Quantum dot and application in water treatment

Journal: **Indian journal of pure and applied physics**

10. Title of the article: Optimizing Optoelectronic, Antimicrobial Activity and Electrical Properties of Composite ZnO/ZnS with Fe Doped Nanocomposite towards Application in Water Treatment

Journal: **Jordan Journal of Physics**

11. Journal: Jordan Journal of Chemistry (Scopus)

ISSN: <https://doi.org/10.47014/20.1>.

Title: Synthesis and Characterization of a Styrene-Based Terpolymer and its Composites with Kaolin Clay

Author: Maromi Roy, Uddhab Kalita, Nabendu B. Pramanik, Madhabi Bhattacharjee, **Jayanta Barman**, Dhruva J. Haloi **Volume 20, Number 1, 2025**

Year:2025

12. Journal: Biointerface Research in Applied Chemistry (Scopus)

ISSN: 2069-5837

Title: Effect of addition of various amounts of kaolin clay on the properties of a terpolymer of vinyl acetate (VAc), butyl acrylate (BA), and acrylic acid (AA)

Author: Maromi Roy, Uddhab Kalita, Nabendu B. Pramanik, Madhabi Bhattacharjee, **Jayanta Barman**, Dhruva J. Haloi

Year:2024

13. **Journal: French Ukrainian Journal of Chemistry (Web Of Science)**

ISSN: 2312-3222

Title: Synthesis and Characterization of Poly(methyl methacrylate-co-vinyl triethoxysilane) Prepared by Free Radical Polymerization

Author: Apurba Taye, Maromi Roy, Anjana Dhar, **Jayanta Barman**, Nabendu B. Pramanik, Dhruva J. Haloi*, 2023, VOLUME 11, ISSUE 02

Year:2023

14. **Journal: Asian Journal of Green Chemistry (Scopus index)**

Title: Emulsion Prepared Vinyl Acetate-Based Terpolymer: a Review on Their Preparations, Properties, and Applications

Author: Maromi Roy, **J. Barman**, D. J. Haloi,
Volume 8, Issue 2, April 2024, , Pages 108-123

15. **ISSN: Print ISSN 22297928 (Scopus Index)**

Journal: **Analytical Chemistry Letter**

Title of the article: Chitosan/Clay biocomposite films with enhanced physico-chemical, mechanical and antimicrobial properties

Author: Madhabi Bhattacharjee, Shyam Goswami, Nabendu B. Pramanik, **Jayanta Barman**, Mousmi Saikia, Nishant Rachayya Swami Hulle & Dhruba J. Haloi,

Volume 13, 2023 - Issue 6

Year: 2023

Book Chapter

1. Application of Nanobiotechnology in Clinical Diagnosis , **Springer**, 978-981-15-6254-9/2020
2. Recent progress in light-triggered nanotheranostics for cancer treatment, **Elsevier**, 9780128217122/ 2020
3. Gandhi and Gandhian Education book on Gandhian concept: Interrogation and Exploration.
4. Child Marriage: An obstacle of Adolescent Girl books on Contemporary Women Issues A Reflection.

Invited Speaker:

Resource person on NEP and NAAC Nominated by RUSA Govt of Assam

1. Seminar on Recent Advances in Biotechnological Research in North East India: Challenges and Prospects” Dept of Molecular Biology and Biotechnology, **Tezpur University**, November 27,(2014)
2. One day workshop on Semiconductor Nanotechnology. Dhing College on
3. Regional seminar on Application of Nanotechnology , Lumding College on
4. 7 days Workshop on booming of School students by GOVT Boys Higher secondary School Sponsored by ASTEC.(3 rd July 2019)
5. Invited as a resource person at Renessa Junior College, 2019
6. Invited Speaker national Conference, Advances in Sustainable Chemistry and Material Science 2022, Bodoland University, 30 April 2022.
7. Resource person in Workshop on research methodology, Lumding College on 22 May 2022.
8. Resource person in Workshop on NAAC Accreditation Kathaguri College on 22 June 2022.
- 9 Chair Person in technical session in national conference at NIT Nagaland on 14-16 December 2022.
10. Master Trainer training attended at HRDC Gauhati University from 28-29 January 2023 Organize by RUSA Assam
11. Resource person in Workshop on NEP Implementation in Assam at GNDG Commerce College. Organize by HRDC G.U on 14.2.23
12. Resource person in Workshop on NEP Implementation in Assam at Lanka College. Organize by HRDC G.U on 21.2.23

13. Resource person in Workshop on NEP Implementation in Assam at Nowgong College. Organize by HRDC G.U on 25.2.23
14. Resource person in Workshop on NEP Implementation in Assam at Lumding College. Organize by HRDC G.U on 27.2.23
15. Resource person in Workshop on NEP Implementation in Assam at GNDG Commerce College. Organize by HRDC G.U on 10.3.23
16. Resource person in Workshop on NEP Implementation in Assam at Manikpur Anchlik College. Organize by HRDC G.U on 11.3.23
17. Resource person in Workshop on NEP Implementation in Assam at GLC College. Barpeta Road Organize by HRDC G.U on 13.3.23
18. Resource person in Workshop on NEP Implementation in Assam at Nalbari College. Organize by HRDC G.U on 14.3.23
19. Resource person in Workshop on NEP Implementation in Assam at M.C College, Barpeta Organize by HRDC G.U on 15.3.23

Organizer

1. Acting as Co Organizer in Two days National seminar on “Recent advances in Herbal Science and Technology for Drug Discovery” sponsored by SERB and DBT from August 18-19,2016
2. Acting as Co Organizer in Two days National seminar on “Recent Advances in Medicinal Plants Research of North East India” sponsored by UGC from 11-12th November 2016.
3. Acting as Organizer in Three days Work shop for two times from DBT HUB Programme.
4. Acting as Joint Convener in Two days National seminar on “Recent Discoveries in Medicinal Plants Research and its sustainable development of North East India” sponsored by SERB (DST) from 17-18th August 2018.

Papers publication in International Conferences

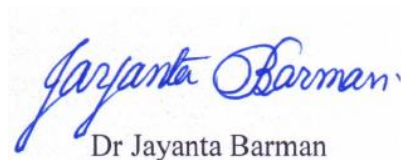
1. “Vacuum Evaporated CdTe Thin Films for application as Photodetector”; K.C. Sarma, R.K. Bordoloi **J. Barman** and P.C. Kalita; *Proceeding of the International Conference on Instrumentation* (INCON-04), PIET, Pune; 19-21 Dec. (2004).
2. “Synthesis&characterization of ZnS and ZnO nano crystals” R.Bhadra,J.P.Bora, K.C.Sarma,P.Dutta,**J.Barman**, International Conf on Computers and Devices for communication, (CODEC-06), University of Calcutta.(2006)
3. “Development of mice for study of certain molecular pathways involved in liver fibrosis” Farhana Sultana and **J.Barman**, International Conf on Disease Biology and Therapeutics(ICDBT2014) IASST, 3rd to 5th December,(2014)
4. “Green synthesis of silver nanoparticles using dioscorea alataI.Bulbil extract and its biological activity”, Mousmi Saikia, Farhana Sultana, Bhaskar Saikia and **Jayanta Barman**, International Conf on Disease Biology and Therapeutics(ICDBT2014) IASST, 3rd to 5th December,(2014)
5. “Green synthesis of silver nanoparticles using Elsholtzia blenda leaf extract and their application in water purification” Farhana sultana, Jayanta Barman, M.C.Kalita, International conference on emerging trends in nanomaterials science and technology. (2017)

Papers publication in National Conferences

1. “Structural Characterization of chemical bath deposited CdS thin films by XRD techniques” K.C. Sarma, **Jayanta Barman**, M. Sarma, R. K. Bordoloi, J.N. Ganguli *National Symposium on Instrumentation (NSI-28)*. Govinda Ballabh Pant University of Agriculture & Technology, Udham Sing Nagar, Uttaranchal state. (2003)
2. “Chemical bath deposited CdS thin films for application as photosensor”. **Jayanta Barman**, K.C.Sarma, R..K.Bordoloi, *National conference on current Trends of Research in Sci& Tech*, 28 and 29 Jan, (2005), Gauhati University.
- 3.“Design Consideration of an Instrumentation Amplifier for Optoelectronic applications”; R.K. Bordoloi, **J. Barman** and K.C. Sarma; Presented at the 50th Annual Technical Session and *National Conference on Current Trends of Research in Science and Technology*, Assam Science Society; Gauhati University; 28-29 Jan. (2005).
4. “Synthesis& characterization of Nano crystalline thin film and Quantum dot” **Jayanta Barman**, K.C.Sarma, R.Bhadra, J.P.Borah, *National conf on Advance in Technologically Important Crystal*. Delhi university, October 12-14(2006)
5. “ Synthesis of ZnS nanocrystalline thin film in PVA matrix by chemical deposition” B. Barman^{1*}, **J. Barman**, N. M. Singh, N. Choudhary, K.C. Sarma, The 54th Annual Technical Session, Assam Science Society, February (2009)
6. “Green Synthesis, optical characterization and application of silver nanoparticles of Houttuynia cordata leaf extract”, Farhana Sultana, Mousmi Saikia and **J.Barman**, Recent Advances in Biotechnological Research in North East India: Challenges and Prospects” Dept of Molecular Biology and Biotechnologist, Tezpur University, November 27-29,(2014)

Workshop participated:

1. Regional Workshop on X-ray Diffraction and X-ray Fluorescence Procedures and Application, SAIF, Gauhati University 10 -13 Nov, (2003)
- 2.National Workshop on High level programming languages with image processing and pattern recognition, Hojai College, 25.03.12 to 31.03.12 (2012)
3. Workshop on evaluation System organized by UGC, 4and 5 November (2019) at Assam Donbosco University
4. 7 Days International workshop in remote sensing and GIS with collaboration of AIT,Thailand (2020)


Dr Jayanta Barman