



ENLIGHTENMENT TO ERECTION

UNIVERSITY OF NORTH BENGAL

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Raja Rammohunpur, Dist- Darjeeling, West Bengal, Pin-734013, India.

Department of Chemistry

Print



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Electro-Instrumentation Officer

Members of Professional Bodies : VIBHA, Vigyan Bharti.



Contact Addresses:

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Subject Specialization: VLSI, Digital Signal Processing Advance Digital Logic & Embedded Systems.

Areas of Research Interest: Nano Science & Technology, Sophisticated Analytical Instrumentations and Microbial Fuel Cell.

Number of Projects: Supervised : 02 (Co-Supervised) **a) Ongoing :** Nil **b) Completed:** 02

No. of Publications: (a) Journal Articles: 26 **(b) Book(s) :** 01

Achievement & Awards:

- Joint Convener of "3 Days Workshop on Microwave: Basics and Applications", 25th -27th July 2014, Organised by SAMEER, Mumbai, Department of Electronics and Information technology, GOI and Dept. of Physics, Assam University, Silchar.
- Participated as delegate of 'Advantage Assam'-Assam's Global Investors' Summit on 03-04 February 2018 is the largest investment promotion and facilitation initiative by the Govt. of Assam.

Professional Experiences:

- Experienced in Fabrications, Analysis, and handling of instruments like NMR, FT-IR, UV-VIS, Fluorescence Spectrometer, HPLC, GCMS and XRD. Familiar with various software like CAD, Visual TCAD, MATLAB, Multisim, Xilinx etc.

Administrative Experiences:

- Senior Technical Assistant in Central Instrumentation Laboratory, Assam University, Silchar, India (2010-Jan,2019).
- Electro-Instrumentation Officer, Department of Chemistry, NBU (Feb,2019-Till date).

Project Work :

- "Application of Innovation (RF+Hot air) technology for processing of agro products" sponsored by Society for applied microwave Electronics Engineering and Research (SAMMER) Mumbai. Department of Electronics and Information technology, GOI.
- "Development of Commissioning of SODAR System of the lower atmospheric boundary layer in the Silchar region of North East India" sponsored by Society for applied microwave Electronics Engineering and Research (SAMMER), Mumbai, Department of Electronics and Information technology, GOI.

Paper Publication Details:

Journals:

- Synthesis of CdS and ZnS quantum dots and their applications in Electronics, *1.Nanotrends-A journal of nanotechnology and its application*, Vol 02, Issue 03, pp20-28, ISSN 0973-418X, 2007.
- Novel effect of 100 MeV Ni⁺⁷ ion beam on ZnS quantum dots prepared by chemical method, *The Internet journal of Nanotechnology*, Vol 2, No.1, pp 1-4, ISSN:1937-8262, 2008.
- Novel effect of 100 MeV Ni⁺⁷ ion beam on ZnS quantum dots prepared by chemical method, *The Internet journal of Nanotechnology*, Vol 2, No.1, pp 1-4, ISSN:1937-8262, 2008.

- Novel effect of 100 MeV Ni^{+7} ion beam on ZnS quantum dots prepared by chemical method, *The Internet journal of Nanotechnology*, Vol 2, No.1, pp 1-4,ISSN:1937-8262, 2008.
- Luminescence spectroscopy of silica coated ZnS quantum dots embedded in PVA matrix, *International Journal of nanotechnology and Applications*, Vol 2 No.1, pp47-53, ISSN 0973-631X, 2008.
- Luminescence spectroscopy of silica coated ZnS quantum dots embedded in PVA matrix, *International Journal of nanotechnology and Applications*, Vol 2 No.1, pp47-53, ISSN 0973-631X, 2008.
- Effect of the Nickel-Ion Bombardment on the Properties of Silica coated ZnS Quantum Dots, *Journal of nanoelectronics and opto electronics*, Vol.3, No 2, pp 183, ISSN: 1555-130X/2008/3/001/004, 2008.
- Green luminescence effect of ZnS and ZnS:Cu quantum dots embedded in zeolite matrix, *Journal of Applied Physics*, Vol. 105, No. 8, pp 094305, DOI:10.1063/1.3110767, ISSN: 1089-7550. 2009.
- Preparation of silver Nanoparticles and Their characterization, *Azojono- Journal of Nanotechnology online*,Vol.5,pp-1, DOI: 10.2240/azojono0129, 2009.
- Acetone sensing of ZnO Quantum dots embedded in Poly Vinyl Alcohol matrix, *Advance Science Letters*, Vol 3, ISSN: 1936-6612/2010/3/001/004, 2010.
- Synthesis of Silver nanoparticles and their Optical properties, *Journal of Experimental Nanoscience*, Vol.5 No 4, pp357-362, ISSN: 1745-8099, 2010.
- Synthesis of Silver quantum dots and their Characterizations, *Assam University Journal of Science & Technology*, Vol. 5 No. II. pp 123-125, ISSN 0975-2773, 2010
- Investigation of air refractive index profile over Silchar region, *Assam University Journal of Science & Technology*, Vol.6, Issue 2, pp 117-119, ISSN 0975-2773,2010.
- Acetone sensing property of ZnO quantum dots embedded on PVP, *Sensors and Actuators B: Chemical*, Volume 148, Issue 2, Pages 347-630 ,ISSN: 0925-4005, 2010 .
- Microwave attenuation due to dust particles, *International J. Computer Sc and Network Security*, 2010
- Microwave attenuation due to rainfall, *International J. Wireless Communications and Networking*, 2010.
- PVA embedded ZnO quantum dots for methanol sensing , *Nanotrends-A journal of nanotechnology and its application*, 2010.
- UV/VIS spectroscopy and impedance analysis of CdSe quantum dots, *Assam University journal of Sc. and Tech.* Vol.6, No 2, pp 1-5, ISSN 0975-2773 2010.
- ZnO quantum dots in SBR latex for methanol sensing, *Assam University journal of Sc. and Tech.* Vol.6, No 2, pp 46-50, ISSN 0975-2773 2010.
- Investigation of Air Refractive Index Profile over Silchar Region to Predict the Propagation of Radio Wave , *Assam University Journal of Science & Technology*, Vol. 7 , Issue 2, pp111-113, ISSN 0975-2773,2011
- Improving the tuning phenomenon of CdS quantum dot by Fe³⁺ Doping, *J.Nanotech.Prog.Int.(JONPI)* ,issue 4, ISSN 1941-3475 (Online),2011
- CdS quantum dot sensitized zinc oxide based solar cell with aluminium counter electrode, *NANOSYSTEMS: PHYSICS, CHEMISTRY, MATHEMATICS*, Vol 8 No.6, p.0-4, 2017.
- Synthesis and characterization of one pot synthesized PVA capped PbS quantum dots,Devices for Integrated Circuit (DevIC), 141-143, 2017.
- SnO₂ quantum dots for nano light emitting devices, *NANOSYSTEMS: PHYSICS, CHEMISTRY, MATHEMATICS*,Vol 8 (5),2017.
- ZnS Quantum Dots for voltage sensing Light Emitting Device, *IEEE Sensors Letters*, Vol.2, Issue.3,ISSN:2475-1472,2018.
- A back illuminated solar cell using PbS quantum dots as sensitizers, *International Journal of Nanoparticles*, Vol. 10, Issue.3,pp217-224,ISSN:1753-2515(online),2018.

Conferences:

- Synthesis of semiconductor quantum dots and their characterizations. Proceedings of *International conference on laser and nano materials*, Calcutta University, 29 Nov, 2006
- Ion irradiated ZnS quantum dots and their characterizations, Proceedings of *International conference on Structure and Dynamics: From Micro to Macro* Calcutta University, 15th Nov, 2006.
- Synthesis of Semiconductor quantum dots and their applications in optoelectronics and electronics, Proceedings of 8th *International conference on Photonics 2006*, Hyderabad University, 2006.
- Semiconductor Quantum dots and their luminescence study, Proceedings of *International conference on Photonics 2006*, Hyderabad University, 2006.
- Optical absorption and luminescence study of ion irradiated ZnO quantum dots, Proceedings of *International Conference on Computers and Devices for Communication- 2006*, Radio Physics and Electronics, Calcutta University, 2006.
- Photoluminescence study of ZnS quantum dots, Proceedings of *Material Science with Heavy Ions*, Inter University Accelerator Centre, New Delhi, Sept17-18, 2007.

- Impedance study of CdS quantum dots prepared by chemical method, Proceedings of *Material Science with Heavy Ions*, Inter University Accelerator Centre, New Delhi., Sept 17-18, 2007.
- Optical properties of ZnO quantum dots and their application as optical wavelength convert, *International Symposium on Atomic, Molecular and optical science and high performance computing: A seamless frontier*, IACS, Vedic Village, Kolkata, Jan, 2008.
- Semiconductor quantum dots and their electroluminescence study, *International Symposium on Atomic, Molecular and optical science and high performance computing: A seamless frontier*, IACS, Vedic Village, Kolkata, Jan, 2008.
- Optical absorption and luminescence study of ZnS quantum dots, *Nanotech 2008, 11th Annual Nanotechnology conference and trade show*, Hynes Convention centre, Boston, Massachusetts, ISBN: 978-1-4200-8505-1, 2008.
- Effect of swift heavy ion on CdS quantum dots embedded in PVA matrix and their applications, *Nanotech 2008, 11th Annual Nanotechnology conference and trade show*, Hynes Convention centre, Boston, Massachusetts, ISBN: 978-1-4200-8505-1, 2008.
- Production of Bio-electricity from wastewater using membrane less Microbial Fuel Cell (MFC), International Congress On Renewable Energy (ICORE)-2011 & Trade Show, Tezpur University, Assam, 2-4 Nov 2011.
- Luminescence study of silica coated ZnS quantum dots embedded in PVA matrix, *Astrophysics with spectroscopic and photometric data*, Dept. of Physics, Assam University, 1st Feb, 2008.
- 100 MeV carbon ion impact on CdS quantum dots embedded in Zeolite matrix, *Astrophysics with spectroscopic and photometric data*, Dept. of Physics, Assam University, 1st Feb, 2008.
- Synthesis and characterizations of Novel metal quantum dots, *Astrophysics with spectroscopic and photometric data*, Dept. of Physics, Assam University, 1st Feb, 2008.
- One Day workshop on *IUAC acquaintance program*, Dept of Physics, NIT Silchar, 8th Feb, 2008.
- One Day IEEE Seminar on *Advances in Information & Communication Technology and Mobile Applications*, NIT Silchar, 4th Sept 2009.
- Preparation of Semiconductor Nanoparticle and their applications in Electronics, UGC Sponsored National Seminar on *Problems and Prospects of Development in the North East Region*, S.S. College, Hailakandhi 1st -2nd Feb. 2010.
- National Level workshop on “*Embedded Systems and Related Applications*” organized by Department of Electronics & Communication Engineering, Gauhati University, 16th -25th July 2012.

Books:

- **Preparation of quantum dots and their uses in electronics and optics**, Publisher: VDM Verlag Dr. Muller, November, 2010, ISBN: 978-3-639-20197-0