



## Bipin Bihari Tripathy, M.Sc.

**Designation** : Sr. Assistant Professor

**Department** : Department of Basic Sciences and Humanities  
(JOINED THE INSTITUTE IN YEAR 2001)

**Contact** : 9937542185

**Email** : bipin@silicon.ac.in

### RESEARCH INTERESTS

- ✓ Experimental condensed matter Physics: Synthesis and characterization of TiO<sub>2</sub> and ZnO (doped and un-doped) bulk, film and nanomaterials.
- ✓ Elemental analysis of materials by non-destructive nuclear techniques (PIXE, EDXRF, External PIXE).

### Academic Qualifications

M. Sc. (Physics) Utkal University, India

Specialisation: Electronics.

CSIR- NET(LS) in Physical Science, B.Ed

### Teaching Experience/Industrial Experience/Research Experience

- ✓ 23 years in teaching Engineering Physics, Applied Physics, Semiconductor devices, Materials Science and Engineering

### PUBLICATIONS

#### JOURNAL (INTERNATIONAL AND NATIONAL):

1. Surface modifications of TiO<sub>2</sub> nanostructured materials induced by 120 MeV Ag ions, **BB Tripathy**, H Rath, NC Mishra, J Das, DK. Mishra, Surf Interface Anal. 2023; Vol 55(11), p-822-830. doi:10.1002/sia.7247.
2. Evolution of microstructure and optical properties of TiO<sub>2</sub>/Au nanocomposite, **B. B. Tripathy**, M.R. Behera, H. Rath, P. Mallick and N. C. Mishra, Indian J. of Pure and Appl. Physics. Vol. 57, February 2019, pp. 95-100.

3. Study of Phase Transformation in TiO<sub>2</sub> by High Energy Planetary Ball Mill, **B. B. Tripathy**, H. Rath, P. Mallick and N. C. Mishra, Adv. Sci. Engg. and Med., Vol 9, 2, Feb 2017, pp. 144-147 (ISSN: 2164-6627).
4. Evolution of structural and optical properties in TiO<sub>2</sub> nanoparticles prepared by high-energy ball milling, **B. B. Tripathy**, P. K. Sahoo, D. K. Mishra, S. K. S. Parashar and N. C. Mishra, Adv. Sci. Lett., Vol 20 (3/4), March 2014, pp. 612-616 (ISSN: 1936-6612).
5. Effect of doping on the phase transformation in TiO<sub>2</sub>- A Review, **B. B. Tripathy**, Orissa J of Physics, Vol 21(1), Feb 2014, pp. 33-41 (ISSN 0974-8202).
6. Elemental analysis of coal and coal ash by PIXE Technique, K. C. Patra, T. R. Rautray, **B. B. Tripathy**, P. Nayak, Applied Radiation and Isotopes, Vol 70, Issue 4, April 2012, pp 612-616.
7. Analysis of ancient Indian silver punch-marked coins by external PIXE, T.R. Rautray, S. S. Nayak, **B. B. Tripathy**, S. Das, M.R. Das, S. R. Das, P.K. Chattopadhyay, Applied Radiation and Isotopes, Volume 69, Issue 10, Oct 2011, pp 1385-1389.
8. Elemental analysis of ancient silver coins by non destructive techniques- A review, **B.B. Tripathy** and T. R. Rautray, Orissa J. of Physics, Vol.17, 2, August 2010, pp.213-220.
9. Elemental analysis of silver coins by PIXE technique, **B.B. Tripathy**, Tapash R. Rautray, A.C. Rautray and V.Vijayan, Applied Radiation and Isotopes, Vol 68, Issue 3, March 2010, pp 454-458. ISSN 0969-8043.
10. ANALYSIS OF INDIAN SILVER COINS BY EDXRF TECHNIQUE, **B.B.Tripathy**, Tapash R. Rautray, Satya R. Das, Manash R. Das and V. Vijayan , Int. J of PIXE, Vol 19, Issues: 3-4, 2009, pp. 167-173.
11. Elemental analysis of silver Punch-marked coins, Tapash R. Rautray, **B. B. Tripathy**, A. C. Rautray, V. Vijayan, Orissa J of physics, Vol.16, No.2, Aug 2009, pp. 373-377.

#### Patent

1. A SOLAR PHOTOCATALYTIC PROCESS FOR TREATMENT OF WASTEWATER, **Patent No 442435**, Jaideep Talukdar, Debi Prasad Datta and **Bipin Bihari Tripathy**.

#### POSTER PRESENTATION (Conference/ Seminar) :

1. Effect of Silver on the Thermal Evolution of Titanium Oxide Nanoparticle Thin Films, **B.B. Tripathy**, H. Rath , N.C. Mishra, D. K. Mishra, and J. Das, poster presentation in an international conference on Advanced materials and applications, held at Sikha O Anusandan, deemed to be University, Bhubaneswar, December 15-17, 2022.
2. Synthesis and Characterization of Au-TiO<sub>2</sub> nanocomposites, **B. B. Tripathy**, M. Behera, P. K. Sahoo, and N. C. Mishra, national Seminar on recent advances in physics (NSRAP-14), held at Berhempur University, Berhempur, May. 5-6, 2014.
3. Evolution of structural and optical properties in TiO<sub>2</sub> nanoparticles prepared by high-energy ball milling, **B. B. Tripathy**, P. K. Sahoo, D. K. Mishra, S. K. S. Parashar and N. C. Mishra, national conference on recent trends in condensed matter physics (RTCMP-14), held at ITER, SOA University, Bhubaneswar, Feb. 8-9, 2014.

4. Study of Phase transformation in  $\text{TiO}_2$  by high energy ball milling by **B. B. Tripathy**, H. Rath, S. K. S. Parashar and N. C. Mishra, national conference on condensed matter physics (CMDAYS-13), held at NIT Rourkela, from Aug. 29-31, 2013.
5. Analysis of Indian silver coins by EDXRF technique by **B. B. Tripathy**, T.R.Routray and V. Vijayan, National Conference on X-Ray Fluorescence (XRF 2010), held at Saha Institute of Physics, Kolkata, January 12 – 15, 2010.

## ANY OTHER

### Conferences attended

CONFERENCE/ SEMINAR/ WORKSHOP ATTENDED: **20**  
STAFF DEVELOPMENT PROGRAMME: **03**