

## BIO-DATA

### **Mr. TAPAN KUMAR BEHERA.**

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### **ACADAMIC RECORD**

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**M.Sc.:** Master in Chemistry.

Specialisation: Advanced Organic Chemistry.

Ravenshaw University, Cuttack, Odisha.

**M.Phil.:** Master of Philosophy (Chemistry).

Thesis Title: Activation and Functionalization of C-H Bonds. Ravenshaw University, Cuttack, Odisha.

**Ph.D.:** Doctorate of Philosophy (Chemistry).

Maharaja Sri Ram Chandra Bhanja Deo(MSCB) University, Baripada, Odisha and CSIR-Institute of Minerals and Materials Technology, Odisha, India.

Regd No: Sc/Chem/11/Ph.D/3167/17.

Synopsis Title: *“Development of Graphene and different shaped Metal Nanoparticles for Electro-catalytic and photo-catalytic application”*.

### **RESEARCH INTEREST**

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- Focus on interfacing nanotechnology with electrochemistry and materials science.
- Designing and synthesis of Graphene for electro-catalytic and Photo-catalytic activity applications.
- Development of electrochemical biosensors based on designed nanomaterials.

- Different shape controlled synthesis of graphene supported novel metal nanoparticles and their application to Photocatalytic activity, Biosensor and Energy conversion.

## PUBLICATIONS

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- I) **T. K. Behera**, S. C. Sahu, B. K. Jena\* : Branched Platinum Nanostructures on Reduced Graphene: An excellent Transducer for Nonenzymatic Sensing of Hydrogen Peroxide and Biosensing of Xanthine, *Electrochimica Acta*, **2016**, **206**, **238-245**.
- II) S. C. Sahu, **T. K. Behera**, B K Jena\*: Highly porous Pd nanostructures and reduced graphene hybrids: excellent electrocatalytic activity towards hydrogen peroxide. *New Journal of Chemistry*, **2016**, **40**, **1096-1099**.
- III) **T. K. Behera**, P. K. Satpathy\*, P. Mohapatra\* : Nanoparticles: Excellent Transducer for Electrochemical Biosensor. *Arcler Publishing* , **2018**, **1,215-249**, ISBN **978-1-77361-539-4**.
- IV) **T. K. Behera**, P. K. Satpathy\*, P. Mohapatra\* : Methanol and Formic acid oxidation: Selective Fuel Cell Processes. **2019**. *Apple Academic Press (AAP), Inc., Canada, a Taylor & Francis group*. ISBN hard: **978-1-77188-885-1**.
- V) **T. K. Behera**, S. Pradhan , C. Acharya, P. K. Satpathy\*, P. Mohapatra\* : Nanoparticles: A Noble Metal for Ultrasensitive Electrochemical Biosensing Affinity. **2020**. *Apple Academic Press (AAP), Inc., Canada, a Taylor & Francis group*. Hard ISBN: **9781774630372**. Accepted **30/10/2020**. Pages: **285-312**
- VI) **T. K. Behera**, S. Pradhan , P. K. Satpathy\*, P. Mohapatra\* : Synthesis and characterization of ZnO-Ag plasmonic nanocomposite: an efficient photocatalyst for the degradation industrial pollutant. *Materials Today*

*proceedings*, Elsevier Publication. ([doi.org/10.1016/j.matpr.2021.02.550](https://doi.org/10.1016/j.matpr.2021.02.550)).

**Accepted on 18/02/2020.**

- VII) **T. K. Behera**, S. Pradhan , Priyanka Behera, P. K. Satpathy\*, P. Mohapatra\*: A Brief Overview on Facile Synthesis and Challenging Properties of Graphene Nanocomposite: State-of-the-art. *Asian Journal of chemistry*, DOI: 10.14233/ajchem.2022.23648.
- VIII) G.D. Patel, S. Pradhan, **T.K. Behera**, S. R. Sahoo, A.K. Pradhan\*. Stem Cell – A Hope For Future Healthcare Sector. *International Journal of pharmaceutical science and research*, *IJPSR*, 2023; *Vol. 14(11): 1000-14*. E-ISSN: 0975-8232; P-ISSN: 2320-5148.
- IX) **Tapan Kumar Behera**, Snehalata Pradhan, Pramod Kumar Satapathy\*, Priyabrat Mohapatra\*. *International Journal of Innovative Science and Research Technology*, Vol. 8 (9); 1885-1892, 2023, ISSN No: -2456-2165.
- X) Snehalata Pradhan, **Tapan Kumar Behera**, Sipra Priyadarshini Sahu, Debasis Pradhan and Arun Kumar Pradhan\*. A REVIEW ON BIOSURFACTANTS AND ITS ENVIRONMENTAL APPLICATIONS. *International Journal of Development Research*, Vol.14, Issue 02, pp. 64969-64976, February, 2024. <https://doi.org/10.37118/ijdr.27869.02.2024>.

## **TEACHING DOMAIN**

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Co-ordination Chemistry, Organic Spectroscopy, Organometallic Chemistry and Materials Science.

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Tapan Kumar Behera