

BIODATA

Mr. TAPAN KUMAR BEHERA.

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ACADAMIC RECORD

- M.Sc.:** Master in Chemistry, 2010.
Specialisation: Advanced Organic Chemistry.
Ravenshaw University, Cuttack, Odisha.
- M.Phil.:** Master of Philosophy (Chemistry), 2012.
Thesis Title: Activation and Functionalization of C-H Bonds.
Ravenshaw University, Cuttack, Odisha.
- Ph.D.:** Doctorate of Philosophy (Chemistry), 2015.
North Orissa University, Baripada, Odisha, C.V.Raman College of Engineering, Bhubaneswar, Odisha and CSIR-Institute of Minerals and Materials Technology, Odisha, India.
Regd No: Sc/Chem/11/Ph.D/3167/2017.
Synopsis Title: *“Synthesis characterisations and applications of graphene supported noble metal nanoparticles”*.

RESEARCH INTEREST

- 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.

RESEARCH EXPERIENCE

Project-JRF, Research scholar at CSIR-Institute of Minerals and Materials Technology, Odisha, India. (2012 – 2015) under CSIR-Young Scientist Project (YSP-02).

Project Title: “Development of Graphene and Metal Nanoparticles hybrid materials for Electrocatalytic and Bio-electrocatalytic application”.

PUBLICATIONS

- 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 Bio-sensing Affinity. **2020**. *Apple Academic Press (AAP), Inc., Canada, a Taylor & Francis group*. **Hard ISBN: 9781774630372**.
- 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*, **47**, **5**, **2021**, **1159-1162**.

TEACHING DOMAIN

Co-ordination Chemistry, Organic Spectroscopy, Organo-metalic Chemistry and Materials Science.

Tapan Kumar Behera.