

## **BIODATA**

**1. Name:**Dr.Purabi Kar

**2. Qualification:**

June2010-July2015: Ph. D. inChemistry,  
Specialization:PillaredClayAnaloguesandClay-  
PolymerCompositeMaterials,Dept.ofChemistry,NITRourkela.



July2008-June2010: M.Sc.(Chemistry)  
NationalInstituteofTechnology,Rourkela(Odisha),Marks inPercentage-79.1%

**3.Designation:** Assistant Professor

**4.Email Id:** purabi306@gmail.com

**5.Area of interest:**

The exfoliated clay-polymer nano-composites are of particular interest from catalysis and ad-sorption point of view because of the greater degree of interaction between the inorganic and polymeric matrix.The future plan of research includes the synthesis of various clay-polymernanocomposites by following different preparative strategies for evaluating their catalytic properties in a more efficient manner. It has been intended to incorporate various acidic functionalgroups into the matrices of the clay-polymer nano-composites by using various chemicals.In this way, the acidic properties of the clay lattice can be enhanced so that more active sites can be generated to carry out the acid-catalyzed reaction. Biologicallyimportantmoleculescan be synthesized by using these clay polymernano-compositesascatalystsunderenvironmentbenignconditions.

**6. Area of research:**

- (i) Synthesis and surface modification of pillared clays.
- (ii) Evaluation of physicochemical properties of pillared clays from different characterization techniques.
- (iii) Study of surface property of different modified clay systems.
- (iv) Application of pillared clay system as a catalyst for the synthesis of biologically important molecules and for removal of organic pollutants from the environment.

**7.Teaching Area:**

August 2023-till date: BJB(A) College:

Jan.2018–July 2023(Model Degree College, Nabarangpur):

BSc Chemistry (CBCS)syllabus.

Jan 2017-April 2017. (VNR Vignana Jyothi Institute of Science and Technology).  
BtechEngineering Chemistry

Jan.2016-Dec.2016(MahindraEcoleCentrale,Hyderabad):

GuidedthestudentsofB.Tech. inprojectsandtaughtEngineering Chemistry

Aug.2015-

Nov.2015(CollegeofEngineering&Technology,Bhubaneswar):IhavetaughtEngineering Chemistry.

June 2010-July 2015: I have conducted several classes and guided students in projects in the basic core courses. Tech, M.Sc., and Integrated M.Sc. at NIT Rourkela.

### 8. Total No. of Teaching Experience (Yrs):

- UG & PG: 08

### 9. Research Supervision

- Completed (M.Phil./Ph.D./D.Sc./D.Litt.)

Srl. No.	Name of the Student	Degree	University	Title of the Thesis	Date of Registration	Date of Submission	Date of Award of Degree

- Ongoing (M.Phil./Ph.D./D.Sc./D.Litt.)

Srl No.	Name of the Student	Degree	University	Title of the Thesis	Date of Registration

### 10. Publication Profile

#### a) Published research articles:

1. **Purabi Kar, Aparajita Nayak, Y.P. Bhoi, B.G. Mishra**, "Catalytic application of Zr-Pillared clay-sulfonated polyvinyl alcohol composite catalytic system for one-pot multicomponent synthesis of hexahydropyrimidines", *Microporous and Mesoporous Materials*, 223 (2016), 176-186.
2. **Purabi Kar, B.G. Mishra, S.R. Pradhan**, Polyphosphoric acid-zirconia pillared clay composite catalytic system for efficient multicomponent one pot synthesis of tetrahydropyridines under environmentally benign conditions, *Journal of Molecular Catalysis A: Chemical* 387 (2014) 103-111.
3. **Purabi Kar and B. G. Mishra**, Hydrodehalogenation of Halogenated Organic Contaminants from Aqueous Sources by Pd Nanoparticles Dispersed in the Micropores of Pillared Clays Under Transfer Hydrogenation Condition, *Journal of Cluster Science* 25 (2014) 1463-1478.
4. **Purabi Kar, B.G. Mishra**, Silicotungstic acid nanoparticles dispersed in the micropores of Cr-pillared clay as efficient heterogeneous catalyst for the solvent free synthesis of 1,4-dihydropyridines, *Chemical Engineering Journal* 223 (2013) 647-656.
5. **Purabi Kar, Satish Samantaray, B. G. Mishra**, Catalytic application of chromium-pillared montmorillonite towards the environmentally benign synthesis of octahydroxanthones, *Reaction Kinetics Mechanism & Catalysis* 108 (2013) 241-251.
6. **S. Samantaray, P. Kar, G. Hota, and B. G. Mishra**, Sulfate Grafted Iron Stabilized Zirconia Nanoparticles as Efficient Heterogeneous Catalysts for Solvent-Free Synthesis of Xanthenediones under Microwave Irradiation, *Industrial Engineering & Chemistry Research*, 2013, 52, 5862-5870

- b) Books Chapters Published: Nil  
 c) Books Published: Nil  
 d) Articles Published in Newspapers/Magazines: Nil

### 11. Research Projects

Name	Department	Type (major /minor )	Name of the funding agency	Funds provided (in Rs. in lakhs)	Title of the project	Month and year of receiving grant	Duration of the project	Completed/ongoing (Date of Completion/ expecting completion)

### 12. Paper presented in Conferences/Seminars:

- Purabi Kar and B.G. Mishra**, Novel synthesis of tetrahydropyridines using polyphosphoric acid intercalated zirconia pillared montmorillonite, 16th CRSI National Symposium in Chemistry (NSC-16), 7th -9th February, 2014, Department of Chemistry, IIT Bombay, Mumbai, India.
- Purabi Kar and B. G. Mishra**, Treatment of halogenated organic compounds using supported Pd bimetallics dispersed in the micropores of Al-pillared clay, 3rd International Conference on Advanced Nanomaterials & Nanotechnology, 1st-3rd December 2013, Department of Chemistry, IIT Guwahati, India.
- Purabi Kar, Satish Samantaray, B. G. Mishra**, Chromium pillared clays and its modified analogues as efficient heterogeneous catalyst for synthesis of Xanthene derivatives and Dihydropyridines, 14th CRSI National Symposium in Chemistry, 3rd - 5th February 2012, National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram, Kerala, India.
- Purabi Kar, B. G. Mishra**, Preparation, characterization and catalytic application of vanadia supported Cr-pillared clay for oxidation of aniline, Silver Jubilee Annual Conference of Orissa Chemical Society & National Conference on Molecule, 24-26th December 2011, Department of Chemistry, Sambalpur University, Burla, Odisha, India.
- Satish Samantaray, Purabi Kar, Prabhat kumarSubudhi and B. G. Mishra**, Selective synthesis and stability of t-zirconia nanoparticles; structural properties, 13th CRSI NSC and 5th CRSI RSC symposium in chemistry 4-6th February 2011, Department of Chemistry, NISER and KIIT university, Bhubaneswar, India.

### 13. Invited Lectures/Special Lectures/Resource persons or presentation at Conferences/Workshops: Nil

### 14. Awards and Distinctions: Nil

### 15. Association with Professional Bodies: Nil