Curriculum Vitae

Dr. SWAPNIL K. WARKHADE
Scientist
RQA division
CSIR-CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH, RANCHI

Personal Information:

Name: Dr. SWAPNIL KESAHVRAO WARKHADE

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Date of Birth: 16 December 1990

Work experience:

1. Currently working as Scientist
   CSIR-CIMFR, Ranchi
   Jharkhand

2. Assistant Professor in
   Department of Chemistry,
   Amolakchand Mahavidhyalaya, Yavatmal.
   Date of Joining: 6/3/2020 – 28/10/2021

3. 21 months experience in ***"Vidarbha Industries Power Limited"*** *Butibori, Nagpur, Maharashtra"* as a Junior Executive Trainee (JET).
   Date of Joining: 24 March 2014
   Date of resign: 3 December 2015

List of Publications

1. $CoSe_2$ Nanoflakes: An Artificial Nanoenzyme with Excellent Peroxidase like Activity, **Swapnil K. Warkhade,** Rudra singh Pratap, Ranjita Das, Gayatri S. Gaikwad, Sangesh P. Zodape, Umesh Pratap, Atul Maldhure, Atul V. Wankhade ***"Inorg. Chem. Commun.***126, 108461, **2020.**
2. Morphologically controlled synthesis of Graphene Oxide @ Silver Zirconate ($GO@Ag_2ZrO_3$): A Type-II Heterojunction an Effective Photocatalysis and Bacterial Photo-inactivation, Ranjita S. Das, **Swapnil K. Warkhade**, Anupama Kumar, Atul V Wankhade, (Under review)
3. "Synthesis of $Ag_2V_4O_{11}$ nanoflakes mediated photoactivation of peroxymonosulfate ion for enhanced dye degradation and intrinsic bactericidal activity" Rudra P. Singh, Prerna S. Khagar, Adarsh K. Mourya, **Swapnil K. Warkhade,** Sangesh P. 4 Zodape, Umesh R. Pratap, Atul V. Wankhade*

4. Recent progress on development and engineering of electrochemical water splitting, **Swapnil K. Warkhade**, Atul V Wankhade, (Under Review)
5. Graphitic Carbon Nitride @ Silver Zirconate Nanocomposite ($gC_3N_4@Ag_2ZrO_3$): A Type-II Heterojunction for an Effective Visible Light Photocatalysis and Bacterial Photo-inactivation, Ranjita S. Das, **Swapnil K. Warkhade**, Anupama Kumar, Atul V Wankhade, *"**J. Alloys Compd**." (Just accepted) doi.org/10.1016/j.jallcom.2020.155770*
6. Optimized Room temperature mediated synthesis of hierarchical silver zirconate, **Swapnil K. Warkhade,** Ranjita Das, Gayatri S. Gaikwad, Sangesh P. Zodape, Umesh Pratap, Atul V. Wankhade (under review)
7. Rutile TiO_2/CoSe nanocomposite: An efficient photocatalyst for photodegradation of model organic dyes under visible light irradiation, **Swapnil K. Warkhade**, Sangesh P. Zodape, Umesh R. Pratap, Atul V. Wankhade, *J. Mol. Liq.* 279, 434-443, 2019.
8. Graphene oxide-based zirconium oxide nanocomposite for enhanced visible light-driven photocatalytic activity. Ranjita S. Das, **Swapnil K. Warkhade**, Anupama Kumar, Atul V Wankhade, *Rese. Chem. Inter.,* 45, 4, 1689–1705, 2019.
9. A facile microwave assisted fabrication of nano Ag_2ZrO_3: an efficient visible light harvesting photocatalyst, **Swapnil K. Warkhade**, R. S. Das, G. S. Gaikwad, S. P. Zodape, U. Pratap, A.V. Wankhade, *Environ Prog Sustain Energy*, 2018, 38, 3 DOI. 10.1002/ep.13071.

10. Microwave Assisted Optimized Rout for the Synthesis of $CoSe_2$ Nanoflakes: An Efficient Material for Adsorptive Removal of Rhodamine B, **Swapnil K. Warkhade**, S. P. Zodape, U. R. Pratap, A. V. Wankhade, *J. Chem. Technol. Biotechnol*, 2568-2575, 2018.
11. Nano-Nickel Aluminates: A Sustainable Nanocatalyst for Solvent-Free Acetylation of Alcohols Phenols and Amines, **Swapnil K. Warkhade**, Vayu Chaurasiya, Megha Rawat, Gayatri S. Gaikwad, Sangesh P. Zodape, Umesh Pratap, Atul V. Wankhade, *Chemistryselect,* 3 (9), 2515–2522, 2018.
12. Low temperature synthesis of pure anatase carbon doped titanium dioxide: An efficient visible light active photocatalyst, **Swapnil K. Warkhade**, GS Gaikwad, SP Zodape, U Pratap, AV Maldhure, AV Wankhade, *Mat Sci Semicon Proc.* 63, 18-24, 2016.
13. Nano sized Silver Zirconate: A new visible light active photocatalyst for degradation of methylene blue synthesized via co-precipitation process, G.S.Gaikwad, A.V.Wankhade, **Swapnil K.Warkhade,** Sanjay.R.Thakare, N.T. Khati, "*International Journal of Puure and Applied Mathematics"* 114 (12), 739-746, 2017.
14. Synthesis and characterization of substituted 5 bromo 2-benzylidine-1-benzofuran-3-one and its structural determination, **Swapnil K. Warkhade**, Kavita P. Kakade, *International Journal of Chemical and Pharmaceutical Sciences,* 4 (3), 2013.

- **Invited Oral presentations at International Conferences:**

1. **Swapnil K. Warkhade**, Atul V. Wankhade, Oral presentation of topic ***"Nano Nickel Aluminate for Solvent Free Acetylation: A Greener Approach*** "INTERNATIONAL CONFERENCE ON ADVANCED ENGINEERING FUNCTIONAL MATERIALS-2017" at GITA, Bhubaneswar, Odisha, India during 21st - 23rd, September, 2017.

2. **Swapnil Warkhade** and Atul V. Wankhade, Oral presentation on topic ***"Nano Nickel Aluminate for Solvent Free Acetylation: A Greener Approach"*** in Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017) 10•12 February 2017 at Mahatma Gandhi University, kottayam, Karla (Feb 2017).

- **Invited Poster presentations at International Conferences:**

1. **Swapnil K. Warkhade**, Atul V. Wankhade, poster presentation on "**Microwave Assisted Synthesis of $CoSe_2$ nanoflakes: An efficient Biomimicking catalyst with an intrinsic peroxidase-like activity**" at *International conference on energy and environmental Challenges* (CE_2C-2019) on 18-19 January 2019, VNIT Nagpur.

2. **Swapnil K. Warkhade**, G. S. Gaikwad, Atul V. Wankhade, poster presentation on the topic "***Designing visible light harvesting core/shell model: TiO_2/CoSe photocatalyst"*** in Tata Institute of Fundamental Research (**TIFR**), Mumbai on dated January 2018.

- **International/ National Workshops Attended:**

1. **Swapnil K. Warkhade** attended workshop held on "*Spectral Data Analysis & Spectral Interpretations for Structural Elucidation (SDSISE-2017)*" at VNIT Nagpur on dated 21 to 25 November 2017.

2. **Swapnil K. Warkhade** attended workshop held on "*Workshop on Fundamental Chemistry and its use in Advance Research*" by Royal Society of Chemistry Western Indian Section in Association with Department of Chemistry, Hislop College Nagpur on dated 29th July 2017.

3. **Swapnil K. Warkhade** attended workshop held on "*Spectroscopic Techniques: Fundamental to Applications (STFA-2016)*" at VNIT Nagpur during 05 to 09 December 2016.

4. **Swapnil K. Warkhade** attended workshop held on "*Modern Instrumental Methods of Analysis for Diverse Application: From Nanomaterials to Biology*" at VNIT Nagpur during 22-26th February 2016.

Research areas of interest:

- Synthesis of Metal-oxide, MOF, COF and PBA .
- Development of visible light active materials.
- CO_2 Capturing and reduction.
- Photocatalytic water splitting for H_2 generations.
- Electrochemical water splitting
- Nanomaterial mediated organic transformation.
- Photodegradation of organic dyes.
- Biomimetics.