

**Name: Dr. Sapna Yadav**

**Department: Chemistry**

**Current Designation: Assistant Professor (Guest)**

**Email id: sapna.yadav@mirandahouse.ac.in**

**Academic Qualifications:**

DEGREE	COLLEGE/SCHOOL/UNIVERSITY	YEAR	RESULT
Ph.D.	Department of Chemistry, University of Delhi	2023	Completed
M.Sc. Chemistry	Hindu College, University of Delhi	2017	66.19 %
B.Sc. Chemistry	Miranda House, University of Delhi	2015	78.02 %
CBSE (XII)	Yaduvanshi shiksha nicketan, Mahendergarh, Haryana	2012	86.80 %
CBSE (X)	Yaduvanshi shiksha nicketan, Mahendergarh, Haryana	2010	74.1 %

**Research Degree(s):**

DEGREE	COLLEGE/SCHOOL/UNIVERSITY	YEAR	RESULT
Ph.D.	Department of Chemistry, University of Delhi	2023	Completed

**Field of Specialization under the Subject/Discipline: Nanomaterials**

**Total Teaching Experience: NA**

**Teaching at Miranda House since: 12 September 2023**

**List of Publications:**

1. Yadav, S.; Rani, N.; Saini, K.; A review on transition metal oxides based nanocomposites, their synthesis techniques, different morphologies and potential applications. *IOP Conf. Ser.: Mater. Sci. Eng.* **2022**, *1225*, 012004. [doi:10.1088/1757-899X/1225/1/012004](https://doi.org/10.1088/1757-899X/1225/1/012004).
2. Yadav, S.; Yadav, J.; Kumar, M.; Saini, K.; Synthesis and characterization of nickel oxide/ cobalt oxide nanocomposite for effective degradation of methylene blue and their comparative electrochemical study as electrode material for supercapacitor application. *Int. J. Hydrog. Energy* **2022**, *47*, 41684-41697. <https://doi.org/10.1016/j.ijhydene.2022.02.011>.

3. Yadav, S.; Shakya, K.; Gupta, A.; Singh, D.; Chandran, A. R.; Aanappalli, A. V.; Goyal, K.; Rani, N.; Saini, K.; A review on degradation of organic dyes by using metal oxide semiconductors. *Environ. Sci. Pollut. Res.* **2022**. <https://doi.org/10.1007/s11356-022-20818-6>.
4. Yadav, S.; Rani, N.; Saini, K.; Synthesis and characterization of NiO/Cr<sub>2</sub>O<sub>3</sub> nanocomposite with effective sunlight driven photocatalytic degradation of organic dyes. *Environ. Sci. Pollut. Res.* **2022**. <https://doi.org/10.1007/s11356-022-22746-x>.
5. Yadav, S.; Rani, N.; Saini, K.; Coupling ZnO with CuO for efficient organic pollutant removal. *Environ. Sci. Pollut. Res.* **2022**. <https://doi.org/10.1007/s11356-022-24139-6>.
6. Yadav, S.; Rani, N.; Saini, K.; Green synthesis of ZnO and CuO NPs using *Ficus benghalensis* leaf extract and their comparative study for electrode materials for high performance supercapacitor application. *Mater. Today: Proc.* **2022**, 49, 2124-2130. <https://doi.org/10.1016/j.matpr.2021.08.323>.
7. Rani, N.; Saini, M.; Yadav, S.; Gupta, K.; Saini, K.; Khanuja, M.; High Performance Super-Capacitor based on Rod Shaped ZnO Nanostructure Electrode. *AIP Conf. Proc.* **2021**, 2276, 020042-1-020042-8. <https://doi.org/10.1063/5.0026084>.
8. Rani, N.; Rawat, K.; Shrivastava, A.; Ekta, Yadav, S.; Gupta, K.; Saini, K.; *In Vitro* study of green synthesized ZnO nanoparticles on human lung cancer cell lines. *Mater. Today: Proc.* **2022**, 49, 1436-1442. <https://doi.org/10.1016/j.matpr.2021.07.203>.
9. Saini, M.; Mushtaq, A.; Yadav, S.; Rawat, S.; Rani, N.; Gupta, K.; Saini, K.; Green Synthesis of Rod Shaped ZnO using Extract of *Origanum majorana* Leaf and Investigation for Antibacterial Applications. *IOP Conf. Ser.: Mater. Sci. Eng.* **2022**, 1225, 012048. [doi:10.1088/1757-899X/1225/1/012048](https://doi.org/10.1088/1757-899X/1225/1/012048).
10. Saini, M.; Yadav, S.; Rani, N.; Mushtaq, A.; Rawat, S.; Saini, K.; Maity, D.; Biosynthesized zinc oxide nanoparticles using seed and bark extract of *Azadirachta indica* for antibacterial, photocatalytic and supercapacitor applications. *Mater. Sci. Eng. B* **2022**, 282, 115789. <https://doi.org/10.1016/j.mseb.2022.115789>.
11. Rani, N.; Rawat, K.; Saini, M.; Yadav, S.; Shrivastava, A.; Saini, K.; Maity, D.; *Azadirachta indica* leaf extract mediated biosynthesized rod-shaped zinc oxide nanoparticles for in vitro lung cancer treatment. *Mater. Sci. Eng. B* **2022**, 284, 115851. <https://doi.org/10.1016/j.mseb.2022.115851>.
12. Saini, M.; Yadav, S.; Rani, N.; Mushtaq, A.; Rawat, S.; Saini, K.; Antibacterial study of nanosized zinc oxide (F1) against various gram-positive and gram-negative bacteria. *Mater. Today: Proc.* **2022**. <https://doi.org/10.1016/j.matpr.2022.07.208>.
13. Rani, N.; Goswami, N.; Yadav, S.; Maity, D.; Patil, S.; Saini, K.; Biosynthesis of hydrophilic zinc oxide nanoparticles using *Plumeria obtusa* and *Tabernaemontana divaricata* flower extract for antidiabetic treatment. *Chem. Pap.* **2022**. <https://doi.org/10.1007/s11696-022-02239-4>.
14. Rani, N.; Rani, S.; Patel, H.; Bhavna, Yadav, S.; Saini, M.; Rawat, S.; Saini, K.; Characterization and investigation of antioxidant and antimicrobial activity of zinc oxide nanoparticles prepared using leaves extract of *Nyctanthes arbor-tristis*. *Inorg. Chem. Commun.* **2023**, 150, 110516. <https://doi.org/10.1016/j.inoche.2023.110516>.
15. Rani, N.; Rawat, K.; Saini, M.; Yadav, S.; Syeda, S.; Saini, K.; Shrivastava, A.; Comparative *In Vitro* Anticancer Study of Cisplatin Drug with Green Synthesized ZnO Nanoparticles on Cervical Squamous Carcinoma (SiHa) Cell Lines. *ACS Omega* **2023**. <https://doi.org/10.1021/acsomega.2c08302>.



# Miranda House

## UNIVERSITY OF DELHI

---

### Paper Communicated

1. Rani, N.; Yadav, S.; Mushtaq, A.; Rani, S.; Saini, M.; Rawat, S.; Gupta, K.; Saini, K.; Maity, D.; *Azadirachta indica* fruit peel extract mediated green synthesized ZnO nanoparticles for antimicrobial, supercapacitor and photocatalytic applications. **2023**.
2. Yadav, S.; Rani, N.; Saini, K.; Fabrication of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/rGO nanocomposite and its study for electrochemical Glucose sensor and supercapacitor application. **2023**.

### Conferences Organised :

Nano Road Show, Miranda House on 1 February 2020.

### Seminars/Workshops/Conferences attended (reverse chronological order):

#### Oral Presentation at International and National Conferences

1. **S. Yadav**, N. Rani, K. Saini (2021) at Recent Advances In Sustainable Materials (GC-RASM- 2021)
2. **S. Yadav**, N. Rani, K. Saini (2021) at International Conference Of Multidisciplinary Aspects Of Materials In Engineering (IC-MAME-2021)
3. **S. Yadav**, N. Rani, K. Saini (2021) at Molecules To Materials (MTM-2021)
4. **S. Yadav**, N. Rani, K. Saini (2021) at International Conference On Condensed Matter And Device Physics (ICCMDP-2021)
5. **S. Yadav**, N. Rani, K. Saini (2021) at International Conference On Advancements In Interdisciplinary Research (ICAIR-2021)

#### Poster Presentation at International and National Conferences

1. **S. Yadav**, N. Rani, K. Saini (2022) at International Conference On Nanotechnology: Opportunities & Challenges (ICNOC-2022)
2. **S. Yadav**, N. Rani, K. Saini (2022) at National Conference On Recent Trends In Chemistry And Nano-biotechnology (RTCN-2022)
3. **S. Yadav**, N. Rani, K. Saini (2023) at Emergent Materials For Energy And Environment (EMEE-2023)
4. **S. Yadav**, N. Rani, K. Saini (2023) at National Conference On Scientific Innovation For Human Wellbeing-2023
5. **S. Yadav**, N. Rani, K. Saini (2023) at International Conference On Recent Trends In Chemical Sciences -2023