



Miranda House

UNIVERSITY OF DELHI

Name: Dr. Deepti Rawat
Department: Chemistry
Current Designation: Assistant Professor
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Academic Qualifications (reverse chronological order):

- **Doctor of Philosophy (September 2007 – March 2012)** – Green Chemistry Lab, Department of Chemistry, University of Delhi
Thesis Topic : Synthesis ,characterization and application of functionalized silica for transesterification, acetylation and multicomponent reaction
- **Master of Philosophy (September 2005 –March 2007)** – Green Chemistry Lab, Department of Chemistry, University of Delhi
Dissertation Topic: Synthesis and characterization of surface modified silica supported Zn(II) Schiff base for use as catalyst in transesterification reaction
- **Master of Science (2002– 2004)** –Jamia Millia Islamia
- **Bachelor of Science – (1999 – 2002)** –Acharya Narendra Dev College, University of Delhi
- **XII Std., A.I.S.S.C.E. – Science – (1999)** – Holy Child Auxilium, Vasant Vihar Delhi

Research Degree(s) (reverse chronological order):

Field of Specialization under the Subject/Discipline:

Inorganic Chemistry

Total Teaching Experience:

Assistant Professor, Miranda House, University of Delhi, July 2015-Present
Assistant Professor, Daulat Ram College, University of Delhi, August 2008- July 2015
Assistant Professor, S.G.T.B. Khalsa College, University of Delhi, September 2008-August 2009

Teaching at Miranda House since:

Assistant Professor, Miranda House, University of Delhi, July 2015-Present



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- **List of Publications** (reverse chronological order):
(Articles in referred/peer-reviewed/UGC Care journals/ Books/Book Chapters)
- Kaushik, B., Rana, P., Rawat, D., Solanki, K., Yadav, S., Rana, P. & Sharma, R. K. 2022. Magnetically separable type-II semiconductor based ZnO/MoO₃ photocatalyst: a proficient system for heteroarenes arylation and rhodamine B degradation under visible light. *New J. Chem.* **46**: 8478-8488
- “Ingeniously designed Silica nanostructures as an exceptional support: Opportunities, potential challenges and future prospects for viable degradation of pesticides” Bhawna Kaushik; Sneha Yadav; Pooja Rana; Pooja Rana; Kanika Solanki; Deepti Rawat, R. K. Sharma, *Journal of Environmental Management*, **2022**, 301, 113821
- “Modified Silico-tungstate: An Easy and Efficient Catalyst for the Acetylation of Amines under Solvent-Free Condition” R. K. Sharma, Deepti Rawat, *Journal of Inorganic and Organometallic Polymers and Materials*, **2010**, 51, 4415-4418.
- “An Efficient and Recyclable Silica Based Inorganic–Organic Hybrid Zinc Catalyst for Transesterification of β -Ketoesters” R. K. Sharma and Deepti Rawat, *Journal of Inorganic and Organometallic Polymers and Materials*, **2011**, 21, 619-626
- “Synthesis, Characterization and Catalytic Behaviour of Silica Supported Zinc Salicylaldimine Complex” R. K. Sharma and Deepti Rawat, *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry*, **2008**, 45, 394-399.
- “Inorganic–Organic Hybrid Silica based Tin(II) Catalyst: Synthesis, Characterization and Application in One-Pot Three-Component Mannich Reaction” R. K. Sharma, Deepti Rawat and Garima Gaba, *Catalysis Communications*, **2012**, 19, 31-36.
- “Silica Immobilized Nickel Complex: An Efficient and Reusable Catalyst for Microwave-Assisted One-Pot Synthesis of Dihydropyrimidinones” R. K. Sharma and Deepti Rawat, *Inorganic Chemistry Communications*, **2012**, 17, 58-63
- “Antimicrobial activity of *Trachyspermum ammi* leaves mediated silver nanoparticles”: Green approach, Sahu, S., Rawat, D. & Singh, D. *Int. J. Res. Eng. Techn.* **2015**, 4(9) 34-38.
- Microwave-assisted synthesis of silver nanoparticles from *Origanum majorana* and *Citrus sinensis* leaf and their antibacterial activity: a green chemistry approach, Singh, D. Rawat, D. & Isha. *Bioresour. Bioprocess.* 2016, 3(14) DOI 10.1186/s40643-016-0090-z

BOOK CHAPTERS

- Conducting Polymers for Advanced Energy Applications Chapter “The Role of Chalcogenide in Conducting Polymers for Enhanced Battery Performance” Nobel tomar, Deepti Rawat, Parmod Kumar, **Rahul Singhal** CRC Press, Taylor and Francis Group ISBN 9780323912 877 (2021)
- Applications of Advanced Green Materials Chapter 7: Nanostructured inorganic/organic silica as green material for sustainable development of catalysts Deepti Rawat, Bhawna Kaushik and Rahul Singhal Woodhead publishing series in materials, Elsevier 2020



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BOOK: Application of Functionalized Silica Gel in Catalyst Deepti Rawat and R.K . Sharma LAP LAMBERT Academic Publishing GmbH & Co ISBN 978- 3-659- 12657-4)

Educational Resource Material Developed (reverse chronological order):

Block I: Fundamentals of Environmental Chemistry Unit 3: Environmental Chemistry III
M.Sc Environmental Science School of Interdisciplinary and Transdisciplinary Studies, IGNOU, Post graduate material 2020

Research Guidance (reverse chronological order):

Mentor/Resource Person-Guided summer projects “Flavor of Research” under D S Kothari Centre for Research and Innovation in Science Education at Miranda House, June-July 2

Research Projects (reverse chronological order):

- **Project Investigator** in Innovation Project from University of Delhi entitled: Bio-inspired copper nanoparticles and its application as antimicrobial agent, (Nov 2013 - Dec 2015) (Amount: 5,50,000)
- **Project Investigator** in Innovation Project from University of Delhi entitled: Development of New Fluorescent Silica Nanoparticles for Rapid Detection of Clinical Pathogen (Amount: 4,00,000)
- **Project Investigator** in Innovation Project from University of Delhi entitled: Zinc oxide nanoparticles from agricultural waste and its antimicrobial and food Packaging application (2015-2016) (Amount: 5,50,000)

Membership Of Professional Bodies (reverse chronological order):

- Green Chemistry Network Centre
- NESAI
- Vijnana Bharati – Life Member (LM)
-

Administrative Responsibilities (reverse chronological order):

Invited talks/Session chair/Resource person (reverse chronological order):

Conferences Organised (reverse chronological order):

- Member of the Organizing Committee for National Webinar on “Recent Advances in Chemistry”, organized by the Department of Chemistry, Miranda House, IUPAC Global Women Breakfast 2022, 16 February 2022.



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- Organizing Secretary for Online International Conference on Science and Society 23rd- 25th February 2022 under the aegis of IQAC, Miranda House sponsored by CSIR-INDIA and Indian Council of Social Science Research.
- Member of the Organizing Committee for a Talk on “Metal and Modern Medicine” by Dr. Anil Kumar Mishra, director INMAS, DRDO, held on 29 March 2022 at Seminar Hall, Miranda House, University of Delhi, Delhi.
- Member, Organizing Committee, in the National workshop “ Nano Road Show -2020 held on 1 February 2020 at Miranda House, University of Delhi
- Member, Organizing Committee in the Symposium Empowering Women in Chemistry: A Global Networking Event held on 12 February 2019 at Miranda House, University of Delhi
- Member, Organizing Committee for one-day Indo-Hungarian Symposium on Recent Advances in Chemistry and Biology held on 11 December 2019 organized by Department of Chemistry, Miranda House, University of Delhi in association with Department of Pharmaceutical Chemistry, University of Debrecen
- Member, Organizing Committee for the workshop Online Labs for School Experiments held on 11 April 2017 organized by Departments of Chemistry and Physics Miranda House, University of Delhi under the D. S.Kothari Centre for Research and Innovation in Science Education in collaboration with Amrita University, Kerala
- Organizing member for Computational Chemistry and bioinformatics, DS K centre for research and innovation in science and education held on 22 august -28 August 2015 at Miranda House, University of Delhi

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

- Poster presentation on “An Expedite Green Synthesis of Silver Nanoparticles and its Antibacterial Application” in RSC workshop on “Chemistry for Tomorrow’s World from 2-3 Dec 2015 in Hotel Maiden, Delhi.
- Certificate of Appreciation, for Innovation Project (DR 302) ‘Zinc Oxide Nanoparticle from Agricultural Waste and its Antimicrobial and Food Packaging Application: A Green Chemistry Approach’ at 93rd Annual Convocation of University of Delhi held on 19 November 2016.
- Attended National Conference in Chemistry on “Environment and Harmonious Development” organized by Department of Chemistry, Shyamlal College, Delhi University from April 07-08, 2016.
- Attended International Conference on "Green Chemistry in Environmental Sustainability & Chemical Education" (ICGC-2016) organized by Department of chemistry, Daulat Ram College, University of Delhi, from 17- 18 November 2016
- Attended Indo-UK scoping workshop on Development of Rural Biorefineries in India: From Waste to Wealth in Guest House, University of Delhi on 20 Feb 2017
- Paper presentation in the event “ Frontiers in Research” in Vigzest 2017, Miranda House, University of Delhi



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- Resource Person, Bridge Course on Laboratory Safety and Handling of Equipment organised by Department of Chemistry, Miranda House, University of Delhi on 1 and 3 August 2017
- Science Conclave: Research on the Frontiers, organized under the aegis of D S Kothari Centre for Research and Innovation in Science Education, Miranda House, 10 - 12 January 2018
- Participated in National Conference on “Technological Empowerment of Women” Commemorating the International Women’s Day at Vigyan Bhawan, New Delhi on March 8-9 2018 organized by The National Academy of Sciences , India (NASI)
- Participated in the workshop on Catalyzing a Cultural Shift in Youth Entrepreneurship organized by DS Kothari Centre for Research and Innovation in Science Education , Miranda House, University of Delhi and Biotechnology Industry Research Assistant Council (BIRAC), DBT, Government of India on 9 November 2017
- Poster Presentation at the International Conference on Advancing Green Chemistry: Building a Sustainable Tomorrow” jointly organized by Green Chemistry Network Centre, Department of Chemistry, University of Delhi and Hindu College, University of Delhi, 3-4 October 2017
- Participated in seminar on “Emerging Green Technology and Technical Terminology” organized by Commission for Scientific Terminology, MHRD, Department of Higher Education, held at Ramjas College, University of Delhi from 13-14 February 2018
- Participated in the conclave on Biodiversity for Everyone’s Life ,organized by Miranda House, University of Delhi and Institute of Bioresources and Sustainable development (ISBD) Manipur on 31 August 2018
- Evaluator for the State Level Camp (Level-II) Delhi at Vidyarthi Vigyan Manthan - India’s Largest Science Talent Search for New India Using Digital Devices (VVM)2018-19 organized by Vijnana Bharati (VIBHA) in association with Vigyan Prasar, Department of Science and Technology, Govt. of India and NCERT, MHRD, Govt. of India held on 13th January 2019 at Kendriya Vidyalaya, Sector-2 R. K. Puram , New Delhi
- Poster Presentation in National Conference on” Relationship between Chemical Sciences and Society (RCSS-2020) organized by Department of Chemistry Shivaji College on 16-17 January 2020
- Participated in Summit ISW-2020 International Summit on Women in STEM- “Visualizing the Future : New Skylines” held at India Habitat Centre, Lodhi Road , Delhi on January 23-24 , 2020
- Participated in ACS Workshop on “Greening Education System: Initiatives for Propagating and Preaching Beyond Benign Concepts in Classrooms and Laboratories” jointly organized by ACS International Student Chapter University of Delhi, Green Chemistry Network Centre, University of Delhi, and Hindu College held on 19 December 2019 at Conference Centre, University of Delhi
- Participate in Tech4Seva-Three Day National Workshop on Technology Outreach as an Enabler for Inclusive and Sustainable Development at IIT Delhi from 10-12 August 2019
- Participated in the National Seminar on "Environment and Sustainability in The Third World" organized by Department of Chemistry & IQAC, Hansraj College, University of Delhi on 28 February 2020
- Training workshop on: Green Chemistry: Chemistry for Tomorrow’s World” organized by Department of Chemistry, University of Delhi in collaboration with Vigyan Prasar, DST, Govt of Delhi on 26 Dec 2011



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- Workshop on: Techniques in Genetics and Genomics, organized by Department of Zoology, Daulat Ram College from 8 -11 Feb 2012.
- Workshop on Recent Trends in Green Chemistry organized by Department of Chemistry, Daulat Ram College, University of Delhi from 11-13 Jan 2012.
- Poster presentation on “Bioinspired synthesis of metal nanoparticle and its application as antimicrobial agent” in the 5th Asian Oceania Conference on Green and Sustainable Chemistry (AOC-5GSC) on January 15-17, 2015 in India Habitat Centre, New Delhi organized by North India Section of the Royal Society of Chemistry, Green Chemistry Network centre and the Energy and Resource Institute, New Delhi

Synergy (work with other organizations outside the college):