INSTITUTE OF HOME ECONOMICS

UNIVERSITY OF DELHI

Name	Dr. Sneha Yadav	Photograph
Designation	Assistant Professor	
E-mail Google scholar link	sneha.yadav@ihe.du.ac.in https://scholar.google.com/citations?user=suIH7k4AAAAJ&hl=en	

Educational Qualifications:

- Ph.D. Chemistry from Department of Chemistry, University of Delhi, 2022
- MSc. Chemistry (Inorganic Specialization) from Hindu College, University of Delhi, 2016
- BSc. (Hons.) Chemistry from Hindu College, University of Delhi, 2014

Teaching Experience: 2 Year +

- Teaching as an **Assistant Professor** at **Department of Chemistry, Institute of Home Economics**
- Worked as **an Assistant Professor (Chemistry)** on Guest basis in **Department of Chemistry, Gurugram University, Gurugram, Haryana**

Post-Doctoral Research Experience: 1 Year 8 Months+

- **Worked as a Research Associate** on an Academia-Industry Collaboration project titled - **"Development and analysis of repellent active formulations for sustained consumer benefits"** between Hindu College, University of Delhi, GCNC, University of Delhi and Reckitt Benckiser-a Multinational Corporation

Subjects/Papers Taught:

- Nutritional Biochemistry
- Basic Concepts of Chemistry
- Cleansing agents and Biomolecules
- Symmetry and Group Theory in Chemistry
- Metal-Ligand Bonding
- Electronic Spectra and Magnetic Properties of Transition Metal Complexes
- Organometallic Chemistry
- Homogeneous Catalysis
- Electro-analytical methods of analysis
- Spectrophotometry and Colorimetry
- Atomic Absorption Spectroscopy and Flame Photometry

Awards received

- **Recipient of Prof. Amarnath Maitra Memorial Fellowship Award** for being the **University of Delhi Topper in 3rd semester in M. Sc. Chemistry** in the session of 2015-2016.

- **Received Certificate of Appreciation** for being the **Hindu College Topper** and for securing **2nd rank in Delhi University** during MSc. Degree (session 2014-2016), University of Delhi.
- **Received certificate of appreciation** for **publishing research in the top 10% of highly cited works from the Royal Society of Chemistry Journals** for the article titled **"Magnetic metal-organic framework composites: structurally advanced catalytic materials for organic transformations".**
- **Received Best Poster presentation award** in RSC National workshop on "Recent Advances in Chemistry and Biology" held on 15th December, 2016 at Shiv Nadar University.
- **Received Best E-Poster presentation award** in International Workshop and Symposium on "Green Chemistry and Technology" held on 15th -17th October 2018 at Govt. Dungar College, Bikaner.

Research Interest/Specialization: Materials Chemistry, Nanomaterials Synthesis, Catalysis, Green Chemistry, Designing hybrid organic-inorganic materials, Fabrication of Magnetic Metal Organic Framework composites

ORCID No. : 0000-0001-5667-0888

Research Projects:

Title	Funding agency/organization	Duration of Project

Research papers since 2010 (APA Format)

1. Priyanka, **Yadav, S.,** Rana, P., Bandichhor, R., Srivastava, A., & Sharma, R. K. (2024). Unexplored catalytic potency of a magnetic $CoFe_2O_4$/Ni-BDC MOF composite for the one-pot sustainable synthesis of 5-substituted 1-H tetrazoles. *Chemical Engineering Journal*, *496*, 153995. [**Impact Factor :13.2**]
2. Sharma, A., Sharma, S., **Yadav, S.,** Arora, B., Dutta, S., Dixit, R., Mehta, S., & Sharma, R. K. (2024). Covalently functionalized graphene oxide metal complexes: Versatile nanocatalysts for organic transformations. *Materials Science and Engineering: B*, *310*, 117671. [**Impact Factor :4.6**]
3. Sen, A., Oswalia, J., **Yadav, S.,** Vachher, M., & Nigam, A. (2024). Recent trends in nanozyme research and their potential therapeutic applications. *Current Research in Biotechnology*, *7*, 100205. [**Impact Factor :4**]
4. Sharma, A., Sharma, S., Dutta, S., **Yadav, S**., Dixit, R., Arora, B., Mehta, S., Srivastava, A., & Sharma, R. K. (2023). A simple and straightforward strategy for expedient access to benzoxazoles using chemically engineered 2D magnetic graphene oxide nanosheets as an eco-compatible catalyst. *Dalton Transactions*, *52*(32), 11303-11314. [**Impact Factor : 3.3**]
5. Solanki, K., Sharma, S., **Yadav, S.,** Kaushik, B., Rana, P., Dixit, R., & Sharma, R. K. (2023). Hierarchical 3D Flower-like Metal Oxides Micro/Nanostructures: Fabrication, Surface Modification, Their Crucial Role in Environmental Decontamination, Mechanistic Insights, and Future Perspectives. *Small*, 2300394. [**Impact Factor : 12.1**]
6. Solanki, K., Sharma, S., Rana, P., Kaushik, B., **Yadav, S**., Dixit, R., Birdar, A.V., Gupta, A., & Sharma, R. K. (2023). A structurally engineered flower shaped magnetic hierarchical sorbent for

rapid and selective uptake of Pb^{2+} ions from water samples. *Materials Chemistry Frontiers*, *7*, 4482-4496. [**Impact Factor : 6.4**]

7. Priyanka, **Yadav, S.,** Dutta, S., Rana, P., Arora, B., Sharma, R. K., Srivastava, A., & Sharma, R. K. (2023). Unleashing the catalytic potency of nanoporous copper oxide particles derived from copper 5-nitroisophthalate MOF towards the multicomponent synthesis of 2, 3-dihydroquinazolinones. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, *661*, 130847. [**Impact Factor : 5.4**]
8. Rana, P., Dixit, R., Sharma, S., Dutta, S., **Yadav, S**., Arora, B., Kaushik, B., Gawande, M.B., & Sharma, R. K. (2023). Preparation and characterization of the h-BN/Fe_3O_4/APTES-AMF/CuII nanocomposite as a new and efficient catalyst for the one-pot three-component synthesis of 2-amino-4-aryl (or heteroaryl)-7, 7-dimethyl-5-oxo-5, 6, 7, 8-tetrahydro-4 H-chromene-3-carbonitriles. *Nanoscale*, *15*(7), 3482-3495. [**Impact Factor : 5.1**]
9. Rana, P., Dixit, R., Sharma, S., Dutta, S., **Yadav, S.,** Arora, B., Priyanka, Kaushik, B., Gawande, M.B., & Sharma, R. K. (2023). Insights into the catalytic potential of a rationally designed magnetic boron nitride nanosheet supported nickel catalyst for the efficient synthesis of 1, 4-dihydropyridines. *Reaction Chemistry & Engineering*, *8*(1), 244-253. [**Impact Factor : 3.1**]
10. Sharma, R. K., Bandichhor, R., Mishra, V., Sharma, S., **Yadav, S.**, Mehta, S., Arora, B., Rana, P., Dutta. S., & Solanki, K. (2023). Advanced metal oxide-based nanocatalysts for the oxidative synthesis of fine chemicals. *Materials Advances*, *4*(8), 1795-1830. [**Impact Factor : 4.7]**
11. Dutta, S., Kumar, P., **Yadav, S.,** Sharma, R. D., Shivaprasad, P., Vimaleswaran, K. S., Srivastava, A., & Sharma, R. K. (2023). Accelerating innovations in CH activation/functionalization through intricately designed magnetic nanomaterials: From genesis to applicability in liquid/regio/photo catalysis. *Catalysis Communications*, 106615. [**Impact Factor : 4.0**]
12. Dutta, S., Kumar, P., Sharma, S., **Yadav, S**., Dixit, R., Srivastava, A., & Sharma, R. K. (2023). A versatile core–shell hetero-nanostructure catalysed chemo-selective synthesis of β-enamino carbonyl compounds. *RSC Sustainability*, *1*, 975-986. [**Impact Factor : 4.9**]
13. Kaushik, B., **Yadav, S.,** Rana, P., Solanki, K., Rawat, D., & Sharma, R. K. (2022). Precisely engineered type II ZnO-CuS based heterostructure: A visible light driven photocatalyst for efficient mineralization of organic dyes. *Applied Surface Science*, *590*, 153053. [**Impact Factor : 6.9**]
14. **Yadav, S**., Dixit, R., Sharma, S., Dutta, S., Arora, B., Rana, P., Kaushik, B., Solanki, K., & Sharma, R. K. (2022). Unravelling the catalytic potential of a magnetic $CoFe_2O_4$/Cu–ABDC MOF composite in the sustainable synthesis of 2H-indazole motifs. *New Journal of Chemistry*, *46*(22), 10829-10843. [**Impact Factor : 2.5**]
15. Sharma, R. K., Kaushik, B., **Yadav, S.,** Rana, P., Solanki, K., & Rawat, D. (2022). Ingeniously designed Silica nanostructures as an exceptional support: Opportunities, potential challenges and future prospects for viable degradation of pesticides. *Journal of Environmental Management*, *301*, 113821. [**Impact Factor : 8.4**]
16. Rana, P., Dixit, R., Sharma, S., Dutta, S., **Yadav, S.,** Arora, B., Kaushik, B., Rana, P., & Sharma, R. K. (2022). Magnetic Boron Nitride Nanosheets Decorated with Cobalt Nanoparticles as Catalyst for the Synthesis of 3, 4-Dihydropyrimidin-2 (1 H)-ones/thiones. *ACS Applied Nano Materials*, *5*(4), 4875-4886. [**Impact Factor : 5.5**]
17. Rana, P., Kaushik, B., Gaur, R., Dutta, S., **Yadav, S.**, Solanki, K., Arora, B., Biradar, A., Gawande, M.B., & Sharma, R. K. (2022). An Earth-abundant cobalt based photocatalyst: visible light induced

direct (het) arene C–H arylation and CO_2 capture. *Dalton Transactions*, *51*(6), 2452-2463. [**Impact Factor : 3.3**]

18. Arora, B., Sharma, S., Dutta, S., Sharma, A., **Yadav, S.,** Rana, P., & Sharma, R. K. (2022). A sustainable gateway to access 1, 8-dioxo-octahydroxanthene scaffolds via a surface-engineered halloysite-based magnetically responsive catalyst. *New Journal of Chemistry*, *46*(11), 5405-5418. [**Impact Factor : 2.5**]

19. Kaushik, B., Rana, P., Solanki, K., Rawat, D., **Yadav, S.**, Naikwadi, D. R., Biradar, A. V., & Sharma, R. K. (2022). In-situ synthesis of 3-D hierarchical $ZnFe_2O_4$ modified Cu_2S snowflakes: Exploring their bifunctionality in selective photocatalytic reduction of nitroarenes and methyl orange degradation. *Journal of Photochemistry and Photobiology A: Chemistry*, *433*, 114165. [**Impact Factor : 4.7**]

20. Arora, B., Sharma, S., Dutta, S., **Yadav, S.**, Rana, P., & Sharma, R. K. (2022). Fabrication of a recyclable magnetic halloysite-based cobalt nanocatalyst for the efficient degradation of bisphenol A and malachite green. *Materials Advances*, *3*(15), 6373-6384. [**Impact Factor : 4.7**]

21. Kaushik, B., Rana, P., Rawat, D., Solanki, K., **Yadav, S.,** & Sharma, R. K. (2022). Magnetically separable type-II semiconductor based ZnO/MoO_3 photocatalyst: a proficient system for heteroarenes arylation and rhodamine B degradation under visible light. *New Journal of Chemistry*, *46*(18), 8478-8488. [**Impact Factor : 2.5**]

22. Arora, B., Sharma, S., Dutta, S., Sharma, A., **Yadav, S**., Rana, P., Mehta, S., & Sharma, R. K. (2022). Design and Fabrication of a Retrievable Magnetic Halloysite Nanotube Supported Nickel Catalyst for the Efficient Degradation of Methylviolet 6B and Acid Orange 7. *ChemistrySelect*, *7*(47), e202202751. [**Impact Factor : 2.0**]

23. Sharma, R. K., **Yadav, S.,** Dutta, S., Kale, H. B., Warkad, I. R., Zbořil, R., Varma, R.S., & Gawande, M. B. (2021). Silver nanomaterials: synthesis and (electro/photo) catalytic applications. *Chemical Society Reviews*, *50*(20), 11293-11380. [**Impact Factor : 39**]

24. **Yadav, S.,** Dixit, R., Sharma, S., Dutta, S., Arora, B., Rana, P., Kaushik, B., Rana, P., Adholeya, A., Gawande, M. B., & Sharma, R. K. (2021). Unlocking the catalytic potency of a magnetic responsive $CoFe_2O_4$/Ni-BTC MOF composite for the sustainable synthesis of tri-and tetra-substituted imidazoles. *Materials Chemistry Frontiers*, *5*(19), 7343-7355. [**Impact Factor : 6.4**]

25. **Yadav, S.,** Dixit, R., Sharma, S., Dutta, S., Solanki, K., & Sharma, R. K. (2021). Magnetic metal–organic framework composites: structurally advanced catalytic materials for organic transformations. *Materials Advances*, *2*(7), 2153-2187. [**Impact Factor : 4.7**]

26. Rana, P., Gaur, R., Kaushik, B., **Yadav, S.,** Yadav, P., Sharma, P., Gawande, M.B., & Sharma, R. K. (2021). Surface engineered Iridium-based magnetic photocatalyst paving a path towards visible light driven CH arylation and cyanation reaction. *Journal of Catalysis*, *401*, 297-308. [**Impact Factor : 6.5**]

27. Sharma, A., Dixit, R., Sharma, S., Dutta, S., **Yadav, S.,** Arora, B., Gawande, M.B., & Sharma, R. K. (2021). Efficient and sustainable Co_3O_4 nanocages based nickel catalyst: A suitable platform for the synthesis of quinoxaline derivatives. *Molecular Catalysis*, *504*, 111454. [**Impact Factor : 4.9**]

28. Rana, P., Dixit, R., Sharma, S., Dutta, S., **Yadav, S.**, Sharma, A., Kaushik, B., Rana, P., Adholeya, A., & Sharma, R. K. (2021). Enhanced catalysis through structurally modified hybrid 2-D boron nitride nanosheets comprising of complexed 2-hydroxy-4-methoxybenzophenone motif. *Scientific Reports*, *11*(1), 24429. [**Impact Factor : 3.9**]

29. **Yadav, S.,** Sharma, S., Dutta, S., Sharma, A., Adholeya, A., & Sharma, R. K. (2020). Harnessing the untapped catalytic potential of a $CoFe_2O_4$/Mn-BDC hybrid MOF composite for obtaining a multitude of 1, 4-disubstituted 1, 2, 3-triazole scaffolds. *Inorganic Chemistry*, *59*(12), 8334-8344. [**Impact Factor : 4.7**]
30. Sharma, R. K., Arora, B., Sharma, S., Dutta, S., Sharma, A., **Yadav, S.**, & Solanki, K. (2020). In situ hydroxyl radical generation using the synergism of the Co–Ni bimetallic centres of a developed nanocatalyst with potent efficiency for degrading toxic water pollutants. *Materials Chemistry Frontiers*, *4*(2), 605-620. [**Impact Factor : 6.4**]
31. Sharma, R. K., Sharma, A., Sharma, S., Dutta, S., **Yadav, S.,** & Arora, B. (2019). Design and exploration of catalytic activity of two-dimensional surface-engineered graphene oxide nanosheets in the transannulation of n-heterocyclic aldehydes or ketones with alkylamines. *ACS omega*, *4*(2), 3146-3158. [**Impact Factor : 4.3**]
32. Sharma, R. K., **Yadav, S.,** Sharma, S., Dutta, S., & Sharma, A. (2018). Expanding the horizon of multicomponent oxidative coupling reaction via the design of a unique, 3D copper isophthalate MOF-based catalyst decorated with mixed spinel $CoFe_2O_4$ nanoparticles. *ACS omega*, *3*(11), 15100-15111. [**Impact Factor : 4.3**]

Book Chapters Published

1. Sharma, R.K., **Yadav, S.,** & Dutta, S., Chapter 10, Gold Nanoparticles by Green Chemistry In *21st Century Nanoscience-A Handbook*, ***Taylor and Francis Publications***, 2020, Volume 2, pp. 10-1. CRC Press. ISBN: 9780367341558.
2. Dutta, S., Kumar, P., **Yadav**, **S.**, Dixit, R., & Sharma, R.K., Recyclable magnetically retrievable nanocatalysts for C-heteroatom bond formation reactions In *Green Bond Forming Reactions: Carbon-Carbon and Carbon-Heteroatom*, 2022, Doi.org/10.1515/psr-2021-0101. ***Physical Sciences Reviews, De Grutyer.*** ISBN: 9783110759549

Books Published

- Anjali Sehrawat, Okram Zenita Devi, **Sneha Yadav**, Mansi Sagar, Swati Raman, Manish Agrawal, Ravi Keshwar, ***Physical Science: A Practical Manual of Chemistry and Physics,*** 2024, **Elite Publishing House**. ISBN: 978-81-955567-6-2

Conference Organizations

- **Organizing Committee Member** of the National Conference on "Chemistry for Human Health and Environment" held on 15th-16th December 2018 at Conference Centre University of Delhi.
- **Organizing Committee Member** of the National Conference on "Recent Trends in Chemical Sciences" and RSC Workshop on "Periodic Table: Boon for Mankind" held on 30th August to 1st September 2019 at Hotel Maidens, Delhi.
- **Organizing Committee Member** of the National Conference on "Water Crisis, Public Health and Sustainable Solutions and First Annual Conference of Save The Environment" held on 21st -22nd October 2019 at INSA, Delhi.
- **Organizing Committee Member** of the International ACS Workshop on "Greening our education system: Initiatives for propagating and Preaching Beyond Benign Concepts in Classrooms and Laboratories" held on 19th December 2019 at Conference Centre, University of Delhi, Delhi.

- **Organizing Committee Member** of the National Seminar on "Women Empowerment through Science & Technology: Power to Transform the World" held virtually on 25th September 2021 in association with Royal Society of Chemistry London (North India Section) and Save The Environment (STE) -A Society for Research, Awareness and Social Development located at Kolkata, West Bengal.
- **Organizing Committee Member** of the "Chemistry Festival for students & Teachers: Green Chemistry, Education, Research & Practice" held virtually on 1st October 2021 in association with Royal Society of Chemistry London (North India Section).
- **Organizing Committee Member** of the "RSC Symposium on Frontiers in Green Chemistry & Sustainable Development: Special Emphasis on Food, Water & Energy" organized by RSC London North India Section, Green Chemistry Network Centre, University of Delhi and Hindu College, Department of Chemistry, University of Delhi on 25th November 2021.
- **Organizing Committee Member** of the "ACS Symposium Series on Green Chemistry & Sustainable Development" organized by ACS International Student Chapter, University of Delhi, Green Chemistry Network Centre, University of Delhi and Hindu College, Department of Chemistry, University of Delhi on 24th-25th November 2021.
- **Session Coordinator** of the International Conference on "Environment, Water, Agriculture, Sustainability and Health (Ewash-2021): United Together in The Battle Against Pandemic" and 3rd Annual Meet of STE held virtually on 21st-22nd January 2022 in association with Royal Society of Chemistry London (North India Section) and Save The Environment (STE) -A Society for Research, Awareness and Social Development located at Kolkata, West Bengal.
- **Organizing Committee Member** of the Going Global workshop on "Green Chemistry Education Today for a Sustainable Tomorrow" organized by Green Chemistry Network Centre, University of Delhi and Hindu College, Department of Chemistry, University of Delhi, University of Ladakh in association with Green Chemistry Centre for Excellence, UK between 27th-29th May, 2022 at Hotel Maidens, Civil Lines sponsored by British Council under Going Global Partnership.

Conference Participations

- **Participated** in WSB2: National Workshop on Subject Specific ICT Skills for Chemistry Educators held at Guru Angad Dev Teaching Learning Centre of MHRD at SGTB Khalsa College, University of Delhi on 19th January 2017.
- **Participated** in "Effects of pollution on Human Health" in Seminar Hall, Department of Chemistry, University of Delhi, Delhi on 1st December, 2017.
- **Participated** in International Conference on "Sustainable Initiatives in Water Management" held on 6th March 2018 at Manav Rachna University.
- **Participated** in National Conference on "Chemistry for Human Health and Environment" held on 15th -16th December 2018 at Conference Centre University of Delhi.
- **Participated** in National Conference on "Green Chemistry for Clean Environment (NCGCCE-2019) held on 27th July, 2019 at Department of Chemistry J.R. N. Rajasthan Vidyapeeth Udaipur.
- **Participated** in National Conference on "Recent Trends in Chemical Sciences" and RSC Workshop on "Periodic Table: Boon for Mankind" held on 30th August to 1st September 2019 at Hotel Maidens, Delhi.
- **Participated** in ACS Workshop on Greening our education system: Initiatives for propagating and

Preaching Beyond Benign Concepts in Classrooms and Laboratories held on 19th December 2019 at Conference Centre, University of Delhi, Delhi.

- **Attended** ChemCareers India-2020 online event held on 25th September 2020.

Member of Professional Bodies

- Member of American Chemical Society (ACS)
- Lifetime Member of National Environmental Science Academy (NESA)- L/M No-2387
- Associated with Royal Society of Chemistry

Academic/Administrative Assignments

- Additional Deputy Superintendent Examinations (Jan 2025-June 2025)
- OBC Liaison Officer (Jan 2025- 2026)
- Co-convenor, College Alumni Committee (2024-2025)
- Member, College Time Table Committee (2024-2025)
- Member, College Purchase Committee (Jan 2025- June 2025)
- Member, College Equal Opportunity Cell and Enabling Unit (2023-2025)
- Member, College Academic and Workload Committee (2023-2024)
- Member, College IQAC-NAAC Committee (Aug 2023-Oct 2023)
- Member, College Sports Committee (July 2023-Oct 2023)
- Member, College Alumni Committee (2023-2024)
- Member, College Library Committee (Jan 2024- June 2024)
- Member, College Organizing Committee, Yuvamanthan Model G20 (YMG20), 2023
- Member, Screening Committee (Assistant Professor Appointment, Microbiology), 2023

Faculty Induction Programme/Faculty Development Programme/ Refresher course Attended/Completed

- Completed a **4-week Faculty Induction/Orientation Programme for "Faculty in Universities/Colleges/Institutes of Higher Education"** organized by TLC, Ramanujan College, University of Delhi under the aegis of Ministry of Education from 22nd June-21st July, 2023.
- 2-Week Interdisciplinary **Refresher course** in **"Advanced Research Methodology"** organized by Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education – Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching from 26th April-9th May 2024.
- **Faculty Development Programme** on **"NEP 2020 Orientation and Sensitization Programme"** organized by Central University of Gujarat, Gandhinagar under Malaviya Mission Teacher Training Programme (MM-TTP) of UGC from 15th May-24th May 2024.
- **Faculty Development Programme** on **"Indian Knowledge System: Revisiting Indian Literary and Cultural Traditions"** under MM-TTP of UGC organized by UGC-Malaviya Mission Teacher Training Centre, National Institute of Educational Planning and Administration, New Delhi in Collaboration with Shyam Lal College, University of Delhi from 24th June-29th June, 2024.