



Miranda House

UNIVERSITY OF DELHI

Name: Dr Shivani

Department: Chemistry

Current Designation: Assistant Professor

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Academic Qualifications: MSc, BSc

Research Degree(s): PhD

Field of Specialization under the Subject/Discipline: Organic Chemistry

Total Teaching Experience: 5+ years

Teaching at Miranda House since: July, 2017 (20 July 2017-17 March 2023 as Adhoc Faculty; Permanent Faculty since 18 March 2023)

List of Publications (reverse chronological order):

(Articles in referred/peer-reviewed/UGC Care journals/ Books/Book Chapters)

- The Green Chemistry Challenge Awards: A Brief Educative Overview. Sujata Sengupta, Sharda Mahilkar Sonkar, Shivani Singh. 2023. Resonance: Journal of Science Education, 28(3), 465-474. <https://www.ias.ac.in/article/fulltext/reso/028/03/0465-0474>
- Green Method of Derivatization of Alcohols: Microwave Assisted Synthesis of 3,5-Dinitrobenzoates. Sonkar, S.M., **Singh, S.**, Sengupta, S. & Himanshu. 2022, Hansshodhsudha. <https://www.hansshodhsudha.com/volume2-issue4/Manuscript%2010.pdf>
- Greening Qualitative Organic Analysis: Spot Test to Detect Aromatic Hydrocarbons and Aryl Halides. Sujata Sengupta, Sharda Mahilkar Sonkar, Shivani Singh, Ankita Duggal and Mamta Siwach. 2022, World Journal of Chemical Education, 10(3), 110-113. DOI: 10.12691/WJCE-10-3-4. <http://article.journalofchemicaleducation.com/pdf/WJCE-10-3-4.pdf>
- Drug Discovery and Development - with Special Focus on COVID-19, Sharda Mahilkar Sonkar, Sujata Sengupta, **Shivani Singh**, Anand Sonkar, Hana Fathima, Anjana R Chandran, Muskan Singh, Manisha, Raveena Kumari, Zeichen journal, March 2022, 8(3), 436-457. <http://www.ezeichen.com/gallery/2487.pdf>



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- Spot Test to Differentiate between D-Glucose and D-Fructose, Sharda Mahilkar Sonkar, Sujata Sengupta, **Shivani Singh**, Journal of Laboratory Chemical Education, 2022; 10(1): 1-3. doi:10.5923/j.jlce.20221001.01 <http://article.sapub.org/10.5923.j.jlce.20221001.01.html>
 - Derivatization of Alcohols Using (bmim)HSO₄: A Green Approach for the Undergraduate Chemistry Laboratory, Sharda Mahilkar Sonkar, Sujata Sengupta, **Shivani Singh**, and Anshika Lumb, World Journal of Chemical Education, vol. 10, no. 2 (2022): 62-64. doi: 10.12691/wjce-10-2-2. <http://www.sciepub.com/portal/search?q=Sharda%20Mahilkar%20Sonkar>
 - Impact of Covid-19 Pandemic on The Environment: A General Review for the Lockdown Period In India From March 2020 To April 2020, **Shivani Singh**, Sujata Sengupta, Sharda Mahilkar Sonkar, Navpreet Kaur, Riya Kumari, Sanna, Sakshi, Shagun Paliwal, Anand Sonkar, *International Educational Applied Scientific Research Journal*, 2021, 6. <http://ieasrj.com/journal/index.php/ieasrj/article/view/263/235>
 - The Chemistry of Essential Oil and its Role as Natural Fragrances In Perfumes, Sujata Sengupta, **Shivani Singh**, Sharda Mahilkar Sonkar, Anand Sonkar, Nandini Kapoor, Garima Tomar, Shweta Gaur, & Aditi Bajaj, *International Education and Research Journal (IERJ)*, 2021, 7(11). <https://ierj.in/journal/index.php/ierj/article/view/2369>
 - Synthesis and Preliminary Evaluation of a ^{99m}Tc Labelled Deoxyglucose complex {[^{99m}Tc]DTPA-bis(DG)} as a Potential SPECT based Probe for Tumor Imaging, **Shivani Singh**, Sweta Singh, Rakesh K. Sharma, Ankur Kaul, Rashi Mathur, Sarika Tomar, Raunak Varshney and Anil. K. Mishra, *New Journal Chemistry*, 2020, 44, 3062-3071. <http://dx.doi.org/10.1039/C9NJ04705K>
 - A Novel ¹⁸F Labelled Imidazo-oxazolopyridine Derivative as β -Amyloid Imaging Agent: Synthesis and Preliminary Evaluation, **Shivani Singh**, Sweta Singh, Anjani Kumar Tiwari, Rakesh Kumar Sharma, Rashi Mathur and Ankur Kaul, *Asian Journal of Chemistry*, 2018, 30, 183-190. <https://doi.org/10.14233/ajchem.2018.20977>
 - Enhanced in vivo tumor imaging by EDTA-Bis-GNGR functionalized core shell CdSe:ZnS quantum dot: Synergistic effect of active passive targeting. Rashi Mathur, Narmada Bag, Raunak Varshney, Firasat Hussain, Ankur Kaul, Neelam Kumari, Ramprakash Chauhan, **Shivani Singh**, Sweta Singh and Anil. K. Mishra, *RSC Advances*, 2016, 6, 13562-13571. <https://doi.org/10.1039/C5RA22989H>
 - Synthesis and in vivo toxicity assessment of CdSe:ZnS Quantum Dots functionalized with EDTA-Bis-Cysteamine, Narmada Bag, Rashi Mathur, Firasat Hussain, Namita Indracanti, Sweta Singh, **Shivani Singh**, Ram Prakash Chauhan, Krishna Chuttani and Anil Kumar Mishra, *Toxicology Research*, 2015, 4, 1416-1425. <https://doi.org/10.1039/C5TX00090D>
 - Comparison of BTSE-RGD with DOTA-RGD as a potential imaging agent for tumors, Raunak Varshney, Sweta Singh, Anjani K. Tiwari, Rashi Mathur, **Shivani Singh**, Puja Panwar, Neelam Yadav, Krishna Chuttani, B. Singh and Anil K. Mishra, *RSC Advances*, 2015, 5, 54439-54445. <https://doi.org/10.1039/C5RA06437F>



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Research Guidance (reverse chronological order):

- Experimental Summer Workshop for undergraduate science students, Flavor of Research - Investigative Projects in Multidisciplinary Contexts, under D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, Delhi, 3 June - 12 July, 2020.
- Experimental Summer Workshop for undergraduate science students, Flavor of Research - Investigative Projects in Multidisciplinary Contexts, under D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, Delhi, 3 June – 12 July 2019
- Experimental Summer Workshop for undergraduate science students, Flavor of Research, Investigative Projects in Multidisciplinary Contexts, under D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, Delhi, 07 June - 13 July 2018.

Administrative Responsibilities:

- Member, B.Sc. (H) Chemistry extended admission committee of Miranda House for academic year 2020-2021.
- Member, M.Sc. (H) Chemistry extended admission committee of Miranda House for academic year 2020-2021.
- Member, B.Sc. (H) Chemistry extended admission committee of Miranda House for academic year 2021-2022.
- Member, M.Sc. (H) Chemistry extended admission committee of Miranda House for academic year 2021-2022.
- Member, B.Sc. (H) Chemistry extended admission committee of Miranda House for academic year 2022-2023.
- Member, M.Sc. (H) Chemistry extended admission committee of Miranda House for academic year 2022-2023.
- Member, Departmental NAAC committee of Miranda House, 2022-2023.

Educational Resource Material Developed:

Various e-materials for students during COVID-19 induced lockdown

<https://youtu.be/3VJ9ffFPj3U>



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

- Resource Person for the Bridge Course on Laboratory Safety and Handling of Equipment for B.Sc. Life Science, conducted by Department of Chemistry, Miranda House on 23 November and 6 December, 2021.
- Resource Person for the Bridge Course on Laboratory Safety and Handling of Equipment for B.Sc. (H) Chemistry, conducted by Department of Chemistry, Miranda House on 2 and 3 December, 2021.
- Resource Person for the Bridge Course on Laboratory Safety and Handling of Equipment for B.Sc. Life Science, conducted by Department of Chemistry, Miranda House on 23 November and 7 December, 2020.
- Resource Person for the Bridge Course on Laboratory Safety and Handling of Equipment for B.Sc. (H) Chemistry, conducted by Department of Chemistry, Miranda House on 19 November and 2 December, 2020.
- Resource Person for the Bridge Course on Laboratory Safety and Handling of Equipment for B.Sc. (H) Chemistry, conducted by Department of Chemistry, Miranda House on 1 and 9 August, 2019.
- Resource Person, INSPIRE Internship Programme 2017, Miranda House, University of Delhi, Delhi, 18-22 December 2017.

Conferences Organised (reverse chronological order):

- Organizing Committee member, International Webinar on Chemistry: Catalyst of Change, organised by Department of Chemistry, Miranda House on 19-20 February 2021.
- Organizing Secretary, International Webinar on Empowering Diversity in Science (165 participants), organised by Department of Chemistry, Miranda House on 12 February 2021.
- Organizing Committee member, National Workshop Nano Road Show-2020 organised by Department of Chemistry, Miranda House on 1 February 2020.
- Organizing Committee member, National Webinar online on Learnings from the Corona Pandemic organised by Department of Chemistry, Miranda House, September 24-25, 2020.
- Organizing Committee member, IUPAC GWB2020: Symposium on Bonding to Create Future Leaders in Sciences organised by Department of Chemistry, Miranda House on 12 February 2020.
- Organizing Committee member, Symposium on Empowering Women in Chemistry: A Global Networking Event organised by Department of Chemistry, Miranda House, University of Delhi, 12 February 2019.
- Organizing Committee member, One-day Indo-Hungarian Symposium on Recent Advances in Chemistry and Biology, Department of Chemistry, Miranda House, University of Delhi, Delhi, 11



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December 2017.

- Organizing Committee member, Catalysing a Cultural Shift in youth Entrepreneurship organised by 'DS Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi & Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology, Government of India on 9 November, 2017.
- Organizing Committee member, Indian Science & Engineering Fair, Regional Fair (Delhi), Miranda House, University of Delhi, Delhi, 13 October 2017.

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

- Webinar on “Green Approach to Chemistry Experiments” held on 18th December 2021, organized by Department of Chemistry, Guru Nanak Vidyak Society’s, Guru Nanak College of Arts, Science & Commerce, G.T.B Nagar, Sion, Mumbai – 400037 under the aegis of STAR-DBT.
- Successfully completed online Two-Week Refresher Course in “Natural Sciences” Teaching Learning Centre, Ramanujan College, University of Delhi in collaboration with Department of Chemistry, Rajdhani College, University of Delhi under the aegis of Ministry of Education Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching from 20 September - 04 October 2021 and obtained Grade A+
- National webinar on "Long Covid - Vaccination And Future" and also Third wave and its impact organised by NSS MAITREYI In collaboration with Unnat Bharat Abhiyan & Fragrant Flowers Group Of Disabled Women on Sunday, August 22, 2021.
- Webinar on the topic “Chemistry: A Central Science of Nature” by Professor Ashok Kumar Prasad, being organized by the Department of Chemistry, Shivaji College on August 28, 2021 under the aegis of DBT sponsored Star College Scheme of Shivaji College.
- National webinar on Long Covid: Vaccination and Future held on 22nd August, 2021 in association with Unnat Bharat Abhiyan and Fragrant Flowers Group of Disabled Women, organised by NSS, Maitreyi College.
- Webinar on “ अनुसंधान और नवाचार : आत्मनिर्भर भारत के संदर्भ में” organised by Bhaskaracharya College of Applied Sciences, University of Delhi and Shiksha Sanskriti Utthan Nyas, New Delhi on September 29, 2020.
- Webinar on “The Contribution of DRDO in Prevention and Management of COVID-19 Pandemic” by Dr. Himanshu Ojha, organised by Department of Chemistry, Shivaji College, University of Delhi on September 26, 2020.



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- National Webinar on Battling Environmental Woes: Peace Policy for Future organised by Tricord, The Life Science Society, Miranda House, 10 October 2020.
- Webinar on “Women, Educator, Scientist, Entrepreneur: Future is Yours” by Dr Pratibha Jolly Academic Consultant – NAAC organised by Vigyan Prasar, An Autonomus Organisation, Under the Department of Science and Technology, Government of India. on September 29, 2020.
- Webinar entitled “Alzheimer’s disease” organised by Department of Chemistry, Shivaji College, University of Delhi, October 17, 2020.
- Webinar entitled “Environmental Challenges in Front of Society in Current Scenario and Future Strategies” delivered by Dr. Sandeep Lal, Principal Scientist (IARI), organised by Department of Chemistry, Shivaji College, University of Delhi on October 09, 2020.
- International Online Workshop-cum-Webinar entitled “VISUAL NOTE-TAKING” organised by Chemistry Department, Zakir Husain Delhi College in collaboration with Internal Quality Assurance Cell held on 8 October, 2020.
- Conclave on “Biodiversity for Everyone’s Life” organised by Miranda House in collaboration with Institute of Bioresources and sustainable development (ISBD), Manipur at Miranda House, University of Delhi, 31 August 2018.
- Workshop on Catalyzing a Cultural Shift in Youth Entrepreneurship, D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, Delhi, 09 November 2017.
- International Conference on Advancing Green Chemistry: Building a Sustainable Tomorrow, University of Delhi, Delhi, 03-04 October 2017.

Synergy (work with other organizations outside the college):

- Volunteer, ISLF-Vigyanika 2020 conducted from 22-25 December 2020 as part of India International Science Festival 2020 (IISF 2020) organised by Ministry of Science and Technology; Ministry of Earth Sciences and Ministry of Health and Family Welfare, GoI in collaboration of Vijnana Bharati (Vibha) by Council of Scientific and Industrial Research (CSIR).