Abha Sharma

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National Institute of Pharmaceutical Education and Research,
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Educational Qualification:

B.S. (Biological Sciences)	Jiwaji University, Gwalior, MP (India)	07/1998
M.S. (Organic Chemistry)	Jiwaji University, Gwalior, MP (India)	07/2000
Ph.D. (Chemistry) 06/2006	DRDE, (Jiwaji University), Gwalior, MP (India)	

Research Experience:

- **National institute of pharmaceutical education & Research** 4 Feb 2020-Till Date
- **Associate Professor**
- **National institute of pharmaceutical education & Research** 08/17- 3 Feb 2020
- **Assistant Professor**
- **National institute of pharmaceutical education & Research** 07/10- 08/17
  Lecturer

- **Indian Institute of Toxicology Research, Lucknow, UP** 09/06 - 06/10

  Project Associate

Research Area:
Alzheimer Disease
Molecular Probe

Publications

1. **Abha Sharma**, Amit Saxena Beer Singh, Mamta Sharma, MVS Suryanarayana, K Ganeshan, K Sekhar & K K Dwivedi Development and evaluation of modified whetlerite, an adsorbent material for in-situ degradation of sulphur mustard, **Carbon**, 44, (**2006**) 907-912.

2. In-Situ degradation of sulphur mustard and its simulants on the surface of impregnated carbon systems, **Abha Sharma**, Amit Saxena, Beer Singh, Mamta Sharma, MVS Suryanarayana, RP Semwal, K Ganeshan and K Sekhar, **Journal of Hazardous materials,** B 133, (**2006**) 106-112.
3. Kinetics of adsorption of sulphur mustard on Al_2O_3 nanoparticles with and without impregnants. Amit Saxena, **Abha Sharma**, Avanish Kumar Srivastava, Beer Singh*, Pranav Kumar Gutch and Rajendra Prasad Semwal, **Journal of Chemical Technology & Biotechnology,** 84/12, **(2009)** 1860-1872.
4. In-situ degradation of sulphur mustard using (1R)-(-)-(camphorylsulphonyl) oxaziridine impregnated adsorbents. **Abha Sharma**, Amit Saxena and Beer Singh, **Journal of Hazardous materials,** 172, (**2009**) 650–653.
5. Kinetics of adsorption of 2-chloroethylethylsulphide on Al_2O_3 nanoparticles with and without impregnants. Amit Saxena, Avanish Kumar Srivastava, **Abha Sharma** and Beer Singh **Journal of Hazardous Materials,** 169/1-3, (**2009**) 419-427.
6. Polyoxomatelate impregnated carbon systems for the in-situ degradation of sulphur mustard, **Abha Sharma**, Beer Singh & Amit Saxena **Carbon,** 47, (**2009**) 191 1–1915.
7. Amit Saxena, Beer Singh, **Abha Sharma**, Vinita Dubey, Rajendra Prasad Semwal, Malladi Venkata Satya Suryanarayana, Vepa Kameswara Rao, Krishnamurthy Sekhar, Adsorption of dimethyl methylphosphonate on metal impregnated carbons under static conditions, **Journal of Hazardous materials**, *134, (***2006***) 104-111*.
8. Amit Saxena, **Abha Sharma**, Beer Singh, MVS Suryanarayana, Mamta Sharma, RP Semwal, AK Gupta and K Sekhar, Kinetics of degradation of nerve agent simulants and sarin on carbon with and without impregnants Carbon Science, 6(3), (2005) 158-165. Now Carbon Letters (Springer)
9. Chetananda Patel, Ashima Thakur, Gavin Pereira, and **Abha Sharma,** "Gluconic acid promoted cascade reactions of 2-phenylimidazo[1,2-a] pyridine-3-carbaldehyde with cyclohexane-1,3-dione to create novel fused bisheterocycles. Synthetic Communications, **2019**, 49(14), 1836-1846. **Impact Factor: 1.4**
10. Amit Kumar, Chetananda Patel, Pooja Patil, Shivam Vyas, and **Abha Sharma** "Chemoselective synthesis of bis (indolyl) methanes using sulfonic acid functionalized chitosan". Chemical Papers, **2019**, 73(12), 3095-3104.
11. Pooja Patil, Ashima Thakur, Abha Sharma & SJS Flora Natural product and their derivatives as a multifunctional ligand against Alzheimer's disease. Drug Development and Research, **2019**, 1-19.
12. Chetananda Patel, Amit Kumar, Pooja Patil and **Abha Sharma** Efficient Synthesis of Medicinally Important Benzylidene-indolin-2-one Derivatives Catalyzed by Biodegradable Amino Sugar "Meglumine" Letters in Organic Chemistry, **2019**, 16(7),600-605.
13. Chetananda Patel, Amit Kumar and **Abha Sharma.** Recyclable Mixed Addenda Polyoxometalate: An Efficient Catalyst for the Synthesis of 1, 8-dioxo- octahydroxanthenes in Water. Current Green Chemistry, **2017**, 4 (3), 144-150.
14. Nityanand Rai, **Abha Sharma** Chemoselective synthesis of 1,1-diacetates under solvent-free condition using efficient heterogeneous ecofriendly catalyst-P_2O_5/Kaolin. IJC-B, **2018,** 57(B), 340-344.

15. **Abha Sharma**, S. J. S. Flora "Nutritional management may assist a significant role in alleviation of arsenicosis" Journal of Trace Elements in Medicine and Biology, **2018,** 45, 11-20.
16. **Abha Sharma**, Javed Ahmad, S.J.S. Flora Application of advanced oxidation processes and toxicity assessment of transformation products", Environmental Research, **2018**,167, 223-233.
17. **Abha Sharma**, Keerti Jain and S. J. S. Flora "Vitamins Based Novel Target Pathways/Molecules as Possible Emerging Drug Targets for management of Tuberculosis" Medicinal Chemistry, 14, **2018**, 212-224.
18. **Abha Sharma**, Illa Siva Kalyani, and Anam Fatima. Bio-based material as medium, mild and reusable catalyst for Paal–Knorr pyrrole synthesis with and without ultrasonic irradiation. Letters in Organic Chemistry, 15, **2018**, 226-232.
19. **Abha Sharma,** Vidhu Pachauri and S. J. S. Flora Advances in Multi-Functional Ligands and the Need for Metal-Related Pharmacology for the Management of Alzheimer Disease Frontiers in Pharmacology **2018,** 9, 1247.
20. Ashima Thakur, Alka Sharma, and **Abha Sharma**. Efficient synthesis of xanthenedione derivatives using cesium salt of phosphotungstic acid as a heterogeneous and reusable catalyst in water. Synth. Commun., **2016**, 46, No. 21, 1766–1771.
21. Ashima Thakur, Gavin Pereira, Chetananda Patel, Vinita Chauhan, Ram Kumar Dhaked, Abh Sharma, Design, one-pot green synthesis and antimicrobial evaluation of novel imidazopyridine bearing pyran bis-heterocycles. Journal of Molecular Structure 1206 (2020) 127686. Impact Factor:2.4
22. Pal, T., Bhimaneni, S., Sharma, A. & Flora, S. J. S. Design, synthesis, biological evaluation and molecular docking study of novel pyridoxine-triazoles as anti-Alzheimer's agents. RSC Adv.10, 26006–26021 (2020).
23. Pal, T., Patil, P., & Sharma, A. Synthesis, molecular docking and spectroscopic studies of pyridoxine carbamates as metal chelator. Journal of Molecular Structure, (2020) 1223, 128837.
24. Patwa, J., Thakur, A., Sharma, A., & Flora, S. J. S. (2020). Monoisoamyl DMSA reduced copper- induced neurotoxicity by lowering 8-OHdG level, amyloid beta and Tau protein expressions in Sprague-Dawley rats. Metallomics, 12(9), 1428-1448.
25. Thakur, A., Patil, P., Sharma, A., & Flora, S. (2020). Advances in the development of reactivators for treatment of organophos-phorus inhibited cholinesterase. Current Organic Chemistry, 24
26. Dheeraj Pandey, Tiyas Pal, Abha Sharma* and SJS Flora (2021). Potential Epigenetic Targets for Combating Alzheimer's Disease. Mini review in medicinal chemistry, 21(12):1527-1540
27. Ashima Thakur, Jayant Patwa, Abha Sharma* and S.J.S. Flora (2020). Synthesis, Molecular Docking, Bovine Serum Albumin, and in-vitro reactivation study of imidazopyridine oxime against paraoxon inhibited acetylcholinesterase. Medicinal Chemistry
28. Dnyaneshwar Baswar, Abha Sharma, Awanish Mishra (2021) In silico screening of pyridoxine carbamates for Anti-Alzheimer's activities. Central Nervous System Agents in Medicinal Chemistry, 21, 39-52

29. Ashima Thakur, Jayant Patwa, Suyash Pant, Abha Sharma*and SJS Flora Monoisoamyl 2, 3-Dimercaptosuccinic Acid interaction with Bovine Serum Albumin: Biophysical Approach and Molecular Docking. Scientific Reports, 11(1), 1-14.
30. Muskan Gori, Ashima Thakur, Abha Sharma* and SJS Flora. Organic molecules based fluorescent chemosensor for nerve agents and organ phosphorus pesticide. Topics in current chemistry 2021 Aug 4;379(5):33
31. Chandu AnanthaLakshmi Prasanna, and Abha Sharma. Pharmacological exploration of triazole based therapeutics for Alzheimer's disease: An overview Current Drug Target, 2022;23(9):933-953 Impact Factor: 3.4
32. Synthetic fluorescent organic molecule for the detection of diethylcyanophosphonate via ON-OFF sensing mechanism: Paper strips system for real-time application. Ashima Thakur, Muskan Gori, and Abha Sharma International Journal of Environmental Analytical Chemistry, 2022, 1-14 Impact Factor: 2.8
33. Imidazo[1,2-*a*] pyridine-based small organic fluorescent molecules for selective detection of nerve agents simulants. Ashima Thakur and Abha Sharma. Spectrochimica Acta part A: Molecular and Biomolecular spectroscopy A 2022, 282, 121633. Impact Factor: 4.8
34. R Chandran, A Sharma, KN Tiwari Molecular Rearrangement of 2-Substituted Indazolones: Unorthodox Access to 2-Carboxylate-2, 3-dihydroquinazolin-4-(1H)-one Scaffold, Asian Journal of Organic Chemistry, 2022 Impact Factor: 3.3
35. Ashima Thakur, Jayant Patwa, Suyash Pant, Swaran Jeet Singh Flora and Abha Sharma Synthesis and evaluation of small organic molecule as reactivator of organophosphorus inhibited acetylcholinesterase. Drug and Chemical Toxicology Accepted Impact Factor: 3.3
36. Rajashree Pawar, Preeti Chaudhran, Dheeraj Pandey and Abha Sharma Chemical Modifications of Pyridoxine for Biological Applications: An Overview Current Topics in Medicinal Chemistry Impact Factor: 3.5
37. Preeti Chaudhran and Abha Sharma Progress in the development of imidazopyridine-based fluorescent probes for diverse applications Critical review in analytical chemistry Impact Factor: 6.5
38. Ashima Thakur, Preeti Ashokkumar Chaudhran and Abha Sharma* Simple and efficient PET and AIEE mechanism-based fluorescent probes for sensing Tabun mimic DCNP Analytica Chimica Acta Impact Factor: 6.9

Patent:

Muskan Gori, Ashima Thakur, Abha Sharma and SJS Flora Molecular Probe for Organophosphorus Compounds Detection & Method of Preparation CBR Number: 194 App.No.: 202011000201 Date of file: 2020/12/29

Keerti Jain, Parth Patel, Teeja Suthar, Ashima Thakur, Abha Sharma Novel dendrimer conjugates for targeted deliveryof drug(s) to treat life-threatening diseases Date of file: 09th of July 2022

Book Chapter

1. S.J.S. Flora and Abha Sharma, In Handbook of "Biomarkers" (Editor R.C. Gupta), Vol II, Chapter Elsevier/Academic Press, pp 529-549, 2019.

2. Thakur A, & Sharma A (2021). Synthesis of Dendrimers In N. K. Mehra & K. Jain (Eds.), Dendrimers Nanomedicine: Concept, Theory and Regulatory Perspectives. CRC Press. (In- Press).

3. Pankuri Gupta and Abha Sharma (2022) Pharmacological Significance of Triazoles and Tetrazoles in Neurodegenerative Disease: An Overview. In: Ameta, K.L., Kant, R., Penoni, A., Maspero, A., Scapinello, L. (eds) N-Heterocycles. Springer, Singapore. https://doi.org/10.1007/978-981-19-0832-3_10 ISBN978-981-19-0831-6

4. Chandran R and Abha Sharma (2022) Chapter 1: Catalytic Applications of NPs; Synthesis of Lactams K L Ameta and Ravi Kant (Eds.) "Nanocatalysis: Synthesis of Bioactive Heterocycles. CRC press, Taylor & Francis group, ISBN: 9780367693541

5. Jayant Patwa, Abha Sharma, and S.J.S. Flora (2022) Chapter 29- Arsenic, cadmium, and lead. Editor: Reproductive and Development Toxicology (Elsevier) Dr. Ramesh Gupta ISBN: 9780128042397

Invited talk

1. Delivered an invited online talk on 'Antidote and sensor for organophosphorus compounds" at the Integral University in professional development program organized by the Department of Bioengineering on 18th, November, 2021.

2. Delivered an invited online talk on ''Drug development for Alzheimer's disease'' at Department of Veterinary Pharmacology & Toxicology, College of Veterinary Science and Animal Husbandry, Mhow, Nanaji Deshmukh Veterinary Science University, Jabalpur (M.P.) in 21 days training on "Advances in Pharmacology and Toxicology to Combat New Challenges in Modern Healthcare of Human and Animals" from 24th February, 2022.

Symposium/Workshop/Conference organized

- 9th NIPER (RBL)-CSIR-CDRI Symposium on "Empowering Drug Discovery by Pharmaceutical and Clinical Research" 24-25 March 2017

- 10th NIPER-R Symposium on "Nano-Based Therapy for Neurodegenerative Diseases" 27-28 March, 2018

- Workshop on ''scientific writing and research ethics'' October 31, 2019.

- Webinar on RNA-based Nanotherapeutics: Current Updates and Future Directions, 6th July 2020.

- Webinar on Induced Pluripotent Stem Cells: A Tool for Disease Modelling and Drug Discovery, 10th July 2020

- 12th NIPER–R symposium on Translational Research & Drug Delivery System, February 15-16, 2021.

PhD: 02 Completed; 04 (Ongoing)

MS Dissertation: Completed: 24; Ongoing: 10