

Suvaiv, Ph.D. Scholar

Research Assistant (CST-UP, India) | Pharmaceutical Chemistry |

✉ Sheikhshoaib0786@gmail.com 🔗 scholar.google.com/citations?user=WNCSyrgAAAAJ&hl=en

🆔 <https://orcid.org/0000-0003-0240-8029> 🔗 [linkedin.com/in/suvaiv-sheikh-8759151a8](https://www.linkedin.com/in/suvaiv-sheikh-8759151a8)

Profile Summary

- Pharmaceutical chemistry researcher with robust expertise in small-molecule design, organic synthesis, and *in silico* drug discovery.
- Current PhD research (CST-UP funded) focuses on the design and evaluation of coumarin-based antitubercular agents, targeting Mycobacterial enzymes.
- Authored 20+ peer-reviewed publications and contributed to several international book chapters.
- Recipient of multiple academic awards and active participant in national and international pharmaceutical conferences and research forums.

Education

Ph.D. Pharmaceutical Chemistry, Integral University, Lucknow, U.P., India 11/2022 – 11/2025

Thesis: Computational Design and Synthesis of Coumarin Derivatives with Potent Antitubercular Activity.

M.Pharm. Pharmaceutical Chemistry, Integral University, Lucknow, Uttar Pradesh, India. Passed with 87.3% (First Division with Honours). 2022

Thesis: Design, Molecular Docking, Synthesis and Antibacterial activity of Benzimidazole-Isatin hybrid derivatives.

B.Pharm. Integral University, Lucknow, Uttar Pradesh, India 2020
Passed with 82.35% (First Division with Honours).

Project: Role of Polyphenols in Alzheimer's disease

Publications

- **Suvaiv**, Singh, K., Hasan, S.M. *et al.* Design, synthesis, and biological evaluation of coumarin derivatives against tuberculosis: a pharmacophore-based approach. **Mol Divers** (2025). <https://doi.org/10.1007/s11030-025-11293-5> ✉.
- **Suvaiv**, Kuldeep Singh, Syed Misbahul Hasan, Shom Prakash Kushwaha, Syed Mehdi Hasan Zaidi, Arun kumar, Mo. Shahanawaz, Structure-Guided Development of Mycobacterial Thymidine Monophosphate Kinase (MtbTMPK) Inhibitors: Unlocking New Frontiers in Tuberculosis Research, **Current Topics in Medicinal Chemistry**; Volume 25, Issue , Year 2025, e15680266372955. DOI: 10.2174/0115680266372955250514075248
- **Suvaiv**, Singh K, Hasan SM, Arif M, Ahmad F, Sharma R, Zaidi SM, Shahanawaz M. Exploring Novel Benzopyran Derivatives as Antitubercular Agents. **Letters in Drug Design & Discovery**. 2024 Nov 4. 10.2174/0115701808332606241017075155
- **Suvaiv**, Singh, K., Hasan, S. *et al.* Huperzine A: a natural acetylcholinesterase inhibitor with multifunctional neuroprotective effects. **Beni-Suef Univ J Basic Appl Sci** **14**, 82 (2025). <https://doi.org/10.1186/s43088-025-00675-1> ✉
- **Suvaiv**, Singh, K., Kumar, P., Hasan, S. M., Kushwaha, S. P., Kumar, A, Zaidi, S. M. H. (2023). Antibacterial Potentiality of Isatin-Containing Hybrid Derivatives: A Review. **Asian Journal of Chemistry**, 35(4), 815–827. <https://doi.org/10.14233/ajchem.2023.27632> ✉
- **Suvaiv**, Singh K, Kumar P, Hasan SM, Kushwaha SP, Kumar A, Zaidi SM, Maurya SK. Antibacterial potential of benzimidazole containing hybrid derivatives. **Rasayan Journal of Chemistry**. 2023 Jul 1;16(3). 10.31788/rjc.2023.1638382

- **Suvaiv**, KS, Hasan SM, Kushwaha SP, Kumar A, Ahmad IZ, Kumar P. Design, Molecular Docking, Synthesis, and Antibacterial Activity of 1H-Benzimidazole-2-Carboxylic Acid (2-Oxo-1, 2-Dihydro-Indol-3-Ylidene)-Hydrazide Derivatives. *Indian Journal of Heterocyclic Chemistry*. 2023 Apr;33(02):249-56. 10.59467/ijhc.2023.33.249
- Shahanawaz, M., Singh, K., **Suvaiv**, Hasan, S. M., Kumar, P., Kumar, A., & Ahmad, I. Z. (2025). Design and Synthesis of Novel Coumarin-Piperazine Derivatives as Potential Antimicrobial Agents. *Asian Journal of Chemistry*, 37(4), 858–864. <https://doi.org/10.14233/ajchem.2025.33225> 
- Soni, P. ., Hasan, S. M. ., Kushwaha, S. P. ., Singh, K. ., Kumar, A. ., Hafeez, A. ., **Suvaiv**, Samman, & Khan, S. . (2025). Amyloid Beta and Tau Aggregation: The Etiology and Potential Pharmaceutical Approaches for Alzheimer's Disease. *Biomedical Research and Therapy*, 12(9), 7708-7722. <https://doi.org/10.15419/rjv09v43> 
- Soni, Pushpendra, Syed Misbahul Hasan, Kuldeep Singh, Arun Kumar, Akash Ved, Manisha Pandey, **Suvaiv**, and Shom Prakash Kushwaha. 2025. "A Review on Experimental and Epidemiological Research Exploring the Pathophysiology and Progression of Pesticide-Induced Diabetes Mellitus." *International Journal of Environmental Health Research*, June, 1–27. doi:10.1080/09603123.2025.2521438.
- Singh A, Ansari VA, Mahmood T, Hasan SM, Wasim R, Maheshwari S, Akhtar J, **Suvaiv** S, Vishwakarma VK. Targeting abnormal tau phosphorylation for Alzheimer's therapeutics. *Hormone and Metabolic Research*. 2024 Jul;56(07):482-8. 10.1055/a-2238-1384
- Owais M, Kumar A, Hasan SM, Singh K, Azad I, Hussain A, **Suvaiv**, Akil M. Quinoline Derivatives as Promising Scaffolds for Antitubercular Activity: A Comprehensive Review. *Mini Reviews in Medicinal Chemistry*. 2024 Jul 1;24(13):1238-51. 10.2174/0113895575281039231218112953
- Shafiurrahman, Syed Misbahul Hasan, Kuldeep Singh, Arun Kumar, **Suvaiv**., Jeba Bano, Mo. Shahanawaz, Sana Ahmad, Shom Prakash Kushwaha, Revolutionizing Quinolone Development for DNA Gyrase Targeting; Discovering the Promising Approach to Fighting Microbial Infections, *Anti-Infective Agents*; Volume 23, Issue , Year 2025, e22113525318200. 10.2174/0122113525318200240902062055
- Nishad S, Hasan SM, Kushwaha SP, Singh K, Kumar A, **Suvaiv**. Anticancer structure activity relationship of podophyllotoxin of various species of *Podophyllum*. *Ann Phytomed*. 2024, 13(1):1–1. 10.54085/ap.2024.13.1.6
- Abdullah Khan, **Suvaiv**, Maurya S, Anas M, Khan AA, Samad A, Yadav A, Maaz M. Role of polyphenols in Alzheimer's disease. *Journal of Phytonanotechnology and Pharmaceutical Sciences*. 2023;3(1):9-15. 10.54085/jpps.2023.3.1.2
- Kumar V, Singh K, Hasan SM, Kumar P, Kushwaha S, Kumar A, **Suvaiv**. Piperazine: a promising scaffold with antimicrobial activity. *Int J Biol Pharm Allied Sci*. 2023 Nov;12(11):1–15. Available from: <https://doi.org/10.31032/IJPAS/2023/12.11.7523> 
- Khan A, Singh K, Kushwaha S, Kumar A, **Suvaiv**, Mo S, Khan M, Khan A. Green Chemistry: A Conservative Approach In Pharmaceutical Synthesis. *Int J Biol Pharm Allied Sci*. 2024;13(5):26-35. <https://doi.org/10.31032/IJPAS/2024/13.5.8049> 
- Shahanawaz M, Singh K, Kushwaha S, Kumar A, **Suvaiv**, Shafiurrahman, AS, Pandey N, Ahmad S. Design & synthesis of fluoroquinolone through green chemistry approach. <https://doi.org/10.31032/IJPAS/2024/13.5.8013> 
- Maurya S, Singh K, Hasan SM, Kushwaha S, Kumar A, **Suvaiv**, Yadav PK, Nishad S, Anas M. Benzopyran: a biologically active scaffold. *Int J Biol Pharm Allied Sci* [Internet]. 2024 Feb;13(2):797–813. <https://doi.org/10.31032/IJPAS/2024/13.2.7785> 

Book Chapters

- **Suvaiv**, Singh, K., Shahanawaz, M., Zaidi, S. M. H., & Mujahid, M. (Forthcoming 2026). Liposomal Drug Delivery for Lung Cancer Treatment. In *Liposomes: Amphiphilic Targeted Delivery*. Apple Academic Press, CRC Press, Taylor & Francis Group. ISBN (Hardcover): 9781779644312, ISBN (eBook): 9781779644329.
- **Suvaiv**, Singh, K., Kushwaha, S. P., Kumar, A., Zaidi, S. M. H., & Shahanawaz, M. (2024). Targeting Microbial Biofilms. In *Emerging Strategies in Antibacterial Drug Resistance Management: Mechanisms, Challenges, and Novel Interventions* (Chapter 11, pp. 141–152). Nova Science Publishers, New York. ISBN: 979-8895300602 (Print), 979-8895301401 (eBook). <https://doi.org/10.52305/SKIQ7023> 

- Shahanawaz, M., Singh, K., Kushwaha, S. P., **Suvaiv**, & Kumar, A. (2024). Outer Membrane Permeability Enhancer. In *Contemporary Approaches to Mitigating Antibacterial Drug Resistance: Mechanisms, Challenges, and Novel Interventions* (pp.148–170). IGI Global. ISBN: 979-8-3693-1540-8. <https://doi.org/10.4018/979-8-3693-1540-8.ch006> 
- Shahanawaz, M., Singh, K., **Suvaiv**, Kushwaha, S.P., Kumar, A., & Zaidi, S.M.H. (Forthcoming 2025). A New Global Threat for Public Safety: Nipah Virus. In *Integrated Approaches in Pharmaceutical Sciences Integrated Publications*, Delhi. ISBN: 978-93-5834-207-9. DOI: <https://doi.org/10.62778/int.book.442> 
- Verma, D., Kumar, A., Singh, K., Kushwaha, S.P., **Suvaiv**, Shahanawaz, M., Alam, M., & Sahil, M. (2025). Drug development techniques. In *Contemporary Research Methods in Pharmaceutical Sciences* (Vol. 1, pp. 101–146). Rubicon Publications. ISBN: 978-1-80433-900-8.
- Verma, D., Singh, K., **Suvaiv**, Kushwaha, S.P., Kumar, A., & Dubey, B.K. (2025). Medicinal chemistry of vascular endothelial growth factor (VEGF) inhibitors: Targeting angiogenesis in cancer. In *Contemporary Research Methods in Pharmaceutical Sciences* (Vol. 1, pp. 147–172). Rubicon Publications. ISBN: 978-1-80433-900-8.
- Khan, Maaz, Kuldeep Singh, Nitin Pandey, Arun Kumar, Mohd Anas, **Suvaiv**, and Sahil Hussain. 2025. “Salannin: Natural Insecticide and Pest Control.” In *Phytoconstituents of the Neem Plant: Pharmacological Activities and Applications*, edited by Geeta Deswal, Anjali Sharma, Ajmer Singh Grewal, and Kumar Guarve, 77–84. New York: Nova Science Publishers. ISBN 979-8-89530-800-4. <https://doi.org/10.52305/YLTF2512> 
- Shahanawaz, M., Singh, K., **Suvaiv**, Kushwaha, S. P., Kumar, A., & Ahmad, S. (2025). *Natural Ingredients in Pharmaceutical Technology for Cosmetics*. In S. Mishra, S. M. Tripathi, S. Ojha, & S. P. Kushwaha (Eds.), *The Impact of Pharma Technology on Cosmetics: Advancements and Innovations* (pp. 128–163). Bentham Science Publishers, Singapore. ISBN (Online): 979-8-89881-072-6. DOI: 10.2174/9798898810726125010009

Research & Teaching Experience

Research Assistant (CST-UP Funded Project), Integral University, Lucknow, India 11/2022 – 11/2025

Project Title: “Design, Synthesis and Biological Evaluation of Novel Benzopyran-2-one Analogues as Antitubercular Agents”

- Worked on the design and synthesis of novel benzopyran-based scaffolds for potential antitubercular activity.
- Applied computational tools including Pharmacophore modelling, molecular docking, SAR analysis, and ADME predictions using Discovery Studio, AutoDock, and SwissADME.
- Developed and optimized pharmacophore models targeting *Mycobacterium tuberculosis* Thymidylate Monophosphate Kinase (*MtbTMPK*) to support structure-based drug discovery.
- Carried out multistep organic synthesis and characterized compounds using NMR, LC-MS, and FT-IR.
- Assessed biological activity using the REMA assay.
- Drafted multiple research manuscripts and contributed significantly to scientific writing, both individually and collaboratively.
- Published over 15 peer-reviewed research and review articles and contributed to several book chapters.
- Delivered oral and poster presentations at national and international conferences, showcasing key findings and engaging in scientific exchange.
- Guided and mentored postgraduate (M.Pharm) students in executing their research projects, including design, lab work, and thesis writing.

Lecturer, Shree Krishna College of Pharmacy, India

09/2022 – 11/2022

- Taught Organic Chemistry to undergraduate pharmacy students.
- Participated in academic planning and syllabus implementation.

Technical Expertise

- **CADD & Drug Design:** AutoDock Vina, Discovery Studio, SwissADME, PROTOX II
- **Biological Assays:** REMA assay, agar diffusion method
- **Analytical Tools:** NMR (TopSpin), LC-MS, FT-IR
- **Cheminformatics:** ChemDraw, OpenBabel, RDKit
- **Wet Lab Skills:** Organic synthesis, purification (column chromatography)

Awards & Honors

Gold Medalist, B.Pharm. Topper, Integral University (2020)

UGC Rank Holder Scholarship, M.Pharm. (2020–2022)

Best Presentation Awards at:

- ICNPPS-2024, DST-SERB & CST-UP Sponsored
- RAETAS-2023 (STARE, Lucknow)
- IC-23 Pharmacy Education Conference (Sitapur)

Conferences and Paper Presentations

- Participated and presented a study titled "*In Silico Evaluation of Benzopyran Derivatives Against Mycobacterium Tuberculosis*" in an International Conference on Novel Paradigms in Pharmaceutical Sciences (DST-SERB & CST-UP Sponsored), Faculty of Pharmacy, Integral University, Lucknow, India, 2024. **[Best Oral Presentation Award.]**
- Participated and presented a study titled "*Nanotechnological Approach to Combat Microbial Biofilms*" in the National e-Conference on Recent Advances in Engineering, Technology & Applied Sciences (RAETAS-2023), organized by STARE in association with Maharana Pratap School of Pharmacy, Lucknow. **[Best Presentation Award.]**
- Participated and presented in the International Conference "*Global Perspective of Pharmacy Education: Bridging the Gap Between Academia and Industry Under NEP-2020*", organized by Shri Krishna College of Pharmacy, Sitapur India, 2023. **[Best Oral Presentation Award.]**
- Participated in the International Conference cum Workshop on "*Alternatives to Animal Experiments: Exploring Imminent Possibilities in Preclinical Drug Discovery Using Computational Tools (AAE-2023)*", organized by Amity Institute of Pharmacy, Amity University Uttar Pradesh India, Lucknow Campus, 2023.

Workshop/Value Added Courses (VAC)

- Completed a 10-week blended Value Added Course on "**Medical and Pharmaceutical Terminology (PHV-01)**", Integral University, Lucknow India, 2021.
- Participated in the **Manav Scientific Reading and Comprehension Self-Assessment Module** (Subject Category - Pharmacy) 2021.
- Completed a two-week Professional Development Programme on "**Strategies to Overcome Challenges in Drug Development**", organized by Integral University, November 2021.
- Participated as a Delegate/Attendee in the CliMed Pharma Conclave 2021, organized by CliMed Research Solutions, December 2021.
- **Value-Added Course (VAC)** on **Hospital Antibiotic Stewardship Concept** (30 hours blended mode), conducted by the Department of Pharmacy Practice, Integral University, November 2023.
- Completed a 7-week Value Added Course (PHV-08) on "**Structure Based Therapeutic Evaluation**", organized by the Faculty of Pharmacy, Integral University, Lucknow, 2023.
- Completed a two-day workshop on "**Computer-Aided Drug Design Using BIOVIA Discovery Studio Suite**", September 2024 at Integral University, Lucknow.

References

Prof. (Dr.) Kuldeep Singh, *Professor*, Integral University
kuldeep@iul.ac.in, 9453604762

Prof. (Dr.) Syed Misbahul Hasan, *Professor & Dean*, Integral University
deanphar@iul.ac.in, 9765629789