Curriculum Vitae

Swati Singh

Ph.D. Research Scholar
Centre of Experimental Medicine and Surgery,
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Personal profile

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Educational qualifications

- **Doctor of Philosophy (Ph.D.):** (Pursuing-January 2023) from Centre of Experimental Medicine and Surgery (CEMS), Institute of Medical Sciences (IMS), Banaras Hindu University (BHU), Varanasi, India. In my PhD, I am working in the area of Ethnopharmacology, Nanotechnology and Cancer Biology under the supervision of **Dr. Vibhav Gautam, Assistant Professor.**
- **Master of Science (M.Sc.). in Zoology (Specialization-Biochemistry and Molecular Biology):** 2019-2021 from Department of Zoology, Institute of Science, Banaras Hindu University, Varanasi-221005. Passed in First Division with distinction (CGPA-8.65). During my post-graduation, I performed an extensive literature review on topic "Role of herbal drugs in memory and its disorders" under the supervision of Prof. Mahendra Kumar Thakur, at Department of Zoology, Institute of Science, BHU.
- **Bachelor of Science (B.Sc. Hons.) in Zoology:** 2016-2019 **f**rom Department of Zoology, Institute of Science, Banaras Hindu University, Varanasi-221005. Passed in First Division with distinction (CGPA-8.68).

Publications

1. Gupta, P[#]., **Singh, S[#]**., Rai, N., Verma, A., Tiwari, H., Kamble, S.C., Gautam, H. K., Gautam, V.

(2023). Unveiling the cytotoxic and anti-proliferative potential of green-synthesized silver nanoparticles mediated by *Colletotrichum gloeosporioides*. ***RSC Advances***, https://pubmed.ncbi.nlm.nih.gov/38292267/. doi: 10.1039/d3ra06145k. **Impact Factor: 3.9**

2. Verma, A., Tiwari, H., **Singh, S**., Gupta, P., Rai, N., Kumar Singh, S., . . . Gautam, V. (2023). Epigenetic manipulation for secondary metabolite activation in endophytic fungi: current progress and future directions. ***Mycology***, 14(4), 275-291. https://www.tandfonline.com/doi/full/10.1080/21501203.2023.2241486. **Impact Factor: 4.2.**

3. Verma A, Rai N, Gupta P, **Singh S**, Tiwari H, Chauhan SB, Kailashiya V, Gautam V. Exploration of *in vitro* anticancer activity and *in ovo* antiangiogenic activity of ethyl acetate extract of *Penicillium oxalicum*. ***Environmental Toxicology*** (2023). https://doi.org/10.1002/tox.23889. **Impact factor: 4.5.**

4. Tiwari H, Rai N**, Singh S**, Gupta P, Verma A, Singh AK, K, Salvi P, Singh SK, Gautam V*****. Recent advances in nanomaterials based targeted drug delivery for preclinical cancer diagnosis and therapeutics. ***Bioengineering*** *(2023),* 10(7):760. https://doi.org/10.3390/bioengineering10070760. **Impact factor: 5.046.**

5. **Singh S**, Rai N, Tiwari H, Gupta P, Verma A, Kumar R, Kailashiya V, Salvi P, Gautam V. Recent Advancements in the Formulation of Nanomaterials-Based Nanozymes, Their Catalytic Activity, and Biomedical Applications. ***ACS Applied Bio Materials*** *(2023),* https://doi.org/10.1021/acsabm.3c00253. **Impact factor: 4.7.**

Book chapters

1. Rai N[#], Gupta P[#], Verma A[#], **Singh S**, Tiwari H, Kumar R, Singh SK, Gautam V***** (2023). Fungal endophyte mediated green synthesis of silver nanoparticles as potential anticancer agent: Current perspective and challenges. In: Kaur IP & Sobti RC (Eds.), *Handbook of Oncobiology: From Basic to Clinical Sciences*, Springer Nature, Singapore. https://doi.org/10.1007/978-981-99-2196-6_70-1

Technical expertise

PhD: In my PhD, I am working on the synthesis and characterization of silver nanoparticles derived from fungal endophytes associated with medicinal plant *Oroxylum indicum*. Plants exhibits astounding association with fungal endophytes that are considered as natural hub for the production of bioactive compounds. These fungal endophytes enriched bioactive compounds imitate the phytometabolites with medicinal significance for drug discovery against various diseases including Cancer. Using green based approach, we have synthesized silver nanoparticles using *C. gloeosporioides* and have also performed the characterization of the synthesized nanoparticles using various bioanalytical techniques such as UV-Vis spectroscopy, FTIR, FESEM-

EDX, AFM and TEM. These mycosynthesized nanoparticles are further evaluated for their biological activities against human breast cancer cells, MDA-MB-231 and MCF-7.

M.Sc.: During my M.Sc., I gained the practical knowledge in handling, maintenance, conducting operations & dissection on rodents as well as hands on expertise on basic molecular biology techniques. I also gained the basic knowledge regarding cell culture technique of adherent and suspension cells.

Conferences and Workshops

1. Attended International Conference on ‘‘Trends in Emerging Nano Science: Energy, Healthcare & Quantum Materials (INST-TENS 2023)’’ organized by Institute of Nano Science and Technology (INST), Mohali, Punjab.
2. Attended 92nd Annual Meeting of the Society of Biological Chemists (INDIA) (SBCI 2023)- Biological Chemistry: Opportunities, Challenges and way forward organized by BITS Pilani, KK Birla Goa Campus.
3. Attended International Conference on ‘‘Fungal Biology and Plant-Microbe Interactions (ICFBPMI-2024)’’ organized by Centre of Advanced Study in Botany, Institute of Science, Banaras Hindu University, Varanasi.
4. Attended International Conference on ‘‘Advances in Biological Sciences for Sustainable Development (ICABSSD-2024)’’ organized by Department of Zoology, Central University of Jammu.

Scholarships and Awards

1. Qualified Joint Council of Scientific & Industrial Research-University Grants Commission-National Eligibility Test (Joint CSIR-UGC NET June 2021), for junior research fellowship (JRF) (Rank 200) in Life Sciences.
2. Qualified Graduate Aptitude Test for Engineering (GATE)-2022 (SCORE: 704; AIR: 174) in Life sciences.
3. Qualified Graduate Aptitude Test for Engineering (GATE)-2021 in Life sciences.