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Languages: Hindi (native), English (fluent)

Current position

June 2023 onwards (Academic Position)	Assistant Professor, Department of Chemistry, University of Delhi Delhi, India – 110007
September 2023 onwards (Administrative Position)	Resident Tutor, Ambedkar ganguly students house for women, Dhakka, Near Mukherji Nagar, Delhi - 110009

Academic background

March 2023- May 2023	Postdoctoral Research Associate, Advisor: Prof. Christopher Cioffi Department of Chemistry and Chemical Biology, Rensselaer Polytechnic Institute Project: “ <i>Design and Synthesis of Neuropathic Inhibitors</i> ”
March 2021 – December 2023	Research Associate-III , Advisor: Prof. Ramesh Chandra Department of Chemistry, University of Delhi Project: “ <i>Design and Synthesis of nanoparticles and their biomedical application</i> ”
Sep. 2022 – Dec. 2022 & Sep. 2021 - Jan. 2022	Guest Scientist , Advisor: Prof. Christoph Arenz Institute for Chemistry, Humboldt Universität zu Berlin Project: “ <i>Synthesis of potential analogs for ACER3 activity</i> ”
Nov. 2017 - Feb. 2021	Ph.D. , Advisor: Prof. Ramesh Chandra Department of Chemistry, University of Delhi Thesis: “ <i>Synthesis and Development of Novel Heterocycles and their biological evaluation</i> ”.
Dec. 2020 – Feb. 2021	Ph.D. Exchange Student , Advisor: Prof. Edward Anderson Department of Chemistry, University of Oxford, U.K. Project: “ <i>Towards new treatments for Leishmaniasis and Chagas disease through Natural Product chemistry</i> ”.
Oct. 2018 – July 2019	Ph.D. Exchange Student , Advisor: Prof. Maurizio Taddei Department of Chemistry, University of Siena, Italy Project: “ <i>Synthesis of 8-hydroxyquinoline molecules as Hedgehog Gli-Inhibitors</i> ”.
June 2013 - July 2016	Master , Master thesis Advisor: Dr. B.K. Singh Department of Chemistry, University of Delhi Thesis: “ <i>Microwave-Assisted Synthesis of Piperidine/Piperazine based molecules</i> ”

Awards and Fellowships

Indo-UK Newton Bhabha Scholar

Awarded by the British Council (U.K.) to carry out research in the lab of Prof. Edward Anderson, University of Oxford, Department of Chemistry, U.K. (Dec 2020 - Feb 2021)

Indo-Italy Exchange Scholarship

Awarded by the Ministry of Human Resource Development (MHRD), Government of India & Italian Embassy Cultural Centre (Government of Italy) to carry out research in the lab of Prof. Maurizio Taddei, University of Siena, Italy. (Oct 2018-June 2019).

Young Scientist Travel Award

From International Society for the study of Xenobiotics (ISSX) to attend 12th International ISSX Meeting held in Portland, Oregon, USA. (28-31th July, 2019)

Young Scientist Award to attend '6th Prague-Weizmann Summer School Advances in Drug Discovery and Development from basic research through pre-clinical to clinical phases'. University of Chemistry and Technology, Prague, Praha 6-Dejvice. (Sep 2-6th, 2019)

Senior Research Fellowship (SRF), Indian Council of Medical Research (ICMR), Government of India, New Delhi at the Department of Chemistry, University of Delhi, Delhi-110007. (Dec 2018 – Dec 2020)

UGC-CSIR-NET Examination with 19th All India Rank. (December 2017) (Marks:114.5/200; 57.25%)

Merit Fellowship for standing 1st position in B.Sc Chemistry, awarded by the Hindu College, University of Delhi.

2nd position among ~250 students of B.Sc. Chemistry in South Campus, University of Delhi.

Skills

Multi-step organic reactions, heterocyclic synthesis. Handling inert-atmospheric conditions (Schlenk-line and glovebox). Binding studies of various blood proteins with anticancer drugs
Basic Cell culture, Maintenance of cancer cell lines, MTT assay, Apoptosis
Flash Chromatography, HPLC, NMR, IR, HRMS, UV-Vis, and fluorescence measurement analysis, etc.
Microsoft office, Origin, Chem-draw, MestReNova, Joel Delta software analysis.
Writing scientific reports, publications and research projects

Membership of Scientific Societies

1. Indian Science Congress Association, Kolkata (Life) (2017 onwards)
2. American Chemical Society, USA (ACSMember: 31523471) (2017 onwards)
3. International Society for the study of Xenobiotics, USA (2018 onwards)
4. AACR (American Association of Cancer Research) Associate Membership ID 1073415 (2018)
5. Society for Biomaterials and Artificial Organs (India), (life) (2024 onwards) (Membership no.: LM929)
6. Indian Academy of Biomedical Sciences (India), (life) (2024 onwards) (Membership no.: 429/24)

Engagement in Scientific Programs

1. Advisory Committee: International Conference Crossroads of Chemistry, Biology & Atmospheric Environment: A Modern Prospective on 26-28th February 2024 at Department of Chemistry, University of Delhi.
2. Local Advisory Committee: 60th Annual Convention Of Chemists 2023 on 20-21st December, 2023 at IIT Delhi Campus

3. Advisory Committee: FOSTERING SUSTAINABLE CATALYSIS on 19-20th January 2024 at Department of Chemistry, University of Delhi.
4. Participated in the Online One-month Faculty Induction Programme organised by TLC Ramanujan College under the Ministry of Education sponsored Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) scheme. (21 February - 19 March, 2024)
5. Participated in the NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) organized by Centre for Professional Development in Higher Education (UGC-MMTTC), University of Delhi from 2nd – 11th January 2024.
6. One week Faculty Development Program on Communication and Presentation Skills (18-22 Dec, 2023) at Maharshi Kanad Bhawan, University of Delhi, Delhi - 110007

Publications & Papers in Press

1. N. Kharb, S. Kohli, **S. Singh**, N. Sharma and R. Chandra. (2024) Fe₃O₄/PANI/CuI as sustainable heterogenous nanocatalyst for A3 Coupling. *RSC Nanoscale Adv*, DOI: 10.1039/D4NA00448E. (Impact Factor: 4.6)
2. R.K. Ratnesh, M. Singh, V. Kumar, **S. Singh**, R. Chandra, M. Singh, J. Singh. (2024) Mango Leaves (*Mangifera Indica*) Derived Highly Florescent Green Graphene Quantum Dot Nanoprobes for Enhanced On-Off Dual Detection of Cholesterol and Fe²⁺ Ions based on Molecular Logic operation. *ACS Applied Bio Materials*, 7, 4417-26. (Impact Factor: 4.6)
3. Kiran, A. Ranolia, Priyanka, I. Bala, J. Jangir, **S. Singh**, J. Sindhu, P. Kumar, D. Singh. (2024) Rationally designed dual channel reversible probe for cyanide recognition in aqueous medium with solid-state sensing abilities. *J. Photochemistry and Photobiology A: Chemistry*, 453, 115650. (Impact Factor: 4.1)
4. Priyanka, P. Rani, Kiran, R. Kataria, P. Kumar, D. Kumar, A. Duhan, **S. Singh**, J. Sindhu. (2024) Rationally designed C-3 sulfenylated 2-phenyl-4H-pyrido[1,2-a]pyrimidin-4-one based fluorescent probe for recognition of Fe³⁺. *J. Molecular Structure*, 137456. (Impact Factor: 4.0)
5. **S. Singh**, T. Goel, A. Singh, H. Chugh, N. Chakraborty, I. Roy, M. Tiwari, R. Chandra. (2024) Synthesis and Characterisation of Fe₃O₄@SiO₂@PDA@Ag core-shell Nanoparticles and biological application on Human Lung Cancer Cell Line and Antibacterial strains. *Artificial Cells, Nanomedicine and Biotechnology*, 52, 46-58. (Impact Factor: 4.5)
6. Kiran, A. Ranolia, P. Rani, G. Joshi, R. Kumar, S. Kumar, P. Kumar, **S. Singh**, J. Sindhu. (2023) Precisely designed NIR based conjugated framework as a solid state emitter for selective recognition of cyanide ion in solid state and cancer cells. *J. Photochemistry and Photobiology A: Chemistry*, 449, 2024, 115373. (Impact Factor: 4.1)
7. R. Aggarwal, N. Jain, G. Dubey, **S. Singh**, R. Chandra. (2023) Visible-Light Prompted Regioselective Synthesis of Novel 5-aryl/heteroaryl-2',4'-dimethyl-2,4'-bithiazoles as DNA and BSA Targeting Agents. *Biomacromolecules*, 24, 11, 4798-4818. (Impact Factor: 5.5)
8. M. Amaral, H. Asiki, C. E. Sear, **S. Singh**, P. Pieper, M. M. Haugland, E. A. Anderson and A. G. Tempone. (2023) Biological Activity and Structure–Activity Relationship of Dehydrodieugenol B Analogues against Visceral Leishmaniasis. *RSC Med. Chem.*, 14, 1344-50. (Impact Factor: 4.1)
9. R. Aggarwal, M. Hooda, P. Kumar, S. Kumar, **S. Singh**, R. Chandra. (2023) An Expeditious On-Water Regioselective Synthesis of Arylidene-hydrazinyl-thiazoles as Novel DNA Targeting Agents. *Bioorganic Chemistry*, 106524. (Impact Factor: 4.5)
10. **S. Singh**^a, S. Sewariya^a, N. Rana, Y. Kumar, R. Chandra, E. A. Anderson (2023) Englerin, a naturally occurring sesquiterpene diester: Isolation, synthesis and biological relevance. *Eur. J. Med. Chem. Rep.*, 7, 100101. (Impact Factor: 4.0)

11. M. Fabrizio, M. Luisa, C. Enrica, P. Sara, E. Cini, **S. Singh**, P. Governa, S. Maramai, G. Giannini, B. Stecca, E. Petricci. (2022) Quinolines and oxazino-quinoline derivatives as small molecule GIL1 inhibitors identified by virtual screening. *ACS Med. Chem. Lett.*, 13, 1329-1336. (Impact factor: 3.5)
12. Y. Gupta^a, N. Sharma^a, **S. Singh**, J.G. Romero, V. Rajendran, R. M. Mogire, M. Kashif, J. Beach, W. Jeske, P. Singh, B.R. Ogutu, S.M. Kanzok, H.M. Akala, J. Legac, P. Rosenthal, D.J. Rademacher, R.V. Durvasula, A.P. Singh, B. Rath, P. Kempaiah. (2022) The multistage antimalarial compound Calxinin pertuberates *P. falciparum* Ca²⁺ homeostasis by targeting a unique ion channel. *Pharmaceutics* (^aSharing First authors) (Impact factor: 4.9)
13. **S. Singh**^a, V. Singh^a, R.S. Hada^a, R. Jain^a, M. Vashistha^a, G. Kumari^a, N. Sharma^a, M. Bansal, Poonam, M. Zoltner, C.R. Caffrey, B. Rath, S. Singh. (2022) Designing and development of phthalimides as potent anti-tubulin hybrid molecules against malaria, *Eur. J. Med. Chem.*, 239, 114534. (^aSharing First authors) (Impact factor: 6)
14. Nisha, **S. Singh**, N. Sharma, R. Chandra. (2022) A review on indole nucleus as anti-inflammatory agent and selective COX-2 inhibitor (2011-2022). *Org. Chem. Frontiers.*, 9, 3624 - 3639. (Impact factor: 4.6)
15. A. Singh, N. Kumar, **S. Singh**, S. Sewariya, M. Kr. Sharma, R. Chandra. (2021) High-valued Pyrazinoindole analogues: Synthesis, Antibacterial Activity, Structure Activity Relationship and Molecular Dynamics Analyses. *Results in Chemistry*, 3, 100194. (Impact factor: 2.3)
16. B. Kevadiya, M. Patel, F. Shahjin, M. Hasan, J. D. Cohen, J. Machhi, H. Chugh, **S. Singh**, S. Das, T. A. Kulkarni, J. Herskovitz, D. D. Meigs, R. Chandra, K. S. Hettie, R. Lee Mosley, and H. Gendelman. (2021) The Immunopathobiology of SARS-CoV-2 Infection. *FEMS Microbiology Reviews*, fuab035, 1-31. (Impact factor: 10.1)
17. **S. Singh**^a, N. Singh^a, S. Kohli, A. Singh, H. Asiski, G. Rathee, R. Chandra, E.A.A. Anderson. (2021) Recent advances in the syntheses of pyrrole containing natural products. *Organic Chemistry Frontiers*, 8, 5550-5573. (Impact factor: 4.6)
18. A. Singh, **S. Singh**, S. Sewariya, N. Singh, M. Singh, R. Bandichhor, R. Chandra. (2021) Microwave-Assisted Stereoselective Synthesis of Pyrazinoindoles using 1,1,1,3,3,3-Hexafluoro-2-propanol (HFIP) as the solvent via Pictet-Spengler Reaction. *Tetrahedron*, 84 (88),132017. (Impact factor: 2.1)
19. L. Saya, V. Malik, A. Singh, **S. Singh**, G. Gambhir, W. R. Singh, R. Chandra, S. Hooda. (2021) Guar gum based nanocomposites: Role in water purification through efficient removal of dyes and metal ions. *Carbohydr. Polym.*, 261, 117851. (Impact factor: 6.2)
20. A. Singh, S. Mahapatra, S. Sewariya, N. Singh, **S. Singh**, Y. Kumar, R. Bandichhor, R. Chandra. (2021) A Mini Review on Synthesis of Pyrazinoindole: Recent Progress and Perspectives. *Mini Rev Org. Chem.*, 18, 504-14. (Impact factor: 1.9)
21. N. Kumar, D. Sood, **S. Singh**, S. Kumar, R. Chandra. (2021) High bio-recognizing aptamer designing and optimization against human herpes virus-5. *Eur. J. Pharm. Sci*, 156, 105572. (Impact factor: 4.3)
22. G. Rathee, S. Kohli, S. Panchal, A. Awasthi, **S. Singh**, A. Singh, S. Hooda, R. Chandra. (2020) Preparation of Gold-supported NiAlTi-Layered Double Hydroxide Nanocatalyst and its applications in the one-pot catalytic synthesis of Xanthene, 1,4-Dihydropyridine, Polyhydroquinoline, and 4H-pyran derivatives. *ACS Omega*, 5, 23967-23974. (Impact factor: 3.7)
23. **S. Singh**, N. El-Sakkary, D. Skinner, P. P.Sharma, S. Otilie, Y. Antonova-Koch, P. Kumar, E. Winzeler, P. Singh, C.R. Caffrey, B. Rath. (2020) Synthesis and bioactivity of phthalimide analogs as potential drugs totreat schistosomiasis, a neglected disease of poverty. *Pharmaceutics*, 13, 25. (Impact factor: 4.3)
24. N. Sharma, Y. Gupta, M. Bansal; **S. Singh**; P. Pathak; M. Shahbaaz, R. Mathur, M. Grishina, V. Potemkin, V. Rajendran,

- Poonam, R. Durvasula, A.P. Singh, P. Kempaiah. **(2020)** Multistage Antiplasmodial Activity of Hydroxyethylamine Compounds, In vitro and In vivo Evaluations. *RSC Adv.*, 10, 35516–35530. (Impact factor: 3.9)
25. S. Lal, K. Prakash, N. Khera, Drashya, **S. Singh**, A. Singh, S. Hooda, R. Chandra. **(2020)** Curcumin based supramolecular ensemble for optical detection of Cu²⁺ and Hg²⁺ ions. *J. Mol. Struc.*, 1211, 128091. (Impact factor: 4.0)
26. **S. Singh**, V. Rajendran, J. He, A.K. Singh, A.O. Achieng, Vandana, A. Pant, A.S. Nasamu, M. Pandit, J. Singh, A. Quadiri, N. Gupta, Poonam, P.C. Ghosh, B. K. Singh, L. Narayanan, P. Kempaiah, R. Chandra, B. M. Dunn, K. C. Pandey, D. E. Goldberg, A.P. Singh, and B. Rath. **(2019)** Fast-acting small molecules targeting malarial aspartyl proteases, plasmepsins, inhibit malaria infection at multiple life stages. *ACS Infect. Dis.*, 5, 184-198. (Impact factor: 4.0)
27. N. Singh, **S. Singh**, S. Sewariya, A. Singh, G. Rathee, D. Sood, N. Kumar, I. Chandra, S. K Dass, V. Tomar and R. Chandra. **(2019)** Noscipine as Anticancer Agent & Its Role in Ovarian Cancer. *Org. Med. Chem. Int. J.*, 9(2),1-9.
28. A. Singh, N. Kumar, D. Sood, **S. Singh**, A. Awasthi, V. Tomar, B. Rath, R. Chandra. **(2018)** Designing of a Novel Indoline scaffold based Antibacterial Compound and Pharmacological Evaluation using Chemoinformatics approach. *Curr. Top. Med. Chem.*, 18 (23), 2056-2065. (Impact factor: 2.9)
29. **S. Singh**, N. Sharma, C. Upadhyay, B. Rath, S. Kumar, Poonam. **(2018)** Small Molecules Effective against Liver and Blood Stage Malarial Infection. *Curr. Top. Med. Chem.*, 18 (23), 2008-2021. (Impact factor: 2.9)
30. Poonam, Y. Gupta, N. Gupta, **S. Singh**, L. Wu, M. Rawat, B. S. Chhikara, B. Rath. **(2018)** Multistage Inhibitors of Malaria Parasite: Emerging Hope for Chemoprotection And Malaria Eradication. *Med. Res. Rev.*, 38(5):1511-1535. (Impact factor: 10.9)
31. N. Kumar, H. Chugh, D. Sood, **S. Singh**, A. Singh, R. Tomar, V. Tomar, R. Chandra. **(2018)** Biology of Heme: Drug Interactions and Adverse Drug Reactions with CYP450. *Curr. Top. Med. Chem.*, 18 (23), 2042-2055. (Impact factor: 2.9)
32. **S. Singh**, A. Singh, M. Singh, D. Sood, B. Rath, V. Tomar, R. Chandra. **(2018)** Modern Advancement in the area of Anti-malarial Drug Development. *Indian. J. Heterocycl. Chem.*, 28(2),185-94. (Impact factor: 0.3)
33. A. K. Singh, V. Rajendran, **S. Singh**, P. Kumar, Y. Kumar, A. Singh, B. K. Singh, W. Miller, V. Potemkin, Poonam, M. Grishina, N. Gupta, P. Kempaiah, R. Durvasula, B. K. Singh, B. M. Dunn, B. Rath. **(2018)** Antiparasitic activity of hydroxyethylamine analogs: Synthesis, biological activity and structure activity relationship of plasmepsins inhibitors. *Bioorg Med Chem.*, 26(13), 3837-3844. (Impact factor: 2.5)
34. P. Kumar, A. Matta, **S. Singh**, J. V. der Eycken, C. Len, V. S. Parmar, E. V. der Eycken, B. K. Singh. **(2017)** A Facile, Catalyst-Free, Microwave-Assisted Access Towards the Synthesis of 2-Aryl/Alkyl-3-(1H- benzo [d] imidazol-2-yl)-2, 3-Dihydroquinazolin-4 (1 H)-ones. *Synth. Commun.*, 47, 756-763. (Impact factor: 1.9)
35. A. Singhal, **S. Singh**, S. M. S. Chauhan. **(2016)** Synthesis of Dipyrromethanes in Aqueous Media Using Boric Acid. *ARKIVOC*, 6,144-151. (Impact factor: 0.8)

Patent

B. Rath, P. Kempaiah, A. P. Singh, **S. Singh**, Y. Gupta, N. Sharma, Poonam, R. Durvasula. **(2022)** Hydroxyethylamine-based piperazine compounds, and methods of producing and using the same for treating disease. US Patent Publication number: 20220204458; Application Number: 17/347,720

Books/Book Chapter

1. Y. Sharma, P. Rajput, A. Brahma, T. Goel, A. Singh, J. Madan, R. K. Ratnesh, R. Chandra*, **S. Singh***. Chapter: Synergizing Nanotechnology with Biomedical and Biotechnology for Healthcare for the book entitled "Nanotechnology Applications for Industry 4.0 " by CRC Press, Taylor & Francis.
2. Devangan P., Bajad G., Loharkar S., Wadate N., Gollapalli S., Dutta T., Baldi A., **Singh S.**, Katyal A., Chandra R., Singh P. A., & Madan J. (**2024**). Quality-By-Design Strategy for Developing Novel Herbal Products. Springer, 263–295. https://doi.org/10.1007/978-981-99-8034-5_11
3. Voets Principles of Biochemistry, 4th Edition International- Wiley. (**2020**)
Content Contributors: Ramesh Chandra, Snigdha Singh and Heerak Chugh. Publisher- Wiley India Pvt. Ltd. New Delhi, India. ISBN: 978-1-118-09244-6

International Conferences

Poster Presentation at Medicinal Chemistry GRS, at Colby Sawyer College in New Hampshire, USA held on 6-7th August, 2022.

Poster Presentation at International Society for the study of Xenobiotics (ISSX) 12th International ISSX Meeting, Oregon Convention Center, Portland, Oregon, USA held on 28-31th July, 2019.

Poster Presentation at 6th Prague-Weizmann Summer School Advances in Drug Discovery and Development from basic research through pre-clinical to clinical phases', University of Chemistry and Technology, Prague, Praha 6-Dejvice held on 2- 6th Sep, 2019.

Oral Presentation at J National Organic Symposium Trust conference, Department of Chemistry, University of Delhi, Delhi, India held on 18-21st October, 2019

Poster Presentation at Indo-US Colloquium on "Recent development in Interdisciplinary research", Department of Chemistry, Hansraj College, University of Delhi in association with Loyola University Stritch School of Medicine, USA held on 2nd July, 2018.

Poster Presentation at ACS on Campus, University of Delhi, India held on 5th February 2018.

Poster Presentation at International Conference on "Emerging Trends in Drugs Development and Natural-Drugs Development and Natural-Products", Department of Chemistry, University of Delhi, India held on 12-14th January, 2018.

Awarded Best Poster at Indo-Hungarian Symposium on "Recent Advances in Chemistry and Biology", Department of Chemistry, Miranda House, University of Delhi, India held on 11th December, 2017.

Reviewers for Scientific Journal

1. Artificial Cells, Nanomedicine and Biotechnology
2. Indian Journal of Heterocyclic Chemistry
3. Indian Journal of Microbiology

Projects Undertaken

1. SERB-TARE project entitled "*Investigate Ultrafast Phenomena and Tuning the Radiative Lifetime of (II-VI) Semiconductor Quantum DOTS for Solar cell and Biological Application*" (TAR/2022/000618)