Curriculum Vitae: Dr. Gulshan Singh

1. Personal Information

• **Full Name**	:	Dr. Gulshan Singh
• **Designation**	:	Associate Professor
• **Department/Discipline**	:	Chemistry
• **Date of Birth**	:	23 Sep 1984
• **Gender**	:	Male
• **Nationality**	:	Indian
• **Address for Correspondence**	:	Department of Chemistry, Gurugram University, Gurugram, Haryana
• **Mobile Number**	:	+91 94161-16490
• **Email ID**	:	gulshansingh@gurugramuniversity.ac.in gulshanbanisingh@yahoo.co.in
• **LinkedIn/Research Profile (if any)**	:	Vidwan Id: 173442 ORCID Id: 0000-0002-1519-5416

2. Career Objective:

To contribute to the academic excellence of students through dedicated teaching, mentorship, and research while supporting the sustained growth of the institution in a harmonious environment.

3. Educational Qualifications

- Ph.D (Chemistry) from Kurukshetra University, Kurukshetra
- M.Sc (Chemistry) from Kurukshetra University, Kurukshetra (70%) with specialization in Organic Chemistry
- B.Sc (Chemistry & Biology) from Kurukshetra University, Kurukshetra with 72.8% marks
- Senior Secondary from C.B.S.E, New Delhi with 77% marks
- Matriculation from B.S.E.H, Haryana with 82.5 % marks

Educational Achievements:

- Qualified CSIR JRF (NET), 2010
- Qualified Haryana Teacher Eligibility Test (HTET) 2011
- Merit Certificate awarded by Board of School Education Haryana, Bhiwani (Haryana), India

4. Teaching Experience

Total Teaching Experience: 11+ Years

- Presently working as Associate Professor of Chemistry in Department of Chemistry, Gurugram University, Gurugram since 13 June 2024
- Worked as Assistant Professor of Chemistry in Sanatan Dharma College, Ambala Cantt (02 Sep 2014-12 June 2024)
- Worked as Research Associate in Synthesis Department of Jubilant Chemsys Pvt Ltd, Noida, New Delhi

5. Research Experience

- **Areas of Specialization**: Synthesis of biologically significant fused and bridgehead heterocyclic compounds, their mechanistic studies along with regiochemical studies.

- **Research Projects Handled**: NA

- **Research Guidance (Ph.D./M.Phil.):** Under Supervision:02, Under co-supervision: 03

6. Publications

(A) Research Papers in Journals

1. An NMR and Computational Study of Azolo[*a*]pyrimidines with Special Emphasis on Pyrazolo[1,5-*a*]pyrimidines, Ranjana Aggarwal, Virender Kumar, **Gulshan Singh**, Dionisia Sanz, Rosa M. Claramunt, Ibon Alkorta, Goar Sanchez-Sanz, Jose Elguero; *J. Heterocyclic Chem.,* 52 (2015) 336-345.

2. Characterization and dispersibility of improved thermally stable amide functionalized graphene oxide, Sumita Rani, Mukesh Kumar, Rajiv Kumar, Dinesh Kumar, Sumit Sharma, **Gulshan Singh**, *Materials Research Bulletin,* 60 (2014) 143-149.

3. Molecular docking design and one-pot expeditious synthesis of novel 2,5-diarylpyrazolo[1,5-a]pyrimidin-7-amines as anti-inflammatory agents, Ranjana Aggarwal, **Gulshan Singh**, Pawan Kaushik, Dhirender Kaushik, Deepika Paliwal, Ajay Kumar, *European Journal of Medicinal Chemistry,* 101 (2015) 326-333.

4. Bioassay Guided Fractionation and α-Amylase Inhibitory Activity of Flavanoid Isolated from *Pinus roxburghii Sarg*., Pawan Kaushik, **Gulshan Singh**, Sukhbir Lal Khokra and Dhirender Kaushik, *Natural Products Chemistry & Research* 3 (2015) 1-3.

5. NBS mediated one-pot regioselective synthesis of 2,3-disubstituted imidazo[1,2-*a*] pyridines and their unambiguous characterization through 2D NMR and X-ray crystallography, Ranjana Aggarwal, **Gulshan Singh**, Dionisia Sanz, Rosa M. Claramunt, M. Carmen Torralba, M. Rosario Torres, *Tetrahedron*, 72 (2016) 3832-3838.

6. Preparation of 4,7-*Dihydro*-1*H*-pyrazolo[3,4-*b*]pyridine-5-nitriles in a Multicomponent Domino Process, Ranjana Aggarwal, Gulshan Singh, Suresh Kumar, Thomas McCabe and Isabel Rozas, *Chemistry Select,* 1 (2016) 5990-5994.

7. Multi-component reaction to access a library of polyfunctionally substituted 4,7-dihydropyrazolo[3,4-*b*]pyridines, Ranjana Aggarwal, Suresh Kumar and **Gulshan Singh**, *Synthetic Communications*, 49 (2019) 973-985.

8. Development of 7-Aminopyrazolo[1,5-*a*]pyrimidines as Anti-Candida and Antibacterial Agents, Ranjana Aggarwal, **Gulshan Singh**, Virender Kumar, Eakta Masan, and Pranay Jain, *Organic Preparations and Procedures International,* 53, no. 1 (2020) 42-51.

9. Molecular iodine mediated transition-metal-free oxidative dehydrogenation of 4, 7-dihydro pyrazolo[3, 4-*b*]pyridines, Ranjana Aggarwal, **Gulshan Singh**, and Suresh Kumar, *Synthetic Communications,* 51, no. 23 (2021) 3601-3609.

10. Structural and photocatalytic insights into gadolinium oxide-iron oxide nanocomposites towards efficient environmental remediation, Seema Devi, Tripta, Sandeep Kumar, Ravi Kumar, Vinod Kumar, Ashok Kumar, **Gulshan Singh**, Parmod Kumar, *Inorganic Chemistry Communications*,174 (2025) 114065

11. In-silico toxicity assessment of polychlorinated naphthalenes in water ecosystem by Monte Carlo-based QSAR studies. Kusum, **Gulshan Singh**, Anjali Ahlawat, Vijay Dangi, and Surbhi Goyal. *Drug and Chemical Toxicology* (2026): 1-12.

12. Advances in sustainable synthesis: the role of green solvents and biocatalysts, Kumar, Virender, Anshul Bansal, Ranjana Aggarwal, Ketan Vashisht, Mahavir Parshad, **Gulshan Singh**, and Pooja Sethi. *Arkivoc* 2025 (1) 202512395.

13. Recent Developments of Imidazo[1,2-a]pyridine Framework in Medicinal Chemistry, **Gulshan Singh**, Virender Kumar and Poonam, *International Journal of Chemical Studies*, 14(2), 2026, 41-48.

14. Computational investigation of a celecoxib-derived compound as a potential COX-2 inhibitor, Kusum, **Gulshan Singh**, Anjali Ahlawat and Vijay Dangi, *International Journal of Chemical Studies*, 14 (3), 2026, 30-36.

15. Aqueous-mediated hypervalent iodine chemistry: from green reaction medium to reactivity modulator, Sangeeta Sharma, Annu Jangra, Priya Jajoriya, Ranjana Aggarwal, **Gulshan Singh** and Mona Hooda, *Arkivoc*, 2025 (4) 202612552.

(B) Books / Book Chapters

1. Singh, G., & Saini, M. (2024). Solvent-Free Multicomponent Synthesis of N-Heterocycles. Recent Developments in Science and Technology for Sustainable Future, 120–131. https://doi.org/10.9734/bpi/mono/978-81-970279-3-2/CH10

2. Mohit Saini, Sanjay Sharma, Satish Kumar, Gulshan Singh, (2023) Self-cleaning Materials' Characteristics and Applications in Science for a Sustainable World: Physical, Chemical, Biological and Environmental Perspectives, 135-145, ISBN: 978-93-93996-91-6, PUBLISHER: Blue Duck Publications, Srinagar, J&K

Books Published: Chemistry-1 Major (bilingual Edition) Book

ISBN-13: 9789357556712
ISBN-10: 9357556710
Authors: Dr. Rajshree Khare; Mandeep Singh; Dr. Joginder; Dr. Gulshan Singh
Publisher: Thakur Publication Private Limited
Published: 2023

(C) Conference Papers:

- ***A STUDY ON THE CHALLENGES FACED BY THE SOCIAL ENTREPRENEURSHIP IN INDIA***, Satbir Singh, Mohit Bindlish, **Gulshan Singh**, Proceedings of National Seminar *Entrepreneurship and Economic Development of India*, June 2020, 33-41, ISBN: 978-93-82529-15-6.

- ***RESEARCH PROMOTION SCHEMES (RPS) OF UNIVERSITY GRANTS COMMISSION (UGC) IN INDIA FOR HIGHER EDUCATION INSTITUTES***, Satbir Singh, **Gulshan Singh**, Proceedings of NAAC Sponsored One day Online National Conference-*Quality Enhancement in HEIs and Evaluation with RAF of NAAC* held on 03 February 2021, 135-138, ISBN: 978-93-82529-17-0.

- ***INDIAN BANKING SECTOR IN THE ERA OF COVID-19 PANDEMIC***, Mohit Bindlish, Satbir Singh, **Gulshan Singh**, Proceeding of National Seminar- *Pandemic and Future of Businesses*, June 26, 2021, 266-275, ISBN: 978-81-954645-6-2

- ***AN ANALYTICAL STUDY ON SEVERITY OF ROAD ACCIDENTS IN INDIA***, Dr. Satbir Singh, Dr. Mohit Bindlish, **Dr. Gulshan Singh**, Proceedings of One Day Online National Seminar- *ROAD SAFETY AWARENESS IN INDIA*, 2022, 11-21, ISBN: 978-81-955611-9-3

- ***COMPUTER-AIDED DRUG DESIGN***, **Dr. Gulshan Singh**, Dr. Suman Kumari & Dr. Jai Pal, Proceedings of One Day Webinar "*SCIENCE, TECHNOLOGY & INNOVATION EFFORTS TO ADDRESS COVID-19*", March 30, 2022, 37-42, ISBN: 978-81-955611-7-9

- ***A PERSPECTIVE OF AUTONOMY OF HIGHER EDUCATIONAL INSTITUTIONS IN INDIAN CONTEXT***, **Gulshan Singh,** Satbir Singh & Mohit Bindlish, Proceedings of One Day Webinar "*Quality Initiatives in Higher Education*", 2022, 26-38, ISBN: 978-81-955611-4-8

9. Research Projects / Grants:

Proposal entitled" Synthesis of 6-aryl-*N*′-(2-(thiophen-2-yl)ethyl)/4-substitutedbenzylimidazo[2,1-*b*]thiazole-3-carboxamide and their biological exploration" has been recommended by the UGC NRCB under the scheme of Minor Research Projects (MRP) with MRP ID: ROMRP-NRCB-CHEM- 2015-16-74674

10. Conferences / FDPs / Workshops Attended

- Poster presentation in the "*100th Indian Science Congress*" at Kolkata, West Bengal, Jan. 2013.
- Presented paper entitled "*Expeditious Synthesis of Novel 2,5-Diarylpyrazolo[1,5-a] pyrimidin-7-amines as Anti-inflammatory Agents in One Pot*" in 51st Annual Convention of Chemists held at Kurukshetra University, Kurukshetra from December 09-12, 2014.
- Oral Presentation in National Workshop on "*Emerging Trends in Sciences*" held at DAV College (Lahore), Ambala City from February 12-14, 2015.
- Oral Presentation entitled "*Three-component domino synthesis of 4,7-dihydro-1-heteroaryl-3,4,6-triaryl-pyrazolo[3,4-b]pyridine-5-carbonitriles in one pot*" in National Workshop on *"Recent Trends in Physics and Chemistry"* held at S. A. Jain (PG) College, Ambala City on March 25, 2015.
- *"Nuclear Magnetic Resonance Spectroscopy: An Evolutionary Invention for Organic Chemistry*" in One Day National Conference titled *"Current Advances in Theoretical & Experimental Physics"* held at S. D. College (Lahore), Ambala Cantt. on Nov. 07, 2015.
- *"Synthesis of 7-amino-2,5-diarylpyrazolo[1,5-a]pyrimidines for antimicrobial evaluation"* in One Day National Seminar entitled *"Chemistry of Industrial Globalization, Environmental Pollution and Its Chem-Biological Significance"* held at Govt. PG College, Ambala Cantt.on Feb.11, 2016.
- *"Multi-Component Synthesis: A Fine Strategy in Synthetic Medicinal Chemistry"* in *5th National Conference on Chemical Sciences: Emerging Scenario & Global Challenges (Role of Chemical Sciences to make in India)* at Arya P.G. College, Panipat on March 26, 2016.
- *"Solid Phase Multi-Component Reactions: A Green Chemical Approach in Synthetic Chemistry"* in One Day National Seminar on *Innovative Practices in Chemistry"* at S. A. (PG) College, Ambala City on February 23, 2017.
- *In Silico Drug Design Complemented with Solid Phase Multi-Component Reactions: A Green Chemical Approach in Drug Discovery* in one day National Conference titled- *6th National Conference on Chemical & Environmental Sciences: Emerging Dimensions and Challenges Ahead* at Arya P.G. College, Panipat on April 01, 2017.
- *Quantum Mechanical Study of Azolo[a]pyrimidines Scaffold,* in One Day National Seminar- *Recent Advancements in Sciences and Technology* at M. N. College, Shahabad on January 20, 2018.
- *Multi-component Synthesis of Diverse 5-Cyano-4,7-dihydropyrazolo[3,4-b]pyridines,* in One Day Seminar-*Emerging Trends in Physical and Chemical Sciences in Modern Era* at M. N. College, Shahabad on November 03, 2018.
- *Synthesis and antimicrobial Screening of 5-Cyano-4,7-dihydropyrazolo[3,4-b] pyridines* in One Day National seminar, *Recent Trends in Chemical & Environmental Sciences* at Dyal Singh College, Karnal on March 29, 2019.
- Orientation Course/Refresher Course/ FDP's:
- 4-Week Orientation Programme at UGC Human Resource Development Centre, Kurukshetra University, Kurukshetra from Nov. 26, 2015 - Dec. 23, 2015.
- 3-Week Interdisciplinary Refresher Course in Information Technology organised by UGC Human Resource Development Centre, Kurukshetra University, Kurukshetra from Dec. 03, 2018 to Dec. 22, 2018.

- Online Refresher Course in CHEMISTRY for Higher Education Faculty on SWAYAM portal of MHRD (1 Sep 2019-15 Jan 2020)
- Inter-Disciplinary and Multilingual Two-Week Refresher Course/Faculty Development Programme on “MANAGING ONLINE CLASSES & CO-CREATING MOOCs 4.O” dated 11-26 March 2021 organized by Teaching Learning Centre, Ramanujan College, New Delhi
- Faculty Development Programme on "MANAGING ONLINE CLASSES AND CO-CREATING MOOCs" dated 20 April 2020-06 May 2020 by Teaching Learning Centre, Ramanujan College, New Delhi
- Two-week Refresher Course in "CHEMICAL SCIENCES" (01-15 February, 2022) organized by Teaching Learning Centre, Ramanujan College, New Delhi
- Two-week Refresher Course in "CHEMISTRY" (29 November-13 December, 2022) organized by Teaching Learning Centre, Ramanujan College, New Delhi
- UGC-approved Short-Term Professional Development Programme- “IMPLEMENTATION OF NEP-2020 FOR UNIVERSITY AND COLLEGE TEACHERS’ (20-29 January 2023) organized by Indira Gandhi National Open University, Staff Training and Research Institute of Distance Education, New Delhi 110068
- Two-week Refresher Course in "CHEMISTRY" (15-29 December, 2023) organized by Teaching Learning Centre, Ramanujan College, University of Delhi in collaboration with Kongunadu Arts and Science College (Autonomous), Coimbatore, Tamil Nadu & Kandaswami Kandar’s College, Velur, Tamil Nadu

9. Awards & Achievements: NA

10. Skills:

- Interpretation of spectral data of 1D & 2D NMR, IR, UV, LCMS, HPLC and HRMS for characterization of the synthesized compounds

- Worked on different reactions like Claisen Condensation, Suzuki coupling, Heck reaction, Buchwald coupling, Amide coupling, hydrolysis, Alkylation, Oxidation & Reduction.