


Dr Ritu Gaba		
Designation	Assistant Professor	
Address	Department of Chemistry Maitreyi College, University of Delhi Chanakyapuri, New Delhi-110021, India	
Email	rgabba@maitreyi.du.ac.in	
Educational Qualifications		
Degree	Institution	Year
Ph.D.	Department of Chemistry, University of Delhi, Delhi Thesis Title: "DFT Study of Nanocrystalline TiO ₂ " Relationship between Size, Structure and Reactivity"	2010
M.Sc. Chemistry	Indian Institute of Technology, Delhi	2005
B.Sc. (Hons) Chemistry	St Stephens College, University of Delhi, Delhi	2003
Career Profile		
<ul style="list-style-type: none"> Assistant Professor at Maitreyi College, University of Delhi, India (August 03, 2010-till date) 		
Awards/Fellowships		
<ul style="list-style-type: none"> Junior/Senior Research Fellowship sponsored by CSIR Science Meritorious Award 		
Areas of Interest / Specialization		
<ul style="list-style-type: none"> Physical Chemistry, Quantum Chemistry, Spectroscopy, Computational Chemistry 		
Research Projects (Major Grants/Research Collaboration)		

- Guided B.Sc. students for a project on “*Target Modification, Docking studies and pharmacokinetic evaluation of Ayurvedic Compounds*” under SIP 2023-24.
- Guided B.Sc. students for a project on “*Development of a proficient novel green synthetic approach for the construction of biologically relevant heterocycles and to carry out their molecular modelling studies*” under Annual research Project 2022-23.
- Guided B.Sc. students for a project on “*Magnetic chitosan films*” under Summer Internship Programme- 2018-19.
- Guided B.Sc. students for project on “*Eco-friendly magnetic biopolymer nanocomposites for removal of heavy metals from wastewater*” under Summer Internship Programme-2018-19.
- Guided B.Sc. students for project on “*Relationship between Molecular Structure and Relative Sweetness of Various Artificial Sweeteners*” under Summer Internship Programme-2017-18.
- Guided B.Sc. students for a project on “*Evaluation of Antioxidant Activity of Various Fruits and Vegetables by DPPH Assay*” under DBT-Star College Scheme-2015.
- Guided B.Sc. students for summer project on “*To explore green pathway for the synthesis of spiropyrans via multicomponent approach*” under DBT-Star College Scheme-2015.

Administrative/Academic Assignments

- Convener, Vatavaran Committee, 2023-24
- Convener, Advisory Committee for Professional Grooming, 2023-24
- Member, Interview Board for selection of teachers in Kendriya Vidyalaya Sangathan w.e.f. May 20 -25, 2023.
- Convenor, Committee for Closing Ceremony Centenary Year celebration, University of Delhi, 2022-23.
- Member, Canteen Committee, 2022-23.
- Member, Website Committee, 2022-23
- Member, IQAC, 2021-23
- Convener, Student’s Union Advisory Committee, 2021-2023
- Co-convener, Student’s Union Advisory Committee, 2016-2021
- Member, Building and Maintenance Committee, 2021-22
- Member Time Table committee, 2019-2020

Refresher Courses/ Faculty Development Programme/ Workshops Attended

- One-Week Online National Faculty Development Program on “e-Content Development” organized by Guru Angad Dev Malaviya Mission Teacher Training Centre, SGTB Khalsa College, University of Delhi from October 10-16, 2023.
- Two-Week FDP on “*Chemistry-the catalyst for change*” organised by TLC, Ramanujan college University of Delhi Under the aegis of MHRD, PMMMNMTT in Collaboration with Department of Chemistry Miranda House from July 14-28, 2021.
- Two -Week FDP on “*Research Methodology*”, organized by TLC, Ramanujan college University of Delhi Under the aegis of MHRD, PMMMNMTT, MHRD, Government of India from October 1-15, 2020.
- Two-Week FDP on “*Managing online classes and co-creating MOOCS 3.0*” organised by TLC, Ramanujan college University of Delhi Under the aegis of MHRD, PMMMNMTT from July 25 - August 10, 2020.
- ARPIT Course for Career Advancement Scheme (CAS) promotion: Online Refresher Course "*In Chemistry For Higher Education*" Sri Guru Tegh Bahadur Khalsa College, University of Delhi -16 February, 2020.
- Faculty Development Programme: National Webinar on “*Roles of Teachers in technology driven higher education*” Organized by Guru Angad Dev Teaching Learning Centre Sri Guru Tegh Bahadur Khalsa College University of Delhi under PMMMNMTT, MHRD, Government of India on April 25, 2020
- Interdisciplinary Faculty Development Programme on “*Disabilities studies: perspectives and emerging trends*” (For Humanities, Sciences, Commerce Teachers and Research Scholars) from December 17-23, 2018 organised by Enabling Unit Maitreyi college (under the aegis of IQAC) in collaboration with TLC, Ramanujan college under PMMMNMTT, Ministry of HRD, Government of India.
- Faculty Development Program on “*Sustainable Development*” from October 15-22, 2018, organized by Atma Ram Sanatan Dharam College, University of Delhi
- Faculty Development Program on “*Sustainable Development*” from October 15-22, 2018, organized by Atma Ram Sanatan Dharam College, University of Delhi
- Faculty Development Program cum National Workshop on “*Greening an Undergraduate Chemistry Lab (GUCL-2018)*” from August 8-9, 2018, organized by Sri Venkateswara College, University of Delhi.

- Refresher Course in “*Contemporary Studies (Natural Sciences, Education, Biological Science, Environmental Demography & Sociology)*” organized by CPDHE, University of Delhi from June 07-27, 2016.
- Orientation Programme organized by Centre for Professional Development in Higher Education (CPDHE), University of Delhi from June 08 - July 04, 2015.

Publications

1. Greening up organic reactions with caffeine: applications, recent developments, and future directions, Chaudhary, A., Mathur, P., Gaba, R., Pasricha, R., Sharma, K. RSC Advances., 2024, **14**, 8932-8962. <https://pubs.rsc.org/en/content/articlehtml/2024/ra/d4ra00432a>
2. Deep eutectic solvent-mediated expedient multicomponent synthesis of oxazine scaffolds, Chaudhary, A. ; Khanna, G.; Chopra, H.; **Gaba, R.** Research on Chemical Intermediates , 2022, 48, 2267–2278. <https://link.springer.com/article/10.1007/s11164-022-04674-0>
3. Advanced Nanocomposites for Removal of Heavy Metals from Wastewater. Bhandari H., Garg S., Gaba R. *Macromolecular Symposia*, 2021, 397, 2000337 <https://drive.google.com/file/d/1ZpVAk8k6S5KvuOto6eeA1ECrnpW4JYyz/view?usp=sharing>
4. Relationship between Molecular Structure and Relative Sweetness of Various Artificial Sweeteners, Chopra, H., **Gaba, R.**, Chaudhary, A., Chugh, M., Rawat, K. Vantage: Journal of Thematic Analysis, 2020, 1, 155-168. <http://maitreyi.ac.in/Datafiles/cms/2020/magzine/vantage/august/12.pdf>
5. Eco-friendly magnetic biopolymer nanocomposites for removal of organic dye /heavy metals from wastewater, Bhandari, H., Ruhi , R., **Gaba, R.**, Chaudhary, A., Johar, R., Singh, T., Rawat, A., Kapoor, S., Sharma, V., Chadha, Y. Vantage: Journal of Thematic Analysis, 2020, 1, 17-31. <http://maitreyi.ac.in/Datafiles/cms/2020/magzine/vantage/august/2.pdf>
6. Recent advances in the catalytic exploitation of chitosan based catalysts in organic transformations. Chopra, H., Chaudhary, A., **Gaba, R.** The Pharma Innovation Journal , 2018, 7(10): 311-318. ISSN (Print):2349-8242. <http://www.thepharmajournal.com/archives/?year=2018&vol=7&issue=10&ArticleId=2610>
7. Green Synthesis of Spirooxindoles via Multicomponent Approach, Chaudhary, A.; **Gaba, R.**; Sharma, K.; Upadhyay, A.; Mathur, P.; Sharma, N.; Kapoor, K.; ‘In Proceedings of National Conference in Chemistry (NCC 2016): “Environmental and Harmonious Development”, New Delhi, Page 190-192. (ISBN: 9789385824012). <https://www.eurekaselect.com/150004/article>
8. Adsorption studies of acetaldehyde on TiO₂ nanosurface. Kakkar, R. Bhandari, M. **Gaba, R.** *Advanced Material Letters* 4 (10) : 769-778, 2013. https://aml.iaamonline.org/article_14306_d92892f4e611197a67897eff165003a7.pdf

9. DFT study of some trivalent d- and f- block metal ion complexes of Alloxan. Kakkar, R. Bhandari, M. **Gaba, R.** *Journal of Theoretical and Computational Chemistry*, 12 (6) 1350052, 2013.
<https://www.worldscientific.com/doi/abs/10.1142/S0219633613500521>
10. Structures and Stabilities of alkaline earth metal oxide nanoclusters. Batra, P, **Gaba, R.**, Issar, U & Kakkar, R. *Journal of Theoretical and Computational Chemistry* 2013, 720794 (14).
<https://onlinelibrary.wiley.com/doi/10.1155/2013/720794>
11. Tautomeric transformations and reactivity of alloxan. Kakkar, R. Bhandari, M. **Gaba, R.** *Computational and Theoretical Chemistry*, 986:14-24, 2012.
<https://www.sciencedirect.com/science/article/abs/pii/S2210271X12000631?via%3Dihub>