

Dr. SHIKHA KAUSHIK

Associate Professor
Department of Chemistry
Rajdhani College, University of Delhi
Ph: 9910402009
email: shikha.kaushik@rajdhani.du.ac.in



Educational Qualifications

Degree	Institution
Ph.D.	University of Delhi, Delhi
M.Sc. (Organic Chemistry)	SGTB Khalsa College, University of Delhi, Delhi
B.Sc. (H) Chemistry	SGTB Khalsa College, University of Delhi, Delhi

Awards and Fellowships

- ILLL Fellow at Institute of Life Long Learning, University of Delhi, Delhi (2021-2022).
- Best Paper Award in *National Seminar* on “Recent Innovations in Chemical Science and Environment Technology” organized by Department of Chemistry, Sri Aurobindo College University of Delhi, Delhi. (March 03-04, 2017).
- Best Paper Award in *National Symposium* on Recent Advances in Analytical Sciences and Applications, Department of Chemistry, Himachal Pradesh University, Shimla. (April 12-14, 2010).
- Best Poster Award in *International Symposium* on Trends in Drug Discovery and Development, Department of Chemistry, University of Delhi (January 5-8, 2010).
- Recipient of “UGC Research Fellowship in Science for Meritorious Students (RFSMS) 2007-08”, Department of Chemistry, University of Delhi, Delhi-110007.
- Awarded the Joint CSIR-UGC (Council of Scientific and Industrial Research- University Grants Commission) for Lectureship- National Eligibility Test (NET).
- Awarded Durga Prabodh Singh Memorial Scholarship, B. Sc. (H) Chemistry for Outstanding performance in Chemistry, S.G.T.B. Khalsa College, University of Delhi, Delhi-110007.

Publications

- Yadav, S., Kumar, B., & Kaushik, S. (2023) Emergent 2D materials beyond graphene: Plausible role in biomedical applications. *Applied Surface Science Advances* 18, 100512.
- Bansal, A., Kaushik, S., & Kukreti, S. (2022). Non-canonical DNA structures: Diversity and disease association. *Frontiers in Genetics*, 13, 959258.
- Kaushik, S., & Kukreti, S. (2021). Formation of a DNA triple helical structure at BOLF1 gene of Human Herpesvirus 4 (HH4) genome. *Journal of Biomolecular Structure and Dynamics*, 39(9), 3324-3335.

- **Kaushik, S.**, Kaushik, M., Barthwal, R., & Kukreti, S. (2020). Self-association of Coralyne: An ordered thermal destacking. *Results in Chemistry*, 100043.
- Bansal, A., **Kaushik, S.**, Ahmed, S., & Kukreti, S. (2019). Autosomal dominant Polycystic Kidney Disease: A Review. *Journal of Biomedical and Therapeutic Sciences*, 6(1), 15-23.
- **Kaushik, S.** (2017) Sequence Specific Structural Polymorphism of DNA. *International Journal of Research and Analytical Reviews*, 4, 53-58.
- **Kaushik, S.**, & Kukreti, S. (2016). General Techniques for Biomolecular Characterization. *Imperial Journal of Interdisciplinary Research*, 2, 998-1002.
- **Kaushik, S.**, & Singh, A. (2016). An Overview of Theranostic Approaches to Cancer. *BAOJ Cancer Res Ther*, 2, 024.
- Kaushik, M., **Kaushik, S.**, & Kukreti, S. (2016). Exploring the characterization tools of guanine-quadruplexes. *Front Biosci (Landmark edition)*, 1(21), 468-478.
- Kaushik, M., **Kaushik, S.**, Roy, K., Singh, A., Mahendru, S., Kumar, M., Chaudhary, S., Ahmed, S & Kukreti, S. (2016). A bouquet of DNA structures: Emerging diversity. *Biochemistry and biophysics reports*, 5, 388-395.
- Kaushik, M., **Kaushik, S.**, & Kukreti, S. (2014). Advancement in the Structural Polymorphism of G-Quaruplexes. *International Review of Biophysical Chemistry*. 5, 37-46.
- **Kaushik, S.**, Kaushik, M., Svinarchuk, F., Malvy, C., Femandjian & S., Kukreti, S (2011). Presence of divalent cation is not mandatory for the formation of intramolecular purine-motif triplex containing human *c-jun* protooncogene target. *Biochemistry*, 50, 4132-4142.
- Kaushik, M., **Kaushik, S.**, Bansal A., Saxena, S. & Kukreti, S. (2011) Structural Diversity and Specific Recognition of four stranded G-quadruplex DNA. *Current Molecular Medicine*, 11, 744-769.
- Kaushik, M., Prasad, M., **Kaushik, S.** & Kukreti, S. (2010). Structural Transition from dimeric to tetrameric i-motif, caused by the presence of TAA at the 3'-end of human telomeric C-rich sequence *Biopolymers*, 93, 150-160.

Book Published/Edited

1. **Kaushik, Shikha** and Singh, Anju. Biomolecules: From Genes to Proteins, Berlin, Boston: De Gruyter, 2023. <https://doi.org/10.1515/9783110793765>
2. **Kaushik, Shikha** and Kumar, Banty. Analytical Methods in Chemical Analysis: An Introduction, Berlin, Boston: De Gruyter, 2023. <https://doi.org/10.1515/9783110794816>

Book Chapters

1. **Kaushik S.** (2021) Nanoproducts: Biomedical, Environmental, and Energy Applications. In: Handbook of Consumer Nanoproducts. Springer. pp 1-26.
2. **Kaushik S.** (2020) Polymeric and Ceramic Nanoparticles: Possible Role in Biomedical Applications. In: Hussain C., Thomas S. (eds) Handbook of Polymer and Ceramic Nanotechnology. Springer, Cham. pp 1-17.

Academic Assignment

1. **Member**, UG Practical Examination (May-June 2024), Department of Chemistry, University of Delhi
2. **Member**, Moderation Committee, UG Theory Examination (May-June 2023), Department of Chemistry, University of Delhi
3. **Member**, UG Practical Examination (November-December 2023), Department of Chemistry, University of Delhi
4. **Member**, Committee of Course, UG Theory Examination (November-December 2023), Department of Chemistry, University of Delhi

Oral/Poster Presentations

- Sequence specific structural polymorphism exhibited by a DNA sequence containing human *c-jun* protooncogene target”
Shikha Kaushik and Shrikant Kukreti, International Conference on Advances in Analytical Sciences (ICAAS) at CSIR-IIP Dehradun organized by Indian Society of Analytical Scientists (ISAS-DC) and CSIR-IIP, Dehradun (March 15-17, 2018)
- Formation of a Py•Pu*Py type intermolecular DNA triplex
Shikha Kaushik and Shrikant Kukreti, Recent Innovations in Chemical Science and Environment Technology” organized by Department of Chemistry, Sri Aurobindo College University of Delhi, Delhi. (March 03-04, 2017)
- Biochemical and Biophysical Techniques used to investigate multistranded DNA structures
Shikha Kaushik and Shrikant Kukreti
National Conference on “Chemical Sciences: Emerging Scenario & Global Challenges”, Department of Chemistry, Arya P. G. College, Panipat. (March 26, 2016)
- Self-association of Coralyne: Plausible drawback for DNA targeting
Shikha Kaushik, Mahima Kaushik and Shrikant Kukreti, National Conference on Advances in Chemical Sciences (ACS-2013). Department of Chemistry, Maharishi Dayanand University, Rohtak. India (March 1-2, 2013)
- Presence of divalent cation is not mandatory for the formation of intramolecular purine-motif triplex containing human *c-jun* protooncogene target.
Shikha Kaushik, Mahima Kaushik and Shrikant Kukreti, 7th Asian Biophysics Association (ABA) Symposium and Annual Meeting of the Indian Biophysical Society (IBS). India Habitat Center, New Delhi, India (January 30- February 02, 2011)
- Formation and Stability of a DNA triple helical structure at Human-Herpesvirus 4 gene target
Shikha Kaushik, Mahima Kaushik and Shrikant Kukreti, 9th CRSI National Symposium in Chemistry (NSC-9). Department of Chemistry, University of Delhi. (February 1-4, 2007)
- Selective Recognition of DNA by Minor Groove Binding Ligands

Manoj Prasad, **Shikha Kaushik**, Mahima Kaushik and Shrikant Kukreti, National Seminar on Green Chemistry and Natural Products. Department of Chemistry, University of Delhi. (November 26-27, 2007)

- DNA-Ligand Interactions: Sequence and Structure Selectivity
Manoj Prasad, **Shikha Kaushik**, Aparna Bansal, Mahima Kaushik and Shrikant Kukreti, CARBO-XXI Symposium, Department of Chemistry, University of Delhi. (November 26-29, 2006)

Webinars/Seminars/Conferences conducted

- **Convenor**, Online “Two-week Refresher Course in Natural Sciences”, organized by Department of Chemistry, Rajdhani College, University of Delhi in collaboration with Teaching Learning Center (TLC), Ramanujan College, University of Delhi under the aegis of Ministry of Education PMMMMNMTT (September 20 – October 04, 2021).
- **Co-Convenor**, Online Workshop on "Tools for Exploring Chemistry", Department of Chemistry, Rajdhani College, University of Delhi (July 12-13, 2021).
- **Organizing Secretary**, Online National Conference on "Covid-19 and its Psychological Effects" Department of Chemistry, Rajdhani College, DU (April 30, 2021).
- **Resource Person**, Skill Development Certificate Course on “Analysis of Water Pollutants Using Chemical and Analytical Methods” organized by Department of Chemistry and Department of Environmental Studies, Rajdhani College, University of Delhi (June 28 – July 05, 2021).
- **Programme Coordinator**, Workshop on "Skill Enhancement for Chemistry Laboratory Staff” organized by Department of Chemistry, Rajdhani College, University of Delhi (March 22-23, 2018).

Research Interests

Biophysical & biochemical aspects of nucleic acids, multistranded DNA structures, DNA-drug interactions using UV-spectroscopy, UV-thermal denaturation, gel-electrophoresis, and circular dichroism.

Memberships

- Life Member, DNA Society of India (DSI)
- Life Member, Indian Society of Analytical Scientists (ISAS)