



**ZAKIR HUSAIN DELHI COLLEGE**  
(University of Delhi)

**Faculty Details**

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<b>Title</b>	Dr.	<b>Name</b>	Ruby	<b>Last name</b>	Bansal	<b>Photograph</b>
<b>Designation</b>	Assistant Professor					
<b>Address</b>	Department of Chemistry, Zakir Husain Delhi College, JLN Marg, Delhi-110002					
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<b>Web Page</b>						
<b>Educational Qualification</b>						
<b>Degree</b>	<b>Institution</b>					
Ph.D. (Biological Sciences)	CSIR-Institute of Genomics & Integrative Biology, Delhi					
M.Sc. (Organic Chemistry)	University of Delhi, Delhi					
B.Sc. (Hons.) Chemistry	University of Delhi, Delhi					
<b>Career Profile</b>						
<p>1. Assistant Professor, Department of Chemistry, Zakir Husain Delhi College, University of Delhi, March 2023 - Present.</p> <p>2. Research Associate, DBT-Translational Health Science &amp; Technology Institute, Faridabad, April 2022 - February 2023.</p> <p>3. Research Associate, DST sponsored project GATI at NAAC, April 2021-October 2021.</p> <p>4. Product Researcher, Mettler Toledo India Pvt. Ltd., Mumbai, July 2019 - June 2020.</p> <p>5. Research Associate, Centre for Biomedical Engineering, IIT Delhi, Delhi, January 2019 – July 2019.</p> <p>6. Postdoctoral Fellow, Department of Chemical Engineering, IIT Delhi, Delhi, July 2016 – December 2018.</p> <p>7. Research Associate, Centre for Biomedical Engineering, IIT Delhi, Delhi, September 2015 – May 2016.</p>						

### Administrative Assignments

- Member of the SSR Content Creation committee for NAAC, ZHDC (2023-24).
- Member of Grievance Redressal Committee for UG admissions, ZHDC (2023-24)
- Member of the Debating Society, ZHDC (2023-24)
- Member of the Nature and Environment Society, ZHDC (2023-24).
- Member of discipline committee for Students' Union Election, ZHDC (2023-24)
- Member of the committee for the G-20 Programme on Indo-Canadian Relations programme, ZHDC (2023-24)
- Member of the stage arrangement committee for the National Youth Convention Taarunya-24, ZHDC (2023-24)
- Member of Annual Report committee for the College Annual Day (2022-23)
- Member of the Stage Committee constituted for the Annual Day (2022-23)

### Areas of Interest / Specialization

Biomaterials, Polymer Chemistry, Drug delivery

### Subjects Taught

Carbohydrates, Lipids, and Heterocyclic Compounds, Carbonyls, Carboxylic acids, amines, nitro compounds, Applied Organic Chemistry, Green methods in chemistry, Molecules of Life, Chemistry of food nutrients, Chemical Technology and Society, Digital Empowerment, Basic Organic Chemistry, Biophysical Chemistry

### Publications Profile

- Priyanka Bhatnagar, **Ruby Bansal**, Vishal K. Vishwakarma, Harlokes N. Yadav, Amit K. Dinda & Yogender K. Gupta "pH responsive dextran nanoparticles loaded with doxorubicin and RITA against cancer cells: synergistic inhibitory effects", Journal of Nanoparticle Research 26, (2024), 135.
- **Ruby Bansal**, Sudip K Pattanayek, Rohit Bansal, Anurag S Rathore, "A correlation of thermodynamic parameters with size of copper-chelated albumin aggregates", Colloid and Polymer Science, 299, (2021), 1945-1953.
- Rajender Jena, Dushyant K Garg, Mohan Murali V Achary, Jasdeep Singh, Rachana Tomar, Lipsa Choudhury, **Ruby Bansal**, Bishwajit Kundu, "Application of a protein domain as chaperone for enhancing biological activity and stability of other proteins", Journal of Biotechnology, Vol. 310 (2020), 68-79
- **Ruby Bansal**, Brashket Seth, Shashikant Tiwari, Sadaf Jahan, Manisha Kumari, Aditya Bhushan Pant, Rajnish Kumar Chaturvedi, Pradeep Kumar, Kailash Chand Gupta, "Hexadecylated linear PEI self-assembled nanostructures as efficient vector for neuronal gene delivery", Drug Delivery And Translational Research, Vol. 8(5) (2018), 1436-1449
- **Ruby Bansal**, Rajiv Pathak, Bipul Kumar, Hemant K Gautam, Pradeep Kumar, "Enhanced antimicrobial activity of amphiphilic cationic polymers against a broad range of bacterial strains and skin microbes", Colloid and Polymer Science, Vol. 295(7) (2017), 1177-1185
- **Ruby Bansal**, Pradeep Kumar, "Engineered polymeric amphiphiles self-assembling into nanostructures and acting as efficient gene and drug carriers", Journal of Biomaterials

Applications, Vol. 32(1) (2017), 40-53.

- **Ruby Bansal**, Pallavi Kiran, Pradeep Kumar, " Synthesis, characterization and evaluation of diglycidyl-1,2-cyclohexanedicarboxylate cross-linked polyethylenimine nanoparticles as efficient carriers of DNA", New Journal of Chemistry, Vol 40(6) (2016), 5044-5052.
- Soma Patnaik, Priyanka Bhatnagar, **Ruby Bansal**, Joyita Sarkar, Ashok Kumar, Pradeep Kumar, Kailash C. Gupta, " Modified Polysaccharides as Carriers for Biomolecules", Pharmaceutical Nanotechnology, Vol. 3(4) (2015), 261-287.
- **Ruby Bansal**, K C Gupta, P. Kumar, " Biodegradable and versatile polyethylenimine derivatives efficiently transfer DNA and siRNA into mammalian cells", Colloids and Surfaces, B: Biointerfaces, Vol 135 (2015), 661–668.
- **Ruby Bansal**, Shweta Tayal, K. C. Gupta, P. Kumar, "Bioreducible polyethylenimine nanoparticles for the efficient delivery of nucleic acids", Organic and Biomolecular Chemistry, Vol .13(10) (2015), 3128-3135.
- R. Goyal, **Ruby Bansal**, R.P. Gandhi, K.C. Gupta, "Copolymers of Covalently Crosslinked Linear and Branched Polyethylenimines as Efficient Nucleic Acid Carriers", Journal of Biomedical Nanotechnology, Vol 10(11) (2014), 3269-3279.
- **Ruby Bansal**, A. K. Singh, R. P. Gandhi, A. B. Pant, P. Kumar, K. C. Gupta, " Galactomannan-PEI based non-viral vectors for targeted delivery of plasmid to macrophages and hepatocytes", European Journal of Pharmaceutics and Biopharmaceutics, Vol 87(3) (2014), 461-71.
- **Ruby Bansal**, M. Singh, K.C. Gupta, P. Kumar, "Oligoamine-tethered low generation polyamidoamine dendrimers as potential nucleic acid carriers", Biomaterial Science, Vol 2(9) (2014), 1275-1286.
- **Ruby Bansal**, Rajiv Pathak, Diksha Jha, Pradeep Kumar, Hemant K. Gautam, "Enhanced Antimicrobial Activity of Amine-Phosphonium (N-P) Hybrid Polymers Against Gram-Negative and Gram-Positive Bacteria", International Journal of Polymeric Materials and Polymeric Biomaterial, Vol 64(2) (2014) 84-89.
- **Ruby Bansal**, S.K. Tripathi, K.C. Gupta, P. Kumar, "Lipophilic and cationic triphenylphosphonium grafted linear polyethylenimine polymers for efficient gene delivery to mammalian cells", Journal of Material Chemistry, Vol 22(48) (2012), 25427-25436.
- R Goyal, **Ruby Bansal**, S Tyagi, Y Shukla, P Kumar, K C Gupta, " 1,4-Butanediol diglycidyl ether (BDE)-crosslinked PEI-g-imidazole nanoparticles as nucleic acid-carriers in vitro and in vivo", Molecular Biosystems, Vol 7(6) (2011) 2055-65.
- **Ruby Bansal**, S K Tripathi, K C Gupta and P Kumar, "N-Butyltriphenylphosphonium bromide –linear PEI polymers mediated efficient gene transfection", IEEE Explore Vol 10 (2013), 45-46.

#### Conference Organization/ Presentations (in the last five years)

- Member, organizing committee of "NEP Orientation and Sensitization Programme", organized by UGC-Malaviya Mission Teacher Training Centre (GAD-MMTTC), SGTB Khalsa College, University of Delhi from 19-31 January, 2024.
- Member, organizing committee of "One day symposium on Metabolic Associated Fatty

Liver” at THSTI Faridabad organized by Translational Health Science and Technology Institute, 25 June 2022.

### **Paper presentations**

- Expert lecture at the orientation session organized by Faculty of Engineering & Technology, Marwadi University, Gujarat, 2023.
- Presented poster in “One day symposium on Metabolic Associated Fatty Liver” at THSTI Faridabad organized by Translational Health Science and Technology Institute, 25 June 2022.
- Presented paper in “Bioprocessing India2017” at IIT Delhi, 16-18 December, 2018.
- Presented paper in “Bioprocessing India2017” at IIT Guwahati, 09-11 December, 2017.
- Presented paper in “International Conference on Advances in Polymer Science and Technology” at Radisson Blu organized by IIT Delhi, 23-25 November, 2017.
- Presented paper in “Industry Day 2017” Symposia at IIT Delhi, 23Sep2017.
- Presented an oral presentation “5th International Conference on Stem Cells and Cancer (ICSCC-2014): Proliferation, Differentiation, and Apoptosis” in JNU Convention Centre, New Delhi, 8 - 10 November, 2014.
- Presented an oral presentation “3<sup>rd</sup> International Conference on Nanotechnology-Smart Materials Composites, Applications and New Inventions” (NANOCON 014), Pune, India, 14,15 October,2014.
- Presented an oral presentation “29<sup>th</sup> Southern Biomedical Engineering Conference” (SBEC), Miami, Florida, 3-5 May 2013.

### **Awards and Distinctions**

- National Post-Doctoral Fellowship, DST (2016)-Not availed
- Awarded with CSIR Travel grant to present research work at 29th Southern Biomedical Engineering Conference, Miami, Florida (2013)
- Best presentation award, at Nanocon conference, Pune, 2014

### **Association With Professional Bodies**

- Member, The Indian Science Congress Association
- Member, American Society for Microbiology
- Community Associate, American Chemical Society
- Reviewer, Arabian Journal of Chemistry
- Reviewer, Journal of Material Chemistry B

### **Other Activities**

#### **Refreshers & Induction Course**

- 2024 “NEP Orientation and Sensitization Programme”, Delhi. 19-31 January, 2024 organised by UGC-Malaviya Mission Teacher Training Centre (GAD-MMTTC), SGTB Khalsa College, University of Delhi
- 2023 FIP Inter-disciplinary Refresher course “Managing Online Classes & Co- creating MOOCS 26.0” Delhi, 08-22 May, 2023, organized by Teaching Learning Centre, Ramanujan College (University of Delhi)
- 2023 Faculty Induction/Orientation Programme, Delhi 23 May- 21 June, 2023 organized

by Teaching Learning Centre, Ramanujan College (University of Delhi)

- 2020 One-week Faculty training program on “Pedagogical training for effective online teaching and learning” organised by Deen Dayal Upadhyaya college (University of Delhi) and KTHM college, Nashik under Internal quality assurance cell & DBT star college program from 3<sup>rd</sup> to 10<sup>th</sup> Aug, 2020.

#### **Workshop/Conferences Attended**

- Attended two days hand on workshop on “Green methods in chemistry” organised by Department of Chemistry Shaheed Rajguru College of Applied Sciences for Women, University of Delhi from October 21-22, 2024.
- Attended International E-workshop on Principles and Applications of Analytical instruments for analysis of Organic/Inorganic molecules from 25-29<sup>th</sup> August 2020 organized by Department of Chemistry & Department of Botany, Govt. R.R.M.P.G. College, Surajpur and Department of Chemistry, Govt. Shivnath Sciences College, Rajnandgaon (C.G.), India.
- Participated in “International Conference on Biomaterials, Biodiagnostics, Tissue Engineering, Drug Delivery and Regenerative Medicine” in IIT Delhi, April 15-17, 2016.
- Attended “1<sup>st</sup> International Conference on Emerging Trends of Nanotechnology in Drug Discovery” from May 26-27, 2014 in Department of Biochemistry, South Campus, Delhi University.
- Attended One day workshop on Laboratory Animal welfare and alternatives models organised by CSIR-Institute of Genomics and Integrative Biology, (6<sup>th</sup> July, 2012).
- Attended International symposium on “The safe use of nanomaterials and workshop on Nanomaterial Safety: Status, Procedures, policy and Ethical Concerns” (SUN-2011) organized by, Indian Institute of Toxicology Research, Lucknow India, 1-3<sup>rd</sup> Feb 2011.
- Attended DU-NERI (AU) Workshop on Atmospheric Science and Climate Change, organized by Department of Chemistry, University of Delhi, (27<sup>th</sup>-28<sup>th</sup> Feb, 2009).