




# Hansraj College

## University of Delhi

### Faculty Profile



Title	Dr.	First Name	Aparna	Last Name	Bansal	Photograph
Designation		Associate Professor				
Address		Department of Chemistry Hansraj College, University Of Delhi, Delhi 110007				
Phone No Office		+91-11-27667548				
Residence		280, second floor, Gagan Vihar, Delhi- 110051				
(Residence)						
Mobile						
Fax						
Email		<a href="mailto:aparnabansal@hrc.du.ac.in">aparnabansal@hrc.du.ac.in</a>				
Web-Page						
Educational Qualifications						
Degree		Institution				Year
Ph.D.		Department of Chemistry,University of Delhi				2008
M.Sc.		Hindu College,University of Delhi				2003
B.Sc.		Zakir Husain College,University of Delhi				2001
NET/JRF		UGC JRF				2003
Career Profile						
Organisation / Institution		Designation		Duration		Role
Hansraj College		Associate Professor		Dec.' 22– to date		Teaching
Hansraj College		Assistant Professor		Dec.' 14 – Dec.' 22		Teaching
A.R.S.D College		Assistant Professor (Adhoc)		Sept.' 11 – Dec.' 14		Teaching
Daulat Ram College		Assistant Professor (Adhoc)		Sept '10-June'11		Teaching
Kalindi College		Assistant Professor (Adhoc)		July'08 – Aug.'10		Teaching
Kalindi College		Assistant Professor (Guest)		July'07 – Mar.'08		Teaching
Administrative Assignments						
<ul style="list-style-type: none"><li>• College Level</li><li>• Member, Time Table Committee, (2022-23)</li><li>• Member, Women development committee(2020-2022)</li><li>• Member, Garden Committee(2020-2022)</li><li>• Convenor, admission committee of physical science with chemistry (2021-2022)</li><li>• Convenor, add –on course titled “ Introduction to Forensic Science with online weekend</li></ul>						

classes from 7<sup>th</sup> August 2021-10<sup>th</sup> October 2021

- Member, Time Table Committee, (2019-20)
- Member, Canteen Committee,(2019-20)
- Member, Time Table Committee, (2018-19)
- Member, Canteen Committee,(2018-19)
- Member, Admission Committee, (2017-18)
- Member, Spic Macay,(2016-17)
- Member, Canteen Committee,(2016-17)
  
- **Department Level**
  
- Coordinator - 2<sup>nd</sup> International Conference on “ Integrative chemistry, biology and translational medicine” (ICBTM-2022), conducted by department of chemistry, Hansraj College, University of Delhi, Delhi-110007.(Dec 6th-8<sup>th</sup>, 2022)
  
- Member Organizing Committee, ‘National Conference on “New Frontiers in Biosensing” conducted by department of chemistry, Hansraj College, University of Delhi, Delhi-110007, (April 3, 2021)
  
- Member Organizing Committee, ‘National Seminar on “Environment and sustainability in the third world” conducted by department of chemistry, Hansraj College, University of Delhi, Delhi-110007. (February 28, 2020)
  
- Member, Apparatus Committee (2022-23)
- Convenor, Library Committee (2021-22)
- Member, Chemicals Committee (2021-22)
- Member, Library Committee (2020-21)
- Member, Library Committee (2019-20)
- Convenor, Apparatus Committee (2018-19)
- Convenor, Apparatus Committee (2017-18)
- Member, Apparatus Committee (2016-17)
  
- Member Organizing Committee, ‘ Online International Conference on “Emerging Trends in Chemical and Applied Sciences for Sustainable Future” organized by department of chemistry, in association with IQAC Hansraj College, University of Delhi, Delhi-110007. (30<sup>th</sup> October, 2021)
  
- Member Organizing Committee, ‘National Seminar on role of Analytical Sciences in Sustainable Development” conducted by department of chemistry, Hansraj College, University of Delhi, Delhi-110007. (Mar 4-5, 2016)
  
- Member Organizing Committee, “Indo-Portugese workshop on Emerging Trends of Nanotechnology in Chemistry and Biology”, conducted by department of chemistry, University of Delhi, delhi-110007 (Feb 12-13, 2016)

- **University Level**

- Worked as “ working group member” under NEP2020 “ Undergraduate curriculum framework” (UGCF2022) for revising the syllabus
- Worked as “ working group member” under UGC scheme “ learning outcomes based curriculum framework” (LOCF) for revising the syllabus of the following three papers in 2019  
Analytical Clinical Biochemistry  
Pharmaceutical Chemistry  
Organic Chemistry (IV) Semester V
  - Worked as special invitee in course committee of the department of chemistry in academic session 2018-2019

**Areas of Interest / Specialization**

Organic Chemistry , Biophysical Chemistry

**Refresher Course/ Orientation Course/ FDP / Workshop attended**

- One week International online faculty development programme on “ Modern scientific technologies- ways to enhance research skills”, Dec 26-31, 2022, organized by Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, in collaboration with K R Manglam, Moti Lal Nehru College, University of Delhi, Delhi-110007
- One month internship in “Forensic Chemistry and Toxicology” from November 12,2022- December 11, 2022 organized by Sherlock Institute of Forensic Science, India.
- Three days online interdisciplinary faculty development programme on “Understanding the Nuances of Sponsored Research Projects”, Dec 5-7, 2022, organized by Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
- Two week Online Refresher course in Chemistry with “A<sup>+</sup>” grade from July 12- July 25 2022, conducted by CPDHE University of Delhi, Delhi-110007
- Three days Lecture series on “NEP 2020: Delhi University Undergraduate Curriculum Framework 2022”, Jan 27-29, 2022, organized by Institute of Lifelong Learning in collaboratin with Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
- One week online interdisciplinary faculty development programme on “Interdisciplinary Studies and Higher Education: Prospects and Challenges”, July 26-31, 2021, organized by Dyal Singh College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007

- One week online faculty development programme on “Exploratory data analysis using statistical software R and SPSS”, Jan 7-13, 2021, organized by Mata Sundari College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
- One week online faculty development programme on “Moving towards new normal through effective online teaching”, Dec 1-7, 2020, organized by Kalindi College, University of Delhi in collaboration with Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
- One week online national faculty development programme on “ Development of Teacher’s e-kit and MOOCs four quadrant format of e-content, Sept 12-20, 2020. Guru Angad Dev Teaching Learning Center, S.G.T.B, Khalsa College, University of Delhi, Delhi-110007.
- Faculty development programme on “Fundamentals of intellectual property rights”, Jan 23-25, 2020, organized by department of Botany and IQAC in collaboration with Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
- Online Refresher Course in Chemistry for higher education Faculty with “A” Grade conducted by SWAYAM ARPIT Online course certification offered by Sri Guru Tegh Bahadur Khalsa College, Delhi for 16 week started from 4.11.18 and the examination held on 30.3.2019
- Faculty development programme on “Challenges before academia in the era of gadgets, e-communication and artificial intelligence”, Dec 15-28, 2018, Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
- Faculty development programme from “Chemistry of Life to Chemistry of Diseases: Understanding Clinical Biochemistry:”, June 15-22, 2017, Daulat Ram College, University of Delhi, Delhi-110007
- Refresher course in Contemporary Studies (Natural Sciences, Education, Biological Science, Environmental Demography and Sociology with “A” grade from June 7<sup>th</sup>- June 27 2016, conducted by CPDHE University of Delhi, Delhi-110007
- Orientation Programme (OR-87) with “A” grade from November 25 2016- December 23, 2016 conducted by CPDHE University of Delhi, Delhi-110007
- Workshop on Theory and Practical course “Biochemistry and Environmental Chemistry”, July 2-7, 2012, Department of Chemistry, University of Delhi, Delhi-110007.

- ICT Workshop for Capacity Building of Delhi University Faculty, ILLI Workshop TierII, April 16-28, 2010. University of Delhi, Delhi-110007

### Subjects Taught

- Organic Chemistry
- Pharmaceutical Chemistry
- Analytical and clinical Biochemistry
- Environmental Studies
- Industrial Chemistry
- Bioinorganic Chemistry
- Coordination Compound
- Atomic Structure and Chemical Bonding

### Research Guidance

NA

### Publications Profile

#### Published

1. Non-canonical DNA structures: Diversity and disease association (2022) A. Bansal, S. Kaushik, S. Kukreti\*. Front Genet. doi: 10.3389/fgene.2022.959258
2. A novel G·G·T non-conventional intramolecular triplex formed by the double repeat sequence of *Chlamydomonas* telomeric DNA (2022) A.Bansal, P. Phogat, S.Kukreti\*. RSC advances, 12, 15918-15924
3. Study of various diagnostic tests for COVID-19: A review(2021). M. Bhatia, Aditri, S.Singh, Yashaswy, Himanshu, A. bansal\*. **The Open COVID Journal**, 1, 153-162.
4. The four repeat *Giardia Lamblia* telomere forms Tetramolecular G-quadruplex with antiparallel topology (2020). A. Bansal and S. Kukreti) **J Biomol Struct Dyn**. 38(7), 1975-1983
5. Autosomal dominant polycystic kidney disease: A Review. (2019) A. Bansal, S. Kaushik, S.Ahmed, S. Kukreti) **J. Biomed. Ther. Sci.**, 6(1), 15-23
6. Non-viral vectors for gene delivery. (2019) A. Bansal, Himanshu. **Nanosciences and Nanotechnology Asia**, 9, 4-11.
7. A short GC-rich sequence of human mannose receptor gene (*MRC2*) coding region, displays a conformational switch. (2012) A.Bansal, M.Prasad, K.Roy and S.Kukreti. **Biopolymers**, 97, 950-62.
8. Structural Diversity and Specific Recognition of four stranded G-quadruplex DNA. (2011) M.Kaushik, S.Kaushik, A.Bansal, S.Saxena and S.Kukreti. **Current Molecular Medicine**, 11, 744-769
9. Structural Polymorphism: a plausible regulatory element in beta-globin locus control

region (2010) S.Kukreti, H.Kaur, M.Kaushik, **A.Bansal**, S. Saxena, S. Kaushik. **Biochimie**, 92, 1199-1206.

10. Structural polymorphism exhibited by a homopurine•homopyrimidine sequence found at the right end of human c-jun protooncogene (2008) S. Saxena, **A. Bansal**, S. Kukreti. **Arch Biochem Biophys**, 471, 95-108.

11. Possibility of an antiparallel (tetramer) quadruplex exhibited by the double repeat of the human telomere.(2007).M.Kaushik, **A. Bansal**, S.Saxena and S. Kukreti. **Biochemistry**, 46, 7119-7131.

#### **Book Chapter**

A chapter titled “**Impact of Science on Indian tradition**” in the book on Indian and Western Knowledge Traditions. (ISBN No- 978-93-85144-82-0) Dec 2016

#### **Conference Organization/ Presentations**

1. 2<sup>nd</sup> International Conference on “ Integrative chemistry, biology and translational medicine” (ICBTM-2022), Dec 6-8, 2022, Hansraj College, University of Delhi, Delhi-110007
2. International Conference on “Contribution of Acharya Prafulla Chandra Ray as a chemist and freedom fighter”, August 2-3, 2022, organized by Vijnana Bharti and Ministry of Culture, Government of India in association with Indraprastha Vigyan Bharti and Department of Chemistry, University of Delhi.
3. International Conference on “Emerging Trends in Chemical and Applied Sciences for sustainable future” October 30, 2021, organized by Department of Chemistry, Hansraj College, University of Delhi
4. National Conference on “National Conference on “New Frontiers in Biosensing” April 3, 2021, organized by Department of Chemistry, Hansraj College, University of Delhi.
5. National Conference on “Environment and Sustainability in the third world” Feb. 28, 2020, organized by Department of Chemistry, Hansraj College, University of Delhi.
6. Faculty development programme on “Fundamentals of Intellectual property Rights”, Jan 23-25, 2020, Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
7. 1<sup>st</sup> International Conference on “ Integrative chemistry, biology and translational medicine”, Feb 25-26, 2019, Hansraj College, University of Delhi, Delhi-110007
8. National Seminar on “Ubharti Harit Prodyogiki tatha takniki shabdawli, Feb 13-14,2019,

Commission for Scientific and Technical Terminology at Ramjas College, University of Delhi, Delhi-110007

9. Symposium on “Empowering women in chemistry: A global networking event”, Feb 12 2019, Miranda House College, University of Delhi, Delhi- 110007
10. Faculty development programme on “Challenges before academia in the era of gadgets, e-communication and artificial intelligence”, Dec 15-28, 2018, Mahatma Hansraj Faculty Development centre, Hansraj College, University of Delhi, Delhi-110007
11. National Workshop on “molecular docking, dynamics & biological discovery” Aug 9<sup>th</sup>-10<sup>th</sup> 2018, Department of Chemistry, University of Delhi. Delhi
12. International Conference on advancing green chemistry: building a sustainable tomorrow, Oct 3-4, 2017, Department of Chemistry, University of Delhi, Delhi
13. Faculty development programme from “Chemistry of Life to Chemistry of Diseases: Understanding Clinical Biochemistry:”, June 15-22, 2017, Daulat Ram College, University of Delhi, Delhi-110007
14. National Seminar on e-learning and MOOCs in Higher Education, Mar 29, 2017, S.G.T.B Khalsa College, University of Delhi, Delhi-110007
15. National Conference on Environmental Sustainability in Waste water Remediation: Current Status and future prospects (ESWS-2017), Jan 19-20, 2017, Sri Venkateswara College, University of Delhi, Delhi
16. National Conference in Chemistry Environment & Harmonious Development, April 7-8, 2016, Shyam Lal College, University of Delhi, Delhi
17. National Seminar on role of Analytical Sciences in Sustainable Development, Mar4-5, 2016, Hansraj College, University of Delhi, Delhi-110007.
18. Indo-Portugese workshop on Emerging Trends of Nanotechnology in Chemistry and Biology, Feb 12-13, 2016, University of Delhi, delhi-110007
19. National Symposium and workshop on Fingerprint Technology, Feb.4- 5, 2014, S.G.T.B Khalsa College, University of Delhi, Delhi-7.
20. Special Orientation Programme for the Foundation Course in Science and Life of the four year undergraduate Programme, August 19, 2013, University of Delhi, Delhi-110007
21. Workshop on Foundation Course (Science and Life), June 21-22, 2013, Centre for Professional Development in Higher Education University of Delhi.



22. International Conference on Interface between Chemistry and Environment (ICICE-2012), Dec 13-14, 2012, Ramjas College, University of Delhi, Delhi-110007.
23. Workshop on Theory and Practical course "Biochemistry and Environmental Chemistry", July 2-7, 2012, Department of Chemistry, University of Delhi, Delhi-110007.
24. ICT Workshop for Capacity Building of Delhi University Faculty, ILLI Workshop TierII, April 16-28, 2010. University of Delhi, Delhi-110007.
25. National Symposium on Challenging Areas in Forensic Science, Feb. 5, 2010, S.G.T.B Khalsa College, University of Delhi, Delhi-7.
26. 3<sup>rd</sup> Indo-Italian Seminar on Green Chemistry, Dec. 9, 2009, Department of Chemistry, University of Delhi, Delhi-7.
27. Indo-French Symposium on "Biomolecular Chemistry", Mar. 4, 2009, Department of Chemistry, University of Delhi, Delhi-7.
28. National Conference on "Chemistry-Structure, Reaction Dynamics and Spectroscopy, Aug. 21-23, 2008, Department of Chemistry, St Stephen's College, University of Delhi, Delhi-7.
29. DU-SDU Seminar on Emerging Trends in Interfacial areas of Chemical, Biological and Environmental Sciences, 17-18 march 2008, University Of Delhi and University Of Southern Denmark
30. National Symposium on Biophysics: Trends in Biomedical Research (IBS-2007), feb 13-15, 2007, All India Institute Of Medical Sciences (AIIMS), New Delhi
31. 9<sup>th</sup> National Symposium in Chemistry (NSC-9). Feb 1-4, 2007. New Delhi
32. 6<sup>th</sup> Annual Symposium on frontiers in biomedical research. Nov.30-Dec.2.2006, New Delhi
33. CARBO-XXI recent developments in carbohydrate chemistry. Nov. 26-29, 2006. University of Delhi, New Delhi
34. Symposium on the applications of nuclear magnetic resonance to materials and medicine. Nov 21, 2006. Indian Institute of Technology Delhi. Delhi
35. Workshop on "Biomolecular NMR". Jan 16-20, 2006. National facility for high high field NMR, TIFR, Mumbai.
36. Second International Symposium on Green/Sustainable chemistry. Jan 10-13, 2006 New Delhi (India)



<p>37. International Conference on Chemistry Biology Interface: Synergistic New Frontiers (CBISNF-2004), 21-26 November, 2004, University of Delhi, Vigyan Bhavan, New Delhi</p> <p>38. 5<sup>th</sup> Annual Symposium on Frontiers in Biomedical Research, 14-16 April 2004 New Delhi</p> <p>39. IUPAC international conference on Biodiversity and Natural Products: Chemistry and Medical applications, 26-31 January. 2004, New Delhi, India.</p>
<b>Research Projects</b>
Principal Investigator, UGC Start-up grant, Structure diversity and Stability of G-rich DNA sequences (2016-2018)
<b>Awards and Distinctions</b>
<ul style="list-style-type: none"> <li>❖ Recommended for the post of Assistant Professor in Chemistry at Indian Military Academy(IMA) Dehradun through ‘Union Public Service Commission’(UPSC) May 2014</li> <li>❖ Awarded Summer Research Fellowship (SRFP-2014) by Indian National Science Academy (INSA) to work at CSIR-IGIB</li> <li>❖ Senior Research Fellowship from University Grant Commission(UGC) [Jan2006-Feb2008]</li> </ul> <p><b>Ph.D. period</b></p> <ul style="list-style-type: none"> <li>❖ Junior Research Fellowship from University Grant Commission(UGC) [Jan 2004-Dec2006] <b>Ph.D. period</b></li> </ul>
<b>Association With Professional Bodies</b>
<p><b>Memberships</b></p> <ul style="list-style-type: none"> <li>❖ Indian Society of Analytical Scientists (Membership No-LM-2018/62)</li> <li>❖ Indian Biophysical Society (Membership No-1043)</li> <li>❖ The Society of Biological Chemists, India (Membership No-3588)</li> <li>❖ The Indian Science Congress Association (Membership No- L27042)</li> <li>❖ DNA Society Of India</li> </ul>

**Dr. Aparna Bansal**

Associate Professor

Department of Chemistry

Hansraj College

University of Delhi