



**DEPARTMENT OF CHEMISTRY**  
**DYAL SINGH COLLEGE, UNIVERSITY OF DELHI**  
**FACULTY DETAIL**



Title	Professor	First Name	Ajay Kumar	Last Name	Bhagi	Photograph
Designation	Professor					
Address	14/33, II Floor, Shakti Nagar, Delhi-110 007, INDIA					
Phone No Office	011-24367819					
Residence						
Mobile	9810241724					
Email	<a href="mailto:akbhagi@dsc.du.ac.in">akbhagi@dsc.du.ac.in</a> ; <a href="mailto:akbhagi@gmail.com">akbhagi@gmail.com</a>					
Web-Page						
Educational Qualifications						
Degree	Institution				Year	
B.Sc.(H) Chemistry	Rajdhani College, University of Delhi				1984	
M.Sc. Chemistry	Department of Chemistry, University of Delhi				1986	
Ph.D. Chemistry	Department of Chemistry, University of Delhi				1989	
Career Profile						
<b><u>2<sup>nd</sup> February 1990 – till date</u></b>						
Professor, Department of Chemistry, Dyal Singh College, University of Delhi						
Administrative Assignments (From 1 <sup>st</sup> July 2016 onwards) Attach Documents						
<ol style="list-style-type: none"><li>1. Member, Environment Pollution (Prevention and Control) Authority (EPCA), Ministry of Environment, Forest and Climate Change, Government of India (May 2016 – October 2019)</li><li>2. Member Executive Council, University of Delhi (February 2015-2019)</li><li>3. External Expert, Board of Studies for UG &amp; PG Syllabus Drafting Committee, Department of Chemistry, University of Ladakh</li><li>4. Convenor, Committee for Faculty Promotions, Dyal Singh College, University of Delhi</li><li>5. Convenor Magazine Committee, Dyal Singh College, University of Delhi</li><li>6. Convenor Admission Committee (Sciences), Dyal Singh College, University of Delhi</li><li>7. Convenor, Time Table Committee, Department of Chemistry, Dyal Singh College, University of Delhi</li></ol>						
Areas of Interest / Specialization						
<b><u>Teaching</u></b> Specialization: Inorganic Chemistry						
<b><u>Research</u></b> Material Chemistry, Nanocrystalline materials, Environmental Science						
Subjects Taught/ Attach Documents(time table odd/even semester)						
B.Sc. (H) Chemistry B.Sc. Physical Sciences B.Sc. Life Sciences						

NA**Research Publications**

1. Synthesis, structural elucidation, biological screening, and density functional theory calculations of Cu(II), Ni(II), Mn(II), and Co(II) complexes of 20 Z-N-((Z)-2-(6-nitrobenzo[d]thiazol-2-ylimino)-1,2-diphenylethylidene)-5-nitrobenzo[d]thiazol-2-amine Schiff base ligand  
Shashank Shekhar, Shreya Sharma, Jude A. Okolie, Amit Kumar, Bhasha Sharma, Mahendra Kumar Meena, **A K Bhagi**, and Anjana Sarkar  
**Applied Organometallic Chemistry**,  
<https://doi.org/10.1002/aoc.6766>
2. Dynamic Protein and Polypeptide Hydrogels Based on Schiff Base Co-assembly for Biomedicine  
Kartik Sahajpal, Shreya Sharma, Shashank Shekhar, Amit Kumar, Mahendra Kumar Meena, **A K Bhagi** and Bhasha Sharma  
**Journal of Material Chemistry B**, 10 (2022) 3173-3198 .  
<https://doi.org/10.1039/D2TB00077F>
3. A Binuclear Gadolinium Complex of 8-hydroxyquinoline-2-carbaldehyde salicylhydrazone: Structural Characterisation and Photoluminescence Properties  
Mukesh Kumar, Amit Kumar, Navneet Manav, **A K Bhagi** and Rohith P John  
**Research on Chemical Intermediates** 47 (12) (2021) 5119-5133.  
<https://doi.org/10.1007/s11164-021-04589-2>
4. N-diethylaminosalicylidene based "Turn-on" Fluorescent Schiff base Chemosensor for Al<sup>3+</sup> ion: Synthesis, Characterisation and DFT/TD-DFT Studies  
Mukesh Kumar, Amit Kumar, Shyam Kishore, Santosh Kumar, Navneet Manav, **A K Bhagi**, Sunil Kumar and Rohith P John  
**Journal of Molecular Structure**, 1247 (2022) 131257- 131268.  
<https://doi.org/10.1016/j.molstruc.2021.131257>
6. Structural characterisation and theoretical study of a dinuclearcopper(II) complex bridged by meta-phenylenediiminophenolate moiety  
Mukesh Kumar, Amit Kumar, Shyam Kishore, **A K Bhagi** and Rohith John  
**Journal of Molecular Structure**, 1199 (2020) 126996-127005.  
**DOI:** <https://doi.org/10.1016/j.molstruc.2019.126996>
7. Removal of heavy metal ions from laboratory effluents by Phytoremediation  
N Manav, **A K Bhagi**, J Kalia  
International Research Journal of Management Science & Technology, 8(11) (2017) 54-64.

8. Degradation of DDT, a pesticide by Mixed Metal Oxide Nanoparticles  
N. Manav, **A. K. Bhagi**, J. Kaur, N. Bhandari  
Proceedings of International Conference on Green Chemistry in Environmental Sustainability and Chemical Education ICGC (2016), 17-18 Nov **2016**, Pg 93-101.
9. A study of removal of toxic metal ions Cu<sup>2+</sup>, Cd<sup>2+</sup> and Pb<sup>2+</sup> from laboratory effluents by adsorption on agricultural waste  
N. Manav, **A. K. Bhagi**, J. Kaur, N. Bhandari  
Proceedings of International Conference on Climate Change and developing World (**2015**)  
pg 258-266.
10. Eichhornia Crassipes and Salvinia Molesta as scavengers of heavy metals from chemistry laboratory effluents  
N. Manav, J. Kaur, C.Jain, J Rautela, **A.K. Bhagi**  
Proceedings of national seminar on water and air quality in urban ecosystems (**2016**) Pg 36-40.
11. Adsorption kinetics of removal of metal ions from laboratory effluents by agricultural wastes  
Navneet Manav, Chaitanya Jain, Amit Kumar and **A K Bhagi**  
Proceedings of National Conference in Chemistry on "Environment and Harmonious Development", April 7-08, **2016**, pg 216-221. (ISBN: 9789385824012)
12. Novel Synthetic Strategy for nitration Reaction of Toluene by employing acidified NC- ZrO<sub>2</sub>-La<sub>2</sub>O<sub>3</sub> Mixed Metal Oxide  
Amit Kumar, Keshav K Saini, N Manav and **A K Bhagi**  
Proceedings of National Conference in Chemistry on "Environment and Harmonious Development", April 7-08, **2016**, pg 197-205. (ISBN: 9789385824012)

**Publications: Books/ Book Chapter**

1. *Chemistry: Inorganic and Physical Volume V*  
**Ajay Bhagi**, Navneet Manav, Amita Dua and Amita Malik  
Manakin Press New Delhi  
ISBN 978-93-88342-23-0

Conference Organization/ Presentations (From 1<sup>st</sup> July 2016 onwards)/ Attach Documents

1. *Chemical Bonding Refresher Course for TGT*,  
conducted by Delhi Public school Society, Dwarka, New Delhi  
During July 11 to July 13, 2016. 12 July 2016.
2. IUPAC Nomenclature  
UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
Mar 17, 2017
3. Coordination Compounds - III & IV  
CEC UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
Mar 22, 2017
4. *Chemical Bonding and Molecular Shapes Refresher Course for TGT*,  
conducted by Army Welfare Education Society, Dhaula Kuan, New Delhi  
During May 03 2017.

5. Stereochemistry of Coordination Compounds  
CEC UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
May 17, 2017
6. Coordination Chemistry: Crystal Field Theory  
CEC UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
Jun 5, 2017
7. Crystal Field Stabilization Energy of Complexes  
CEC UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
Jun 29, 2017
8. Evidences of Crystal Field Splitting and CFSE  
CEC UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
Jul 5, 2017
9. Octahedral vs Tetrahedral Coordination  
CEC UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
Jul 12, 2017
10. Molecular Orbital Theory of Coordination Compounds  
CEC UGC Live Lecture, conducted by  
Consortium of Educational Communication University Grants Commission New Delhi  
Jul 24, 2017
11. *NCR Air Pollution: Causes and Prevention*  
Orientation Programme (OR-90)  
conducted by CPDHE UGC HRDC University of Delhi, New Delhi 110007  
During Nov 23, 2017 to Dec 19 2017, Nov 28 2017.
12. Graded response action plan to tackle Delhi air pollution  
Faculty Development Program on Environmental Sustainability and Higher Education,  
conducted by IQAC Dyal Singh College University of Delhi, New Delhi 110007  
June 04 to 11 2018
13. Graded response action plan to tackle Delhi air pollution  
Orientation Programme (OR-92),  
conducted by CPDHE UGC HRDC University of Delhi, New Delhi 110007  
July 05 2018.
14. Delhi Air Pollution and Role of Media  
Refresher Course in Journalism and Mass Communication,  
conducted by CPDHE UGC HRDC University of Delhi, New Delhi 110007  
July 10 2018.
15. Delhi Air Pollution and Role of Media  
Faculty Development Program on Entrepreneurship (Science Technology and Management  
for Society),  
13-27 December 2018, conducted by IQAC Deshbandhu College and PMMMTTT  
Ramanujan College University of Delhi, New Delhi 110007  
July 10 2018.
16. Chemical Bonding Through non-equipment HOs  
Refresher Course in Chemistry, 18-Nov-2019 to 01-Dec-2019)  
conducted by UGC HRDC Gujrat University, Ahmedabad Gujrat 380009  
23/11/2019

17. Smog in Indian Cities  
Refresher Course in Chemistry, 18-Nov-2019 to 01-Dec-2019)  
conducted by UGC HRDC Gujrat University, Ahmedabad Gujrat 380009  
23/11/2019
18. National Chem Webinar Series,  
conducted by Shyam Lal College, University of Delhi, New Delhi 110032  
May 28 2020
19. Self-Assessment: Promotion and Appointment Roadmap  
Lecture session on Self-Assessment: Promotion and Appointment Roadmap,  
Conducted by Aditi Mahavidyalaya University of Delhi  
March 5, 2020
20. Environmental Issues and Opportunities after Covid 19  
National Webinar, conducted by  
Department of Chemistry and Geography, Govt College Rajgarh, Alwar  
June 14 2020
21. Promotion Forms  
Online workshop for teachers to fill promotion forms,  
Conducted by Satyawati College University of Delhi  
4 Sep 2020
22. Research Methodology  
Faculty Development Program (National) on Research Methodology,  
conducted by Dyal Singh College University of Delhi  
9 November, 2020
23. Clean Air in India: What are the challenges for the future scientists, academicians and policymakers  
Panel Discussion in the event clean Air during India International Science Festival (IISF)  
2020 from 22-25 December, 2020,  
conducted by Ministry of S&T and its Departments GOI,  
24 December 2020
24. Enhancing Quality of Chemistry Education In India  
Faculty Development Program,  
conducted by GAD TLC Khalsa College University of Delhi  
2 March 2021
25. Catch The Rain  
Ministry Workshop,  
conducted by Ministry of Jal Shakti Govt of India  
24 Feb 2021
26. Compliance of Teachers Promotion  
Workshop on Compliance of Teachers Promotion,  
conducted by Ministry Indira Gandhi Institute of Physical Education and Sports Science  
24 Feb 2021
27. Chemistry; The Catalyst for Change  
Two week Faculty Development Program Workshop on Chemistry The Catalyst for change,  
Conducted by teaching learning centre Ramanujan college and Department of Chemistry  
Miranda House University of Delhi  
23 July 2021
28. Smog Episodes in Indian Cities and their Impact Assessment and Control Specialized  
Training Course Mitigation of CBRN Emergencies: Hands on Training Exercise 26 30 July  
2021,  
conducted by Institute of Nuclear Medicine and Allied Sciences, Delhi

28 July 2021

29. Mixed metal oxide nanoparticle as a potential catalyst  
20th Refresher Course in Physical Sciences & Nano Sciences July11-23, 2022  
conducted by HRDC, JNU New Delhi  
13 July 2022
30. Environmental Issues in India-I  
Faculty Induction Programme (FIP-3)  
conducted by CPDHE,UGC-HRDC, University of Delhi  
04 June 2022
31. Environmental Issues in India-II  
Faculty Induction Programme (FIP-3)  
conducted by CPDHE,UGC-HRDC, University of Delhi  
04 June 2022
32. Success of National Educational Policy with special reference to higher education depends upon its careful implementation  
One Day National Conference on  
National Education Policy: Implementation, Challenges, Opportunities and Probable Outcomes  
Organized by Deshbandhu College, University of Delhi  
14 May 2022
33. Integrating Chemistry and Environment Science Education & Contemporary Environmental Issues in India  
Workshop on Frontiers in Sciences and Technology  
May 09-10, 2022  
Conducted by HIPA & DOPT May 09-10, 2022  
May 09 2022
34. Contemporary Environmental Issues  
Faculty Induction Programme VIII  
organized by HRDC-JNU  
18 Feb 2022
35. Integrating Chemistry and Environment Science Education & Contemporary Environmental Issues in India  
Training Programme on Strategic global alliance in Science and Technology  
Organised by HIPA  
Feb 14-16, 2022 at HIPA, Gurgaon  
14 Feb 2022
36. Behaviour Adjustment Across Spaces  
International Conference on Geography of Nostalgia: Behaviour Adjustment Across Spaces During C19  
Organized by Shaheed Bhagat Singh College DU  
8 Jan 2022

Research Projects (Major Grants/Research Collaboration) (From 1<sup>st</sup> July 2016 onwards)/ Attach Documents

**Project Title:** Degradation of Pesticides using Mixed Metal Oxide (MMO) Nanoparticles as catalysts, Whole cell organisms and Enzymes

**Grant in Aid:** 500000/-

**Funding Agency:** University of Delhi

Awards and Distinctions (From 1<sup>st</sup> July 2016 onwards) Attach Documents

NA
Association With Professional Bodies/ Attach Documents
<b><u>Indian Society of Analytical Scientists ISAS –DELHI CHAPTER</u></b>
<b>Life Member</b>
Other Activities like MOOCs/ Patents etc. (From 1 <sup>st</sup> July 2016onwards)
NA

Signature of Faculty Member