




University Faculty Details Page on DU Web -Site

Title	Prof./Dr./Mr./Ms.	First Name	Pavan	Last Name	Mathur	Photograph
Designation		Professor				
Department		Chemistry				
Address (office)		Department of Chemistry University of Delhi, Delhi -110007				
(Residence)						
Phone No (Office)		011-27667725(1381)				
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Educational Qualifications						
Degree	Institution			Year		
Ph.D	University of Delhi, Delhi			1978		
M.Sc	University of Delhi, Delhi			1973		
B.Sc (H) Chemistry	Ramjas College ,University of Delhi, Delhi			1971		
Post Doctoral	Frick Chemical Lab , Princeton University, Princeton , New Jersey (USA)			1980		
General Profile						
<p>Started teaching Career as a lecturer in chemistry at Ramjas college at university of Delhi, Delhi in 1974. Joined IIT-Kanpur as an assistant Professor during the year 1987-1988 (on leave from Ramjas College). Was appointed as Reader in the Department of Chemistry, University of Delhi, Delhi (1988) and selected for the post of Professor in the Department of Chemistry, University of Delhi, Delhi in the year 1996. Presently</p>						

Professor of chemistry carrying out teaching and research in the department of chemistry, University of Delhi, Delhi.
Administrative Assignments : (Past Five year) University Representative on the governing bodies of : i) Chairman, MC,ISH, university of Delhi ii) Deen Dayal Upadhaya College iii) Hansraj College
Area of Interest / Specialization
Synthesis of coordination compounds as mimics of metalloenzyme active sites , Spectroscopy , Magnetic Resonance , Cyclic Voltammetric and Catalytic studies ; Synthesis in Reverse Micellar media, TEM , TGA , Conductivity studies.
Subjects Taught :
Ligand field theory, EPR of transition metal ions , NMR of paramagnetic systems , NQR Reaction mechanisms , Nuclear chemistry , d & f block elements , Group theory and Coordination chemistry .
Research Guidance
1. Supervision of awarded Doctoral thesis – 21 awarded 2. Supervision of Doctoral thesis, Under progress – 1 3. Supervision of awarded M.Phil Dissertation -1 4. Supervision of M.Phil Dissertation , under progress-nil
Publications
<u>In Indexed/ Peer Reviewed Journals (Past Five year)</u> (1) Oxidation of substituted benzyl amines using a phenoxo bridged dimeric nickel(II) complex: synthesis, crystal structure and catalytic activity. Kumar. R, Kumar. R, Mahiya. K, Mathur. P, Transition Metal Chemistry (2015) (40): 189-195. (2) Oxidation of hindered aniline to iminocyclhexa-2,4-dienone by copper(II) complex of an N-substituted bis-benzimidazolyl ligand. Yadav. A, Mathur. P, Inorganica Chimica Acta (2015) 427, 62-71. (3) Copper(II) complexes as a catalyst for the aerobic oxidation of o-phenylenediamine to 2,3-diaminophenazine. Khattar. R, Yadav. A, Mathur. P, Spectrochimica Chimica Acta Part A: Molecular and Biomolecular Spectroscopy. (2015) 142, 375-381. (4) Oxidation of phenyl propyne catalyzed by Copper(II) complexes of a benzimidazolyl schiff base ligand: Effect of acid/base, Oxidant, Surfactant and Morphology. Kumar. R, Mathur. P, Spectrochimica Chimica Acta Part A: Molecular and Biomolecular Spectroscopy. (2015) 136, 818-823. (5) Aerobic Oxidation of 1,10-Phenanthroline to Phen-dione Catalyzed by Copper(II)

- Complexes of a Benzimidazolyl Schiff Base. Kumar. R, Mathur. P, RSC Advances, (2014) 4 (63), 33190-33193.
- (6) Copper(II) metallatriangles formed through ligand sharing: Structural, Magnetic and Catalytic Studies, Mahiya. K, Kumar. R, Lloret. F, Mathur. P, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy (2014) 133, 663–668.
- (7) p-quinoneimine as an intermediate in the oxidative coupling of 2-amino-5-methylphenol to 4a,7-dimethyldihydro-2-aminophenoxazinone catalyzed by a monomeric copper(II) complex. Yadav. A, Mathur. P, Catalysis Communications. (2014) 55, 1-5.
- (8) Copper(II) Complexes of new tetra-dentate *bis*-benzimidazolyl Diamide Ligand with disulfanediyl linker: Synthesis, characterization and Oxidation of some pyridyl, naphthyl and benzyl alcohols, Tyagi, N.; Kumar, R.; Mahiya, K.; Mathur, P. Journal of Coord. Chem., 2013, 66(19), 3335-48.
- (9) Synthesis of a new *N*-substituted *bis*-benzimidazolyl diamide ligand and its trinuclear copper(II) complex : Structural and fluorescence studies, Mahiya, K.; Mathur, P., Spectrochimica Acta Part A 2013 113: 386–392.
- (10) Bis-Benzimidazolyl Diamide Based Fluorescent Probe for Copper(II): Synthesis, Structural and Fluorescence Studies Mahiya, K.; Mathur, P., Journal of Fluorescence, 2013, 23(4) 767-76.
- (11) Dimeric Copper(II) Complex of a New Schiff Base Ligand: Effect of Morphology on the Catalytic Oxidation of Aromatic Alcohol. Kumar, R.; Mahiya, K.; Mathur, P. Dalton Transaction. 2013, 42, 8553-8557.
- (12) 1-(Pyridin-2-ylmethyl)-2-(3-(1-(pyridin-2-ylmethyl)benzimidazol-2-yl)propyl)benzimidazole and its copper(II) complex as a new fluorescent sensor for dopamine (4-(2-aminoethyl)benzene-1,2-diol). Khattar, R.; Mathur, P. Inorganic Chemistry Communication 2013 31: 37–43.
- (13) Morphology dependant oxidation of aromatic alcohols by new symmetrical copper(II) metallatriangles formed by self-assembly of a shared bis-benzimidazolyl diamide ligand. Mahiya, K.; Mathur, P. Inorganic Chimica Acta. 2013 399: 36–44.
- (14) Bis-benzimidazolyl diamide copper (II) complexes: Synthesis, crystal structure and oxidation of substituted amino phenols. Ahuja, G.; Mathur, P. Inorganic Chemistry Communication 2012 17: 42–48.

- (15) Iron(III) complexes of bis (benzimidazol-2-yl) methyl thiophene-2,5-dicarboxamide: Synthesis, spectral and oxidation of o-phenylenediamine. Tyagi, N.; Mathur, P. *Spectrochimica Acta Part A* 2012 96: 759–767.
- (16) Synthesis, structure and oxidation of alkynes using a μ -oxo diiron complex with the ligand bis (1-(Pyridin-2-ylmethyl)-benzimidazole-2-yl methyl) ether. Khatter, R.; Hundal, M. S.; Mathur, P. 2012 *Inorganica Chimica Acta*, 390:129-134.
- (17) Bis-benzimidazole diamide Iron(III) complexes as mimics of Phenoxazinone synthase. Bakshi, R.; Kumar, R.; Mathur, P. 2012 *Catalysis communication*, 17:140-145
- (18) Oxidation of olefins catalyzed by Iron (III) complexes of a new Bis-Benzimidazolyl diamide ligand.
Ahuja, G.; Kumar, R.; Mathur, P. 2012 *Journal of Molecular Structure*, 1011:166-171.
- (19) Copper(II) complexes of a new N-Picoylated Bis benzimidazole diamide ligand: Synthesis, Crystal structure & Catechol oxidase studies.
Bakshi, R.; Rossi, M.; Caruso, F.; Mathur, P. 2011 *Inorg. Chimica Acta* : 376 175-188.
- (20) Fe(III) complexes of Bis –benzimidazole diamide ligand: Synthesis and catalytic studies.
Ahuja, G.; Mathur, P. 2011 *Spectrochimica Acta Part A* : 83182-186.
- (21) Synthesis Spectral and catalytic activity of some Mn(II) Bis-benzimidazole diamide complexes.
Mohapatra, S. C.; Hundal, M. S.; Mathur, P. 2011 *Spectrochimica Acta Part A*, 79 : 1634-1641.
- (22) Interaction of Catechin with an Iron(III) Bis-benzimidazole diamide complex.
Tyagi, N.; Mathur, P. 2011 *Indian Journal of Chemistry*, 50A : 1703-1708.
- (23) Synthesis, Spectral and Structural characterization of Cu(II) complexes of a tridentate NNO donor Schiff base carrying a pendant benzimidazolyl arm
Kumar, R.; Mahiya, K.; Mathur, P. 2011 *Indian Journal of Chemistry*, 50A: 775-780
- (24) Oxidation of Substituted alkynes catalyzed by a non-heme Iron (III) bis benzimidazole diamide complex as catalyst under ambient condition
Bakshi, R.; Kumar, R.; Mathur, P. 2011 *Indian Journal of Chemistry* 50A:658-663
- (25) Synthesis and spectral studies of copper complexes using a N-octylated bis benzimidazole diamide ligand

<p>Mohapatra,S.C.; Mathur, P. 2011, Spectrochimica Acta Part A 78: 612–616.</p> <p>(26) Organo-peroxyl compounds via catalytic oxidation of a hindered phenol and aniline utilizing new manganese(II) bis benzimidazole diamide based complexes</p> <p>Bakshi, R.; Mathur, P. 2010 Inorganica chimica Acta, 363(13): 3477-3488.</p> <p>(27) Intramolecularly H-bonded bis-benzimidazole diamide ligand and its Mn(II) complexes:Synthesis, spectral and electrochemical studies</p> <p>Mohapatra, S. C.; Bakshi, R.; Hundal, M. S.; Mathur, P. 2010 Indian Journal of Chemistry, 49: 159-166.</p> <p>(28) Oxidation of alcohols using a manganese (II) complex based on a pentakis benzimidazole amide ligand</p> <p>Singla, M.; Mathur, P. 2009 Spectrochimica Acta Part A 74: 536-543.</p>	
<p>Conference Organization / Presentations (Past Five Year)</p>	
<ol style="list-style-type: none"> 1. XVth Modern Trends in Inorganic Chemistry (MTIC-XV) Organized by Department of Chemistry IIT Roorkee on 13-16 Dec. 2013. 2. 3rd Asian Conference on Coordination Chemistry, India Habitat Center, New Delhi, October 17th -20th, 2011, Organized by Department of Chemistry, IIT Kanpur. 3. International Symposium on Trends in Drug Discovery and Development, 5th- 8th January 2010, Department of Chemistry, University of Delhi, Delhi-110007. 4. 6th Indo-Italian Workshop on Chemistry and Biology of Antioxidants, 10th-11th December 2009. 5. 13th ISCB International Conference, Indo-German Symposium on “Supramolecular Chemistry”, 3rd March 2009, Department of Chemistry, University of Delhi, Delhi-110007. 	
<p>Research Projects(Major grants/ Research Collaboration, Past Five Year)</p>	
<p>Funding Agency</p>	<p>Year</p>
<p>1. DRDO</p>	<p>2007-2010</p>
<p>2. CSIR</p>	<p>2008-2011</p>
<p>Association with Professional Bodies:</p>	
<p>1. Committees and Boards:</p>	
<p>(a) UGC-SAP member, Jamia Milia Islamia, Delhi.</p>	
<p>(b) UGC-SAP member, Punjabi University, Patiala, Punjab.</p>	

2. Reviewer for following Journals:

Inorganic Chemistry (ACS)

Inorganic Chimica Acta (Elseiver)

Transition Metal Chemistry (Springerlink)

Spectro chimica Acta (Elseiver)

Journal of Molecular Catalysis (Elsevier)

Other Activities:

Hindi writer and critic

1. Invited Special Lecture at P.G.D.A.V College, University of Delhi, Delhi (March 2014).
2. "Gunakar-Mulay Memorial" Invited Special Lecture at JNU, New Delhi (Jan.2014).
3. Awarded the Sahityaik Kriti Samman for the collection "SHABD-BEEJ" from Hindi Academy, Delhi (2010).