




DESHBANDHU COLLEGE
(UNIVERSITY OF DELHI) KALKAJI, NEW DELHI - 110019

Faculty Details proforma

Title	Dr.	First Name	Pratibha	Last Name	Kumari	Photograph
Designation	Assistant Professor					
Address	Department of Chemistry Deshbandhu College (University of Delhi) Kalkaji, New Delhi-110019					
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	Residence					
	Mobile	9899367030				
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Educational Qualifications						
Degree	Institution				Year	
Ph.D.	University of Delhi				2007	
M.Phil.	University of Delhi				2002	
M.Sc.	Kirori Mal College, University of Delhi				2001	
B.Sc.	Shivaji College, University of Delhi				1999	
Career Profile						
<i>Assistant professor in Chemistry (Permanent), Deshbandhu college, University of Delhi, Delhi, India (October 2014 – till date).</i> <i>Assistant professor in Chemistry (Ad-hoc), Deshbandhu college, University of Delhi, Delhi, India (September 2007- October 2014).</i> <i>Guest faculty in Chemistry, Department of Chemistry, University of Delhi, Delhi, India (Jan. 2012 - April 2012).</i>						
Administrative Assignments						
<ul style="list-style-type: none">• NCC In-charge (Girls) from March 2018-till date• Admission In-charge for B.Sc. (Prog) Industrial Chemistry for the session 2018-2019• Member of proctorial committee for the session 2018-2019• Member of purchase committee for the session 2016-2017• Member of proctorial committee for the session 2015-2016• Member of sports committee for the session 2015-2016						
Areas of Interest / Specialization						
Organic synthesis, Catalysis, Supramolecular chemistry, Green chemistry, material chemistry						
Subjects Taught						
B.Sc. (H) and B.Sc. (Prog) – Year I, II, III. Organic chemistry courses including basic concepts in organic chemistry, stereochemistry, reaction mechanism, functional group chemistry, polymers, bio-molecules and spectroscopy. M.Sc. Sem-IV, Organic Chemistry, Special paper IV: Alkaloids and Polyphenols						
Research Guidance						

- Project Assistant: one
- MSc (Applied Chemistry) Dissertation supervised: Four
- MSc (Applied Chemistry) Summer Intern supervised: Six
- BSc Intern supervised: Fourteen
- BSc students (Innovation Project) supervised: Ten

Publications Profile

Research articles:

1. Biomimetic oxidation of metribuzin with hydrogen peroxide catalyzed by 5,10,15,20-tetraarylporphyrinatoiron(III) chlorides. S.M.S. Chauhan, Pratibha Kumari, *Tetrahedron Lett.* **2007**, *48*, 5035-5038.
2. Synthesis of metal-free phthalocyanines in functionalized ammonium ionic liquids. S.M.S. Chauhan, S. Agarwal, Pratibha Kumari, *Synth. Commun.* **2007**, *37*, 2917-2925.
3. Efficient Synthesis of Transition Metal Phthalocyanines in Functional Ionic Liquids. S.M.S. Chauhan, Pratibha Kumari, S. Agarwal, *Synthesis* **2007**, 3713-3721.
4. Facile and efficient synthesis of 14-alkyl or aryl-14-H-dibenzo[a,j]xanthenes using sulfonyl-functionalized ionic liquids. Pratibha Kumari, V. Yathindranath, S.M.S. Chauhan, *Synth. Commun.* **2008**, *38*, 637-648.
5. Efficient synthesis of 5,10,15-triarylcorroles using Amberlyst 15. Pratibha Kumari, S.M.S. Chauhan, *J. Heterocycl. Chem.* **2008**, *45*, 779-783.
6. Synthesis of unsymmetrical benzoporphyrazines in functional ionic liquids and formation of self-aggregates of zinc(II) pyridino[3,4]tribenzoporphyrazines in solutions. S.M.S. Chauhan, Pratibha Kumari, *Tetrahedron*, **2009**, *65*, 2518-2524.
7. Efficient cobalt(II) phthalocyanine-catalyzed reduction of flavones with sodium borohydride. Pratibha Kumari, Poonam, S.M.S. Chauhan, *Chem. Commun.* **2009**, 6397-6399.
8. Isolation, synthesis and biomimetic reactions of metalloporphyrinoids in ionic liquids. Pratibha Kumari, N. Sinha, P. Chauhan, S.M.S. Chauhan, *Current Organic Synthesis*, **2011**, *8*, 393-437.
9. Formation of hydridocobalt(III) phthalocyanine by reaction of cobalt(II) phthalocyanines with sodium borohydride and its reactions with antioxidant isoflavones. Poonam, Pratibha Kumari, S.M.S. Chauhan, *New Journal of Chemistry*, **2011**, *35*, 2639-2646.
10. Reductive dechlorination of atrazine using sodium-borohydride catalysed by cobalt(II) phthalocyanines. Poonam, Pratibha Kumari, Sohail Ahmad, S.M.S. Chauhan, *Tetrahedron Lett.* **2011**, *52*, 7083-7086.
11. Biomimetic oxidation of polycyclic aromatic hydrocarbons with hydrogen peroxide catalyzed by iron(IV) corroles in ionic liquids. Pratibha Kumari, Ritika Nagpal, S.M.S. Chauhan, *Catal. Commun.* **2012**, *29*, 15-20.
12. Efficient Iron(III) Porphyrins-Catalyzed Oxidation of Guanidoximes to Cyanamides in Ionic Liquids, Pratibha Kumari, Ritika Nagpal, Prashant Chauhan, Vinith Yathindranath, S.M.S. Chauhan, *J. Chem. Sci.* **2015**, *127*, 13-18.
13. Efficient reduction of C-N multiple bonds catalyzed by magnetically retrievable magnetite nanoparticles with sodium borohydride, Pratibha Kumari, Renu Gautam, Harshit Yadav, Vikas Kushwaha, Avinash Mishra, Shilpi Gupta, Veena Arora, *Catalysis Letters*, **2016**, *146*, 2149-2156.
14. Application of Porphyrin nanomaterials in Photodynamic therapy, Pratibha Kumari, Renu Gautam, Archana Milhotra, *Chem. Biol. Lett.* **2016**, *3*(2), 32-37. 2347-9825.
15. Challenges with Mosquito-borne Viral Diseases: Outbreak of the Monsters, Renu Gautam, Sweta Mishra, Archana Milhotra, Ritika Nagpal, Mradul Mohan, Anchal Singhal and Pratibha Kumari, *Current Topics in Medicinal Chemistry*, **2017**, *17*, 2199-2214.
16. Efficient Friedlander Synthesis of Quinolines in the Presence of Sulfonyl Imidazolium Salts, Anchal Singhal, Pratibha Kumari, S.M.S. Chauhan, *Current Organocatalysis*, **2017**, *4*, 182-188.
17. Efficacious and selective oxidation of atrazine with hydrogen peroxide catalyzed by magnetite nanoparticles: Influence of reaction media, Pratibha Kumari, Sanjay Kumar, Shilpi Gupta, Avinash Mishra and Arun Kumar, *ChemistrySelect* **2018**, *3*, 2135-2139.
18. β -cyclodextrin modified magnetite nanoparticles for efficient removal of eosin and phloxine dyes from aqueous solution. Pratibha Kumari, Shekhar and Himanshu Parashara, *Materials Today: Proceedings*, **2018**, *5*, 15463-15470.
19. Facile One-Pot Friedlander Synthesis of Functionalized Quinolines using Graphene Oxide Carbocatalyst, Anchal Singhal, Pratibha Kumari, Kharu Nisa, *Current Organic Synthesis*, **2019**, *16*, 154-159.
20. Recent progresses in Organic-Inorganic Nano technological platforms for cancer therapeutics, Sanjay Kumar, Anchal Singhal, Uma Narang, Sweta Mishra, Pratibha Kumari. *Current Medicinal Chemistry*, **2019**, DOI: DOI : 10.2174/0929867326666181224143734.
21. Therapeutic applications of Peptides against Zika Virus: A Review. Preeti Karwal, Ishwar Dutt Vats, Niharika Sinha, Anchal Singhal, Teena Sehgal, Pratibha Kumari. *Current Medicinal Chemistry*, **2019**, DOI : 10.2174/0929867326666190111115132.

22. Oxygen mediated highly efficient cobalt(II) porphyrin-catalyzed reduction of functional chromones: Experimental and Computational studies, Poonam, Pratibha Kumari, Maria Grishina, Vladimir Potemkin, Abhishek Verma, Brijesh Rathi, *New Journal of Chemistry*, **2019**, 43, 5228-5238.
23. Efficient system for encapsulation and removal of paraquat and diquat from aqueous solution: 4-sulfonatocalix[n]arenes and its magnetite modified nanomaterials, Pratibha Kumari, Alka, Sanjay Kumar, Kharu Nisa, DK Sharma, *Journal of Environmental Chemical Engineering*, **2019**, 7, 103130.

Book Chapters:

1. **Magnetic nanoparticles based nanocontainers for water treatment**, Pratibha Kumari, Sanjay Kumar, Anchal Singhal, in Book "Smart Nanocontainers: Fundamentals and Emerging Applications" Editors: Phuong Nguyen, Tri Trong-Do, Tuan Anh Nguyen, **2019**, Publisher: Elsevier (accepted).
2. **Emerging Nanomaterials for Cancer Therapy**, Sanjay Kumar, Pratibha Kumari, Rajeev Singh, in Book "Nanoparticles in Medicine", Editors: Ashutosh Kumar Shukla, Teena Bedi, N S Pandian, **2019**, Publisher: Springer Nature (accepted).

Conference Organization/ Presentations (in the last five years)

Conference/Workshop/Symposium Organization:

- Member of Organizing committee of 1st International Conference on Integrative, Biology and Translational Medicine (ICBTM-2019) organized by Hansraj College, University of Delhi, Delhi, India and Loyola University Chicago Stritch School of Medicine, USA. (25-26 Feb. **2019**).
- Member of Organizing committee of the Workshop on Skill Development to Build a Clean India, organized by Deshbandhu College in Collaboration with CSR, Oil and Natural Gas Corporation Ltd., New Delhi. (7-8 June **2018**).
- Member of Organizing committee of two weeks Faculty Development Programme on Entrepreneurship (Science, Technology & Management for Society) organized by Deshbandhu College, University of Delhi, Delhi and ABES Engineering College, Ghaziabad in association with Teaching Learning Centre, Ramanujan College, New Delhi. (13-27 December **2018**).

Research papers presented in conferences:

- Emerging nanotechnology and water treatment, **Pratibha Kumari**, Ruby Mishra, The 5th Asia Oceania Conference on Green and Sustainable Chemistry (AOC-5 GSC), organized by North India Section of The Royal Society of Chemistry (London), Green Chemistry Network Centre (New Delhi) and The Energy and Resources Institute (New Delhi), (Jan. 15-17, **2015**).
- Efficient reduction of oximes catalyzed by magnetic Fe₃O₄ nanoparticles using sodium borohydride, **Pratibha Kumari**, Umesh Kumar, National conference on Solid State Chemistry and Allied Areas (ISCAS-2015), organized by Bhaskaracharya College of Applied Sciences (University of Delhi), New Delhi (May 8-10, 2015).
- Green Biosynthesis of Magnetic Fe₃O₄ Nanoparticles and their Application in Remediation of Organic Pollutants, **Pratibha Kumari**, Sanjay Kumar, 1st National Conference on Emerging Trends & Future Challenges in Chemical Sciences (ETFC -2016), organized by Kirori Mal College, University of Delhi, New Delhi (Feb. 3-4, 2016).
- Efficient Reduction of C-N multiple bonds catalyzed by magnetically retrievable magnetite nanoparticles with sodium borohydride, **Pratibha Kumari**, Ritu, Shilpi Gupta, Avinash Mishra, Harshit Yadav, Vikas Kushwaha, Vaibhav Goel, Kuldeep Sharma, Akshita Sharma, Monika Gaur, Ankit Kumar, International Conference on Material Science & Technology, organized by Department of Chemistry, University of Delhi, New Delhi (March 1-4, 2016).
- Magnetic Fe₃O₄ nanoparticles catalyzed oxidative degradation of Atrazine with hydrogen peroxide. **Pratibha Kumari**, Ritu, Shilpi Gupta, Avinash Mishra, Harshit Yadav, Vikas Kushwaha, Vaibhav Goel, Kuldeep Sharma, Akshita Sharma, Monika Gaur, Ankit Kumar, S.M.S. Chauhan. International Conference on Material Science & Technology, organized by Department of Chemistry, University of Delhi, New Delhi (March 1-4, 2016).
- Efficient removal of herbicides by hydrogen peroxide in presence of magnetite nanoparticles, **Pratibha Kumari**, Shilpi Gupta, Avinash Mishra, Vaibhav Goel, Kuldeep Sharma, Ankit Kumar, Harshit Yadav, Vikas Kushwaha, Ritu, Akshita Sharma, Monika Gaur. National Symposium on Nanotechnology (BIOTIKOS 2016), organized by Department of Biotechnology, TERI University, New Delhi (March 31-April 1, 2016)
- Eosin dye removal from aqueous solution using Fe₃O₄@β-cyclodextrin Nanocomposites, Pooja Yadav, Prateek Sharma, Vivek Kumar, Ankur Kumar Rastogi, Kajal Chaudhary, Shilpi Gupta, Avinash Mishra, Harshit Yadav, Vikas Kushwaha, **Pratibha Kumari**, National Conference on "Combating Industrial pollution for sustainable environment-A fusion of industrial and scientific efforts", Department of Chemistry, Gargi College, University of Delhi, Delhi (September 22-23, 2016).

- Efficient Oxidative Transformation of Atrazine with Hydrogen Peroxide catalyzed by Magnetite Nanoparticles, **Pratibha Kumari**, Slany Merine Johnson, Shilpi Gupta, Avinash Mishra. National conference on Environmental sustainability in waste water remediation: current status and future prospects (ESWR-2017) organized by Department of chemistry, Sri Venkateswara College, University of Delhi, New Delhi, India (19-20 January 2017).
- Synthesis of magnetite@ β -cyclodextrin nanocomposites and its application in removal of eosin and phloxine dyes, Shekhar, Himanshu Parashara, Sanjay Kumar, Pratibha Kumari, National conference on Trends in Nanobiotechnology (BIOTIKOS 2017), organized by Department of biotechnology, TERI University, New Delhi, India (28-29 September, 2017)
- Efficient synthesis of 1,5-benzodiazepines using acid functionalized magnetite nanoparticles, Pratibha Kumari, Atul Kumar and Atul Tiwari, National conference on Recent Advances in Chemical Sciences towards Green & Sustainable Environment: Swachh Bharat Abhiyan Perspective, organized by Aditi Mahavidyalaya, University of Delhi, Delhi, India. (10-11 October 2017)
- Application of 4-sulfonatocalix[6]arene modified magnetite nanoparticles in crystal violet removal from aqueous solution, Pratibha Kumari and Alka, National Conference on innovations in sciences and emerging challenges in health and environment(NSHE-2018), Organized by Daulat Ram College, University of Delhi, New Delhi, India (20 March 2018).
- An Enhanced Photocatalytic Degradation and mineralization of organic water pollutant using Functionalized graphene oxide, Sanjay Kumar, Pratibha Kumari, Tarun, Jatin Saxena, National Conference on innovations in sciences and emerging challenges in health and environment(NSHE-2018), Organized by Daulat Ram College, University of Delhi, New Delhi, India (20 March 2018). (**Best Poster Presentation Award**)
- Photocatalytic Oxidation of Methylene Blue using Functionalized Graphene Oxide, Jatin Saxena, Tarun, Sanjay Kumar, Pratibha Kumari, National conference on skill development to build a clean India, organized by Deshbandhu College in Collaboration with CSR, Oil and Natural Gas Corporation Ltd., New Delhi. (7-8 June 2018).
- An Enhanced Photocatalytic Degradation of Organic Water Pollutants using Functionalized Magnetite Nanomaterials, Tarun, Sanjay Kumar, Pratibha Kumari, INDO-US Colloquium on Recent Developments in Interdisciplinary Research, organized by Hansraj College, University of Delhi in association with Loyola University Stritch School of Medicine, USA (2 July 2018).
- Effective photocatalytic degradation of Methomyl using functionalized Graphene oxide Nanocomposites, Tarun, Jatin Saxena, Pratibha Kumari, Faculty Development Program cum National Workshop on Greening an undergraduate chemistry lab (GUCL 2018)" organized by Sri Venkateswara College, University of Delhi, New Delhi, (8-9 August 2018).
- Enhanced Photocatalytic Degradation of Organic Pollutants using Functionalized Graphene Oxide Nanocomposite, Chirag Bansal, Jatin Saxena, Pratibha Kumari, Faculty Development Program cum National Workshop on Greening an undergraduate chemistry lab (GUCL 2018)" organized by Sri Venkateswara College, University of Delhi, New Delhi, (8-9 August 2018) (**Best Poster Presentation Award**).
- Application of functionalized graphene oxide nanomaterials for the removal of pesticides from aqueous solution, Alka, Pratibha Kumari, 1st International Conference on Integrative, Biology and Translational Medicine (ICBTM-2019) organized by Hansraj College, University of Delhi, Delhi, India and Loyola University Chicago Stritch School of Medicine, USA. (25-26 Feb. 2019).
- Synthesis of ionic liquid functionalized calix[4]arene grafted magnetite nanoparticles and their application in water remediation, Alka, Sanjay Kumar, Pratibha Kumari, National Conference on Recent Trends and Advancements in Chemical Sciences, Organized by Department of chemistry, University of Delhi and Bhaskaracharya College of Applied Sciences (University of Delhi), New Delhi (29-31 March, 2019).

Invited Lectures:

- Magnetite Nanoparticles: Versatile Material for Remediation of Organic Pollutants. 4th International conference on nanostructured materials and nanocomposites, organized at Mahatma Gandhi University, Kottayam, India (10-12 February, 2017)
- Calixarene modified magnetite nanomaterials for the removal of pyridinium based pollutants from aqueous solution, International Conference on advanced nanostructures (ICAN-2018), organized by post graduate and research department of physics, Catholicate College, Pathanamthitta, India (12-14 March, 2018)
- Synthesis and application of sulfonatocalixarene grafted magnetite nanomaterials in remediation studies of paraquat and diquat herbicides, 3rd International conference on nanomaterials: Synthesis, Characterization and Applications, organized at Mahatma Gandhi University, Kottayam, India (11-13 May, 2018)
- Synthesis of Functionalized Calixarene Grafted Magnetite Nanomaterials for Effective Removal of Organic Herbicides

from Aqueous Solution, 6th International conference on natural polymers, organized at Mahatma Gandhi University, Kerala, India (07-09 December, 2018)

Research Projects (Major Grants/Research Collaboration)

- Principal Investigator, Innovation project DBC 306/2015-16 Titled “Remediation of organic contaminants from soil using magnetic iron oxide based nanomaterials”, 2015-2016.
- Principal Investigator, UGC: Start-up Research Project Titled “Development of calix[4]pyrrole modified graphene oxide materials and their application in water remediation”, 2016-2018.
- Principal Investigator, DST-SERB: ECR Research Project Titled “Synthesis of calixarenes functionalized magnetite (Fe₃O₄) nanomaterials and their potential applications in waste water treatment: “Little solution to big problems” 2016-2019.

Awards and Distinctions

- Award of *Junior Research Fellowship* from CSIR (July 2002- Jun 2004), New Delhi, India.
- Award of *Senior Research Fellowship* from CSIR (July 2004- May 2007), New Delhi, India.
- Early Career Research Award (2016-2019) by Science & Engineering Research Board (SERB), Ministry of Science of Technology, Govt. of India.

Association With Professional Bodies

- American Chemical Society (30769661)
- Indian Society of Chemists & Biologists (LF: 550/2011)
- Chemical Research Society of India (LM 1398)
- The Indian Science Congress Association (L16826)
- The Society of Biological Chemists (2456)
- Indian Society of Analytical Scientists- Delhi Chapter (LMT-2010/75)
- Indian Council of Chemists (LF/1398)
- Association of Chemistry Teachers (LM 1293)
- International Science Congress Association (FM-284)
- Society for Material Chemistry (LM910)

Other Activities

- Completed the Wiley Researcher Academy pilot training programme organized by Wiley Researcher Academy in January 2018.
- Attended Faculty Development Program in Research Project Management, organized by CIC-Centre for Science Education and Communication, University of Delhi, Delhi, India. (19 July, 2016)
- Completed Online Refresher Course in Chemistry for Higher Education Faculty conducted by National Resource Centre of MHRD at Guru Angad Dev Teaching Learning Centre, a centre under PMMMNMTT Scheme of MHRD, Govt. of India at SGTB Khalsa College, University of Delhi (Nov. 2018- Feb. 2019).
- Completed three weeks Refresher Course in Chemistry conducted by the Centre for Professional Development in Higher Education(CPDHE), University of Delhi (26 June 2015-16 July 2015).
- Completed four weeks Orientation Course conducted by the Human Resource Development Centre, Jawaharlal Nehru University (3 Oct 2016- 28 Oct 2016).
- Participated as Resource Person in “INSPIRE Internship Programme” organized by Deshbandhu College, University of Delhi, Delhi-110019, India (Dec.16-20, 2013), (Oct. 8-12, 2014), (Dec. 18-22, 2017).
- Member of National Advisory Committee of the International Conference on Molecular Spectroscopy (ICMS 2017) 8-10 December 2017, Kottayam, Kerala, India
- Chaired a session at the 3rd International conference on nanomaterials: Synthesis, Characterization and Applications, organized at Mahatma Gandhi University, Kottayam, Kerala, India (11-13 May, 2018).
- Chaired a session at the 6th International conference on natural polymers, organized at Mahatma Gandhi University, Kottayam, Kerala, India (07-09 December, 2018).