



Faculty Details proforma for Gargi College

Title	Dr	Dr Manju Kumari Saroj	Photograph
Designation	Assistant Professor (Level 12)		
Address	Department of Chemistry, Gargi College, University of Delhi Delhi-110048		
Phone No	Office	N.A.	
	Residence*	N.A.	
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Email	manjukumarisaroj@gargi.du.ac.in		
Educational Qualifications			
Degree	Institution	Year	
Ph.D.	Department of Chemistry, University of Delhi	2014	
M.Phil.	Department of Chemistry, University of Delhi	2009	
M.Sc. Physical Chemistry	Department of Chemistry, University of Delhi	2007	
B.Sc. (H) Chemistry	Gargi College, University of Delhi	2005	
NET-JRF	CSIR-UGC	2009	
Career Profile			
<ul style="list-style-type: none"> • Assistant Professor, Gargi College, University of Delhi, India, working since October 19, 2015 • Assistant Professor, Sri Venkateswara College, University of Delhi, India, July 21, 2015 to October 18, 2015 • Assistant Professor, Gargi College, University of Delhi, India, January 5, 2015 to May 22, 2015 • Assistant Professor, Hansraj College, University of Delhi, India, August 1, 2012 to December 6, 2014 			
Administrative Assignments			
<ul style="list-style-type: none"> • Member, UG Committee of Courses for Examinations, Department of Chemistry, University of Delhi November 2021-July 2023 • Superintendent, Practical Examination, Department of Chemistry, Gargi College, March 2023-July 2023 • Member, Brochure Committee of 99th Convocation University of Delhi, November 2022 to 			

February 2023

- Member, Central Admission Grievance Redressal Committee (CAGRC), Admission Branch, University of Delhi, October 2022 to December 2022 for the academic session 2022-23.
- Member, **Brochure Committee of 98th Convocation** University of Delhi, January 2022 to February 2022
- Member, **Thematic Committee on Invitation & Brochures for the Centenary Celebrations** of the University of Delhi, University of Delhi, March 2022 to May 2022
- Teacher co-ordinator, B.Sc. Physical Science, Gargi College, July 2018- December 2020.
- Convener, Chemical Society, Department of Chemistry, Gargi College, July 2017- June 2018
- Time-table Convener, Department of Chemistry, Gargi College, July 2016- May 2017

Areas of Interest / Specialization

- Photophysical Studies; Experimental and Theoretical Study by using different quantum chemical software (Gaussview, Gaussian and Hyperchem).
- Synthesis and Characterization of organic molecules by analysing ¹HNMR, IR and Mass spectral characterisation.
- Host-guest interactions of biologically active molecules in Homogeneous and Heterogeneous media (CTAB, SDS, TX-100 and cyclodextrin).
- Theoretical calculations of various properties of organic molecules like dipole moment, binding constants, density, charges and free energy.
- Absorption and Fluorescence Spectroscopy
- Analysis of data using MS Office, Sigmaplot, Origin Professional, Chemdraw, CurveExpert professional.

Subjects Taught

- Quantum Chemistry
- Molecular Spectroscopy
- Chemical Kinetics
- Photochemistry and Surface Chemistry
- Thermodynamics, Chemical Equilibria & Ionic equilibria
- States of Matter and Ionic equilibria
- Solutions, Phases and Electrochemistry
- Application of Computers in Chemistry and Molecular Modelling
- Atomic Structures and Chemical Bonding
- Bioinorganic Chemistry and Halides
- Analytical Chemistry

Recent Publications

- **M.K. Saroj**, R. Payal S.K. Jain and R.C. Rastogi, Study of prototropic reactions of indole chalcone derivatives in ground and excited states using absorption and fluorescence spectroscopy, *Journal of molecular Liquids* 302 (2020) 112164
- R. Payal, **M.K. Saroj**, N. Sharma, R.C. Rastogi Photophysical behavior of some thymol based schiff bases using absorption and fluorescence spectroscopy, *Journal of Luminescence* 198(3-4) (2018) 92-102. 0022-2313
- **M.K. Saroj**, Ritu Payal, Sapan K. Jain, Neera Sharma, Ramesh C. Rastogi Investigation of indole chalcones encapsulation in β -cyclodextrin: determination of stoichiometry, binding constants and thermodynamic parameters, *Journal of Inclusion Phenomena and Macrocyclic Chemistry*, 90 (2018) 305–320
- **M.K. Saroj**, Linear solvation energy relationship of 3-(1'H-indol-3'-yl)-1-phenylprop-2-en-1- ones using Kamlet-Taft and Catalan solvent parameters, *J. Int. Sci. Technol.*, 5(1), (2017) 27-34
- **M.K. Saroj**, N. Sharma, R.C. Rastogi, Photophysical Study of Some 3-Benzoylmethyleneindol-2-ones and Estimation of Ground and Excited States Dipole Moments from Solvatochromic Method Using Solvent Polarity Parameters, *Journal of Molecular Structure*, 1012 (2012) 73-86.
- **M.K. Saroj**, N. Sharma, R.C. Rastogi, Solvent Effect Profiles of Absorbance and Fluorescence Spectra of Some Indole Based Chalcones, *Journal of Fluorescence*, 21(2011) 2213-2227.
- V.D. Kancheva, L. Saso, P.V. Boranova, A. Khan, **M.K. Saroj**, M.K. Pandey, S. Malhotra, J.Z. Nechev, S.K. Sharma, A.K. Prasad, M.B. Georgieva, C. Joseph, A.L. DePass, R.C. Rastogi, V.S. Parmar, Structure Activity Relationship of Dihydroxy-4-Methylcoumarins as Powerful Antioxidants: Correlation Between Experimental & Theoretical Data and Synergistic Effect, *Biochimie*, 92 (2010) 1089-1100.

Conference Organization/ Presentations

- Member, National multidisciplinary Conference on “emerging Trends in Tertiary Education: Assessing Challenges and Possibilities” organised by Departments of BA Programme, Chemistry, English and History of Gargi College, University of Delhi held on 29-30 March, 2019.
- Abstract on “Estimation of electronic and antioxidant activities of Phenylloxazoles” at “international conference on integrative chemistry, biology and translational Medicine” held at Conference Centre, university of Delhi during February 25-26 2019.
- Resource person in the virtual workshop on Collating Chemistry resources for teachers in higher education by National Center for education of this institute. June 18-19, 2019
- Delivered a Talk on “An Experimental and Theoretical Investigation of Inclusion complexes of Indole Chalcones in beta-cyclodextrin” at 11th Annual Congress on Chemistry by Asia Chemistry 2018, Current Research Pharmaceutical Analytical Chemistry, September 12-13, 2018.

- Abstract entitled " **Hydrogen Bonding Behaviour Of Some Biologically Active 3-(1'*H*-Indol-3'-yl)-1-phenylprop-2-en-1-one Derivatives for Use in Drug Design**" published at First T3D-2010 International Symposium on Trends in Drug Discovery and Development held at Department of Chemistry, University of Delhi, Delhi-110007 during January 5, 2010-January 8, 2010.
- Abstract entitled "**Solvatochromic Behavior of Some 3-Benzoylmethyleneindol-2-ones**" published at 13th ISCB International Conference, on "Interplay of Chemical and Biological Sciences: Impact on Health and Environment" held at University of Delhi New Delhi during February 26, 2009- March 1, 2009.
- Abstract entitled " **Photophysical Properties of Indole Based Chalcones: A Solvatochromic Study**" published at 6th Indo-Italian Workshop on "Chemistry and Biology of Antioxidants" held at Department of Chemistry, University of Delhi, Delhi-110007 during December 10, 2009-December 11, 2009.
- Abstract entitled "An experimental and theoretical Investigation of inclusion complexes of Indole Chalcones in β -Cyclodextrin published at "11th Annual Congress on Chemistry" with the theme "Envision the Progressive upgrades in the field of Chemistry" held at Singapore during September 12-13, 2018.
- DBT sponsored workshop on "**Relevance of Experimental Chemistry to Biotechnology**" organized by Department of Chemistry" Hansraj College, University of Delhi held from March 12-13, 2014
- Organising member, Seminar on "**Chemistry in Interdisciplinary Applications**" held at Hansraj College, University of Delhi, Delhi-110007 on March 19, 2013.
- Organising member "**INSPIRE internship Program-2012**" of University of Delhi & DST Government of India organized by Hansraj College, University of Delhi, held from December 17 – 21, 2012.