

## Kumari Suman

Assistant Professor  
Department of Chemistry  
Government Girls' P.G. College  
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### Education

- **M.Tech.** (Molecular Engineering: Chemical synthesis and Analysis) from IIT (Indian Institute of Technology) New Delhi  
Year: July 2011-june 2013  
M. Tech. Thesis Title: "Synthesis, Characterization and Cation Binding Studies on Organosulphur based Dipodal Systems".
- **M.Sc.** (Chemistry, Specialization: Inorganic Chemistry) from DDU (Deendayal Upadhyaya Gorakhpur University), Gorakhpur, Uttar Pradesh, India (2010)
- **B.Sc.** (Chemistry, Microbiology and Botany) from DDU (Deendayal Upadhyaya, Gorakhpur University), Gorakhpur, UP, India (2008)

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### Teaching Experiences:

- Experience in the range of teaching and assessment activities of subjects at the undergraduate level, Department of Chemistry, IIT Delhi
- **ARSD college university of Delhi south campus:**  
Assistant professor (guest) (September 2016 -December 2016)  
Taught biochemistry (molecules of life), gaseous state, solid state, chemistry of s and p block element, chemical Kinetics, catalysis, organometallics chemistry to undergraduate students.  
Conducted chemical experiments in labs and assessment work.
- **Motilal Nehru college university of Delhi south campus:**  
Assistant professor (ad-hoc) (January 2017-Dec2020)  
Taught inorganic chemistry, chemical kinetics and surface chemistry to undergraduate students: Serve as an internal and external examiner in chemistry practical exam.

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### Research Interest

- Design and synthesis of hybrid Organo-sulphur and selenium Ligands.
- Synthesis of organochalcogen ligands. Comparative study of their behavior towards d<sup>10</sup> metal ions in non-aqueous solvent medium.

- Exploring their application as sensor or as chelating agent for various water and soil polluting heavy metals like mercury.
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### **Research Skills and Strengths**

- Proficient in analysis of spectroscopic data viz., NMR, IR, UV and mass spectra.
  - Important organic reactions like generation and use of Grignard reagents, lithiation, Friedel Craft alkylation, chlorination (using thionyl chloride), bromination (using liquid bromine, HBr in acetic acid etc.), chloromethylation, bromomethylation.
  - Highly conversant in the modern experimental and analytical techniques such as thin-layer chromatography, column chromatography and vacuum distillation.
  - Profound efficiency in handling of hygroscopic, air sensitive reagents and reactions using schlenk / vacuum line techniques.
  - Experience in the characterization of nano-particles using SEM, SEM-EDX, HRTEM, Powder XRD.
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### **Instrument handling Skills**

- NMR Spectrometer (300 MHz, *Bruker*, 400 and 500 MHz *Varian*)
  - Single Crystal Diffractometer (*Smart Apex CCD*)
  - FT-Infra Red Spectrometer (*Nicolet Protege 460*)
  - TGA & DTA (*Pyris Diamond TG/DTA, Perkin Elmer*)
  - UV-Vis Spectrophotometer (*Perkin Elmer and Shimadzu*)
  - CHN Analyzer (*Perkin Elmer*)
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**Orientation programme-** Four-week orientation programme for faculties of higher education – Ramanujan college, University of Delhi

#### **Seminar and workshops-**

- Participated in “**2 days National Workshop cum training on Cartography and Geospatial technology**” organized by Department of Geography GGPGC Ghazipur from March 24 to 25, 2022.
- Presented Paper entitled “Youth role in environmental sustainability” in 2 days National Seminar on Transforming India with young Workforce: Challenges & opportunities 29- 30 March 2022 organized by K.P.M. Government women Degree college Aurai, Bhadohi.
- Delivered an extension lecture on the theme entitled “Biodiversity and its forms” at Government Girl's P.G. College, Ghazipur.
- Presented paper on “Regional planning & sustainable development: An analytical study in the context of India” in 2 days National Seminar on 24- 25 August 2022 at K.M.C. Language University Lucknow.

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### **Honours and Awards**

- Qualified University Grant Commission (UGC)–(JRF) Junior Research Fellow –National Eligibility Test (NET) Examination, 2010.
  - Qualified GATE (Graduate Aptitude Test in Engineering) 2011 (with **99.8** percentile in GATE-2011 in chemistry).  
Got a scholarship from Ministry of Human Resources Development (**MHRD**) India during Aug 2011 to Sept 2013 at IIT Delhi.
  - GATE-2016
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