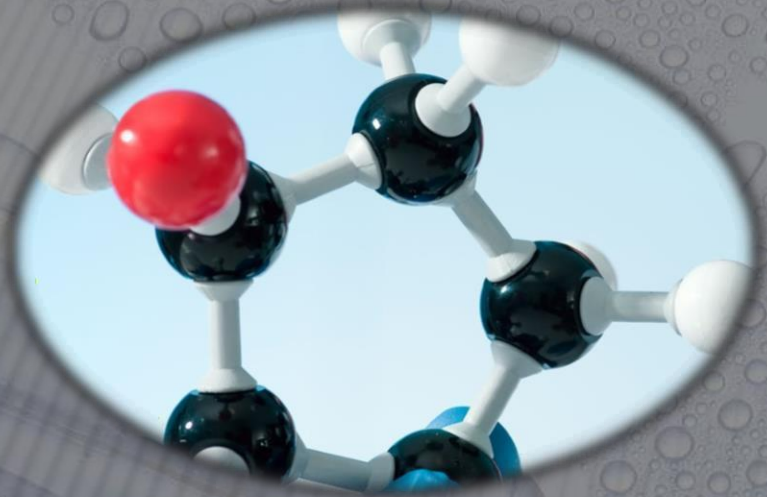


DEPARTMENT OF CHEMISTRY

IIT DELHI



About The Department

The Department of Chemistry, established in September, 1963, is one of the twenty seven Departments/Centers/Schools of IIT Delhi. The department has twenty four distinguished faculties trained at renowned Institutes in India and abroad. In addition, the department is supported by a dedicated team of staff members. One of our key objectives is to create good quality human resource. The Department offers a two years M.Sc programme, a two years M.Tech. programme and a Ph.D programme. Doctoral and post-doctoral research are carried out in all major areas of chemistry and allied sciences. The department is adequately equipped with state-of-art analytical facilities to carry out modern day chemistry.



ABOUT THE MASTERS PROGRAMME -

The department offers two years M.Tech (Molecular engineering), M.Sc programmes. The department offers several core (compulsory) courses and many electives. The course materials are so designed such as to facilitate and encourage discussion not only at the fundamental level but to also expose them to new and exciting trends in present day research.

Lab Facilities-

- Single crystal X Ray diffractometer
- Powder X Ray diffractometer
- DPX-300 NMR Spectrometer
- Mass Spectrometer
- FTIR Spectrometer
- Differential Scanning Calorimeter
- UV-Visible spectrophotometer
- Thermal gravimetric analyzer
- High Pressure Liquid Chromatograph
- Gel Permeation Chromatography
- C,H,N Analyzer
- Fluorescence Spectrometer
- Circular Dichroism

AREAS OF RESEARCH

Some of the major research areas are-

Organic chemistry-

Asymmetric Catalysis, C-H and C-F activation, Total Synthesis of small molecules, Catalysis by ionic liquid stabilized transition metal nanoparticles, Natural product synthesis and their biological studies.

Physical Chemistry-

Electrochemistry, Theoretical and computational chemistry, NMR methodology, Crystal chemistry, crystal engineering and supramolecular chemistry, Synthesis and applications of nanocrystals, Optical spectroscopy, advanced fluorescence techniques, environmentally friendly solvent systems, advanced fluorescence techniques.

Biochemistry and Biophysical -

Extremophiles and extremozymes, regulation by small RNAs in Bacteria, Chemical biology of peptides and proteins, Biomolecular modeling and simulation

Inorganic chemistry

Synthetic main group and organometallic chemistry, Homogeneous and heterogeneous catalysis, Metal-organic frameworks, Inorganic Polymers, Coordination chemistry of silicon, germanium and tin.

Courses of study

Some of the major courses offered are -

- Cheminformatics and molecular modeling
- Material characterization
- Applied spectroscopy
- Design and synthesis of organic molecules
- Synthesis of industrially important inorganic materials
- Chemistry of industrial catalysis,
- Quantum chemistry
- Applied biocatalysis
- Chemistry of heterocyclic compounds
- Reagents in synthetic transformation
- Molecular thermodynamics
- Group theory and spectroscopy



Research Funding-

The faculty members attract financial support for their research activities from DST, DST-CERI, DST-NRDIO, DST-GITA, NASF, National Science Foundation (U.S.A), RSC (Cambridge, England), CSIR, UGC, Department of Energy (U.S.A) etc.

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