# INDIAN INSTITUTE OF TECHNOLOGY PATNA

# Department of Chemistry

## PLACEMENT BROCHURE

## 2019-2020

**Dr. Sahid Hussain**
**Head of Department**
Department of Chemistry

Message from

# The Head of Department

The Department of Chemistry at IIT Patna has been engaged in imparting the highest level and quality of Chemistry education to engineering and science students of the institute since the inception of the institute in 2008. The department has several state-of-the-art instruments to support cutting-edge research activities. Moreover, students and researchers in the department have access to sophisticated research facilities in other departments and centers across the Institute.

Since its inception, the department has attracted world class faculty members, who are involved in all major areas of Chemistry research. Several chemistry dept. faculty members are also engaged in inter-disciplinary research spanning fields such as biochemistry, physics, computation etc.

I highly value our partnership with recruiters and friends of IIT Patna and remain committed to making your recruiting experience productive and positive. I invite the recruiting organizations and graduating students to find the best match between their needs and capabilities.

# About the Department

**Chemistry**

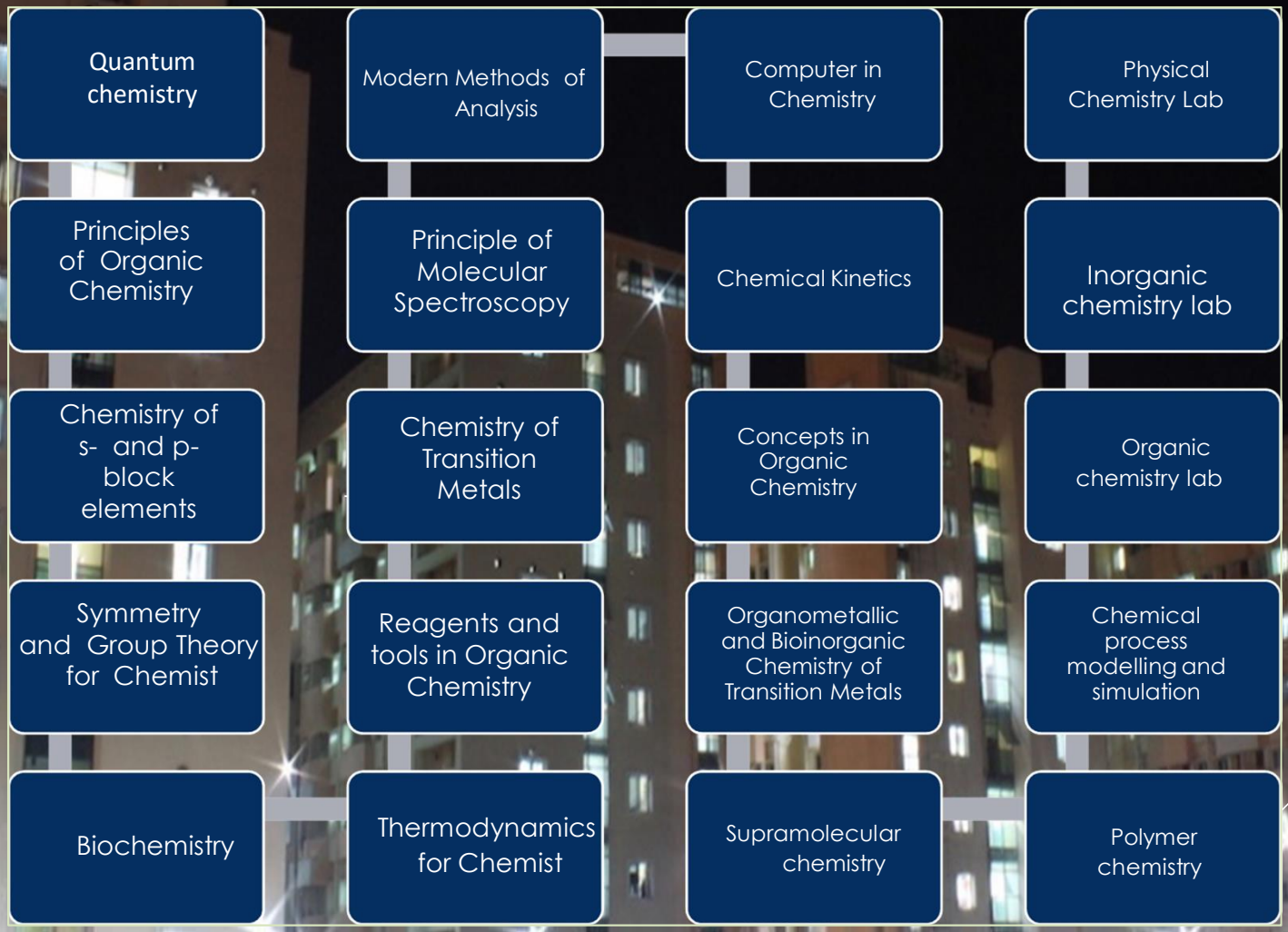
A vibrant multidisciplinary research program in the Department of Chemistry at IIT Patna is supported by energetic faculty members. With a strong foundation in the conventional areas and quest for emerging areas of Chemistry, faculty and students are engaged in a range of dynamic research programs that include Supramolecular Chemistry, Target and Diversity oriented organic chemistry, nano chemistry, catalysis, biochemistry, computational chemistry, High resolution and biospectroscopy, green synthesis, glycochemistry, polymer chemistry etc.

# ON GOING RESEARCH

- Synthesis of modified sugar, glycosyltransferase inhibitors, Oligosaccharides and Chiral catalyst.
- Application of Metal catalysis in the synthesis of natural products and Medicinal useful Pharmacophores.
- Photophysics, Chemical Dynamics, Ionic liquids.
- Diversity Oriented Synthesis (DOS) using multicomponent reactions (MCRs), the discovery and development of new synthetic methods with particular interest in heterocyclic chemistry and total synthesis of various biologically active natural products and structural analogues.
- Self-assembly and Supramolecular Chemistry, Organic Synthesis, Inorganic-organic hybrid material synthesis, Coordination polymers / Metal organic framework (MOF), Polymer Chemistry - syntheses/characterization/applications.
- Spectroscopy, Computational, Instrumentation development, Physical Chemistry, Nano-scale Materials, Green Chemistry and Synthetic Organic Methodologies.
- Quantum reactive scattering of gas phase bi-molecular reactions, non-adiabatic coupling effects, geometric phase effects, nuclear spin symmetry effects, isotopic effects, spectral attributes of quasi-bound states, construction of potential energy surfaces.
- Studies of reaction and relaxation processes in complex chemical and biological systems using theory and computer simulation technique.
- Coordination polymer, solid state chemistry, Chalcogenide and chalcogel based materials, oxide materials, energy conversion and catalysis.

Polymer chemistry, nanomaterials and surface engineering.

# COURSES OFFERED



# Lab Facilities

- UV & Visible Spectrophotometer from Shimadzu
- FTIR from Shimadzu
- Spectrofluorometer from Horiba Jobin Yuon
- Digital Polarimeter from Jasco
- Particle size and zeta potential analyzer from Beckman Coulter
- Viscometer from Brookfield
- Microwave synthesizer from Anritsu
- Glove box from Jacomex
- Rotary evaporator from Buchi
- Microwave reactor from Metrohm
- Millipore water purification system
- Hot air Oven from Sonara
- SDT (simultaneous DTA-TGA) from TA
- Dynamic Mechanical Analysis (DMA) from TA
- FTIR with spotlight 200 microscope from Perkin Elmer
- Atomic Force Microscope
- XRD Machine
- NMR Spectrometer

# Our Achievements

Faculties are working on several projects under important bodies of government and private sectors namely CSIR, DST Fast track, SERB-DST etc

Faculties have also represented in national/international conferences like 13th Tetrahedron Symposium Asia Edition, Taipei, Taiwan - November 27-30, 2012, 6th EuCheMS (The European Association for Chemical and Molecular Sciences) conference on Nitrogen Ligands held in Beaune France (13-17th Sept, 2015), 15th Asian Chemical Congress (15ACC) 2013 held in Singapore (Aug 19-23, 2013), 5th EuCheMS Conference on Nitrogen Ligands, University of Granada, Spain (4th-8th September, 2011), Metal Carboxylates Coordination Polymers, 7th June, 2010 at Institute of Inorganic Chemistry, Albrechts University, Kiel, Germany, **20th European Conference on the Dynamics of Molecular Systems, MOLEC- 2014"**, August 24-29, 2014, University of Gothenburg, Gothenburg, Sweden and many more.

Our research scholars have successfully secured positions up to post doc like The university of Akron, Ohio, USA, Laboratoire Interactions, Dynamiques et Lasers CEA Saclay, 91191 Gif-sur-Yvette France, Chalmers university, Sweden, etc

Many have been recruited into various teaching institutions and research labs.

# WHY RECRUIT US

The degree course gives a firm foundation in Theoretical and Practical Chemistry along with computational and programming skills. In particular, Quantum Chemistry, Statistical Mechanics and Computational Chemistry. Our students are also competent in a wide variety of programming languages and software tools directly relevant to industry.

M.Sc. In Chemistry, Department of Chemistry at IIT Patna, through its rigorous and interdisciplinary curriculum, satisfies the need for sophistication required for modern scientific investigations and technological developments. Post graduates of this course will be ready for careers in pharmaceutical industry, chemical industry, and government organisations. Because of their excellent programming and analytical skills, the students would also be good fits in software industry, finance and insurance sector. Our Industrial Placement programme is a way to exchange new ideas combined with fresh enthusiasm and knowledge of the latest technology, the opportunity to encourage and invest in future leaders.

# Contact Us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