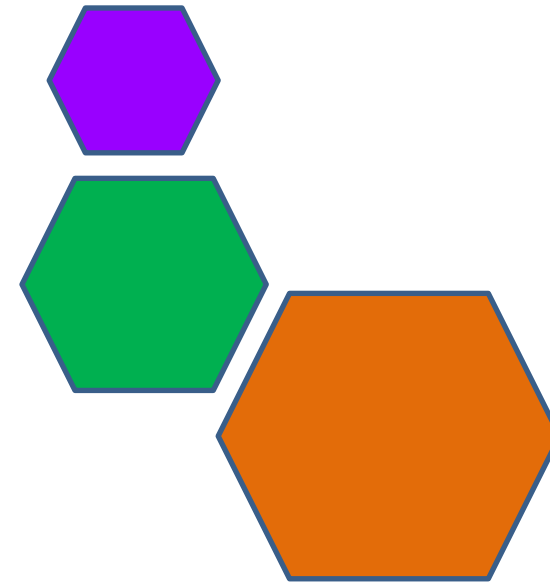




భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad



Department of Chemistry



<https://chemistry.iith.ac.in/>



Welcome to the Department of Chemistry. The Department started functioning from the very inception of IITH. Both theory and laboratory teaching programs for UG have started from the very first day of IITH. The Department has the distinction of starting the first PG program in science at IITH. This M.Sc chemistry degree program was started in 2010. Besides, the state-of-the-art PG and research laboratories were established. The Department is committed to excellence in chemistry by establishing research programs for meeting scientific and technological challenges faced by the ever changing, science centered world of the 21st century. Our aim is to produce highly sought after and knowledgeable graduates for pursuing careers with academia, industry and government.

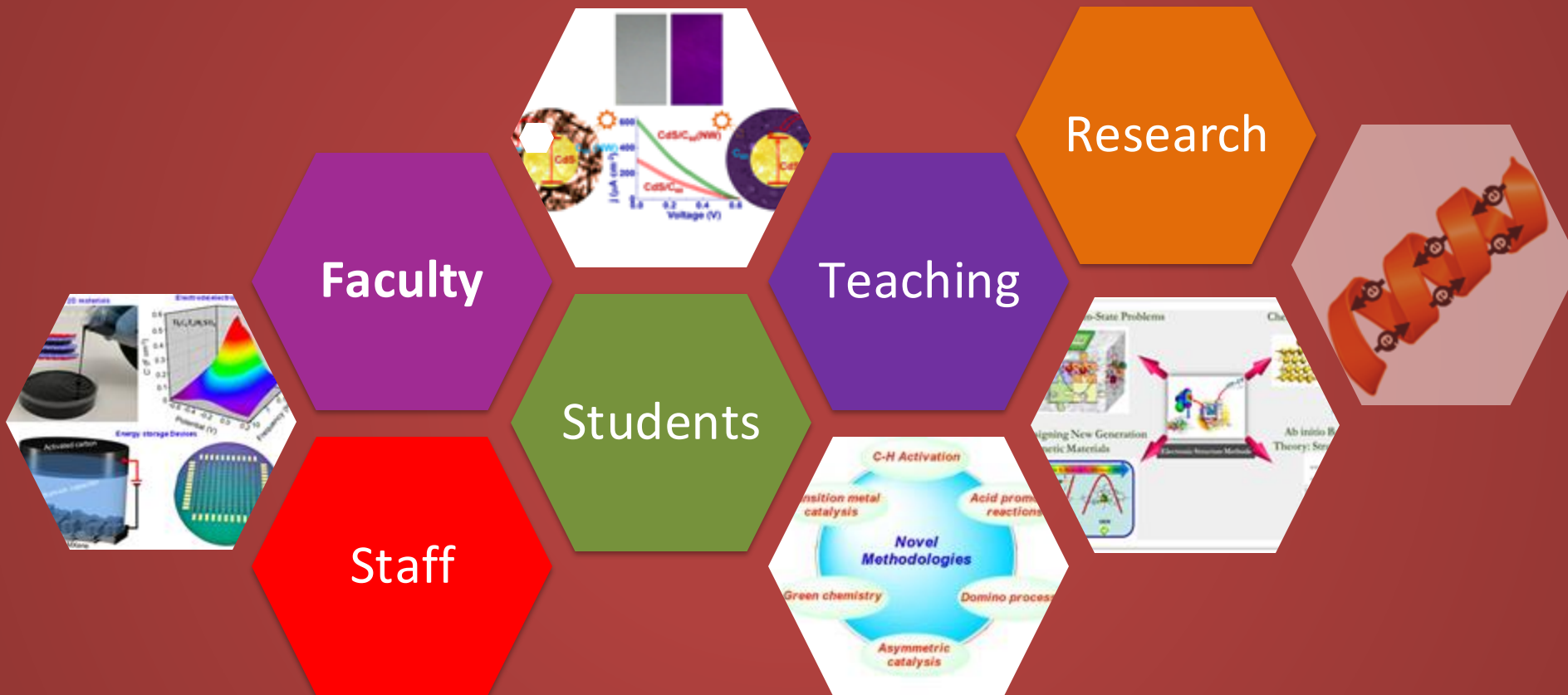


Dr. Surendra Kumar Martha

Head of the Department

E-mail: martha@chy.iith.ac.in

head@chy.iith.ac.in



Dr. Venkata Rao Kotagiri



Dr. Abhijit Sau



Dr. Ashutosh Mishra



Prof. C. Malla reddy

Dr. Kishore Natte



Prof. G. Satyanarayana



Prof. Faiz Ahmed Khan

Organic Chemistry

Expertise:

- Transition Metal-mediated reactions in organic synthesis
- Discovery of New Methodologies and Stereochemistry in organic synthesis
- Asymmetric Synthesis and Medicinal Chemistry
- Bioorganic Chemistry
- Functional Organic Materials and Supramolecular Chemistry
- Organic synthesis and Carbohydrate Chemistry
- Organofluorine
- Chemistry Valorization of gases and small molecules
- Electrochemistry
- Photochemistry, Mechanochemistry
- Crystal Engineering
- Solid-state Pharmaceutical chemistry
- Mechanically Flexible and Self-healing Organic Functional Crystals



Dr. Anup Bhunia

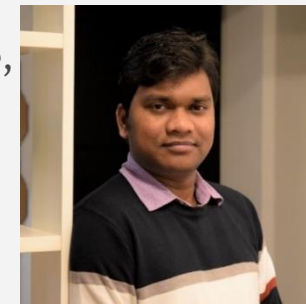
Computational Chemistry

Prof. Bhabani Shankar Mallik



Dr. Arup Mahata

Computational Materials Science,
Density Functional Theory,
Perovskites Optoelectronics,
Surface Catalysis, Molecular
Catalysis, Spintronics, Energy
Storage Materials



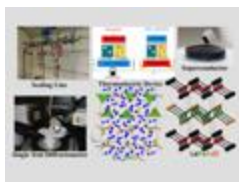
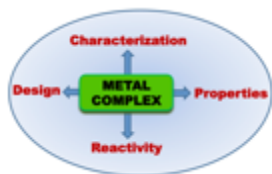
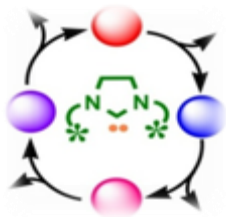
Dr. Debashish Koner



Computational Chemistry, Machine
Learning in Chemistry, Machine
Learning in Medical Diagnosis,
Biomarker Discovery, Chemical
Reaction Dynamics, Molecular
Spectroscopy. Atmospheric and
Astro-chemistry



Inorganic Chemistry



- Inorganic Synthesis
- Catalysis
- Organometallic Chemistry
- Metal catalyzed Water Splitting
- Carbon Dioxide Reduction
- Hydrogen Generation
- Strongly Correlated Materials for Thermoelectric & Superconducting Applications
- Small Molecule Crystallography
- Computational Inorganic chemistry
- Magnetic Exchange Interaction in Molecules and Molecular Solids
- Phosphor/OLED
- Bioinspired bioinorganic chemistry



Prof. G. Prabusankar



Dr. Saurabh K. Singh



Dr. Tarali Devi



Dr. Sivakumar Vaidyanathan



Dr. Somnath Maji



Prof. Tarun Kanti Panda



Dr. Jai Prakash



Dr. M. Annadhasan

Materials chemistry, Organic/inorganic flexible crystals, Mechano-photonics, Optical waveguides, Optical resonators, Photonic integrated circuits, Plasmonic nanoparticles, Stimuli-responsive materials, Single-particle photonic studies



Dr. Surajit Maity

**Spectroscopy of molecular clusters, chemical evolution of interstellar ice
Computational studies**



Dr. Surendra K. Martha

Energy Storage Materials especially Batteries and Supercapacitors



Dr. Krishna Gavvala

**Biophysical Chemistry
Time-Resolved Spectroscopy**



Dr. Narendra Kurra

Materials (electro)chemistry, Energy Storage, multivalent metal-ion batteries, Fast charging devices

Physical Chemistry



Prof. Ch. Subrahmanyam

**Catalysis
Nanomaterials
Energy Systems**



Prof. M. Deepa

**Applied Electrochemistry:
Solution Processed Solar Cells,
Electrochromic Devices,
Batteries & Supercapacitors.**



Dr. Koyel Banerjee Ghosh

Spin dependent electrochemistry and its application, surface chemistry, spin-dependent electron transfer through protein, molecular electronics



Dr. Sudarsanam Putla

Heterogeneous catalysis, nanosized and shape-controlled metal-based catalysts, biomass conversion, selective C-N coupling reactions, green chemistry



Dr. Priyadarshi Chakraborty

Supramolecular biomaterials, Rheology of gels, Conductive polymers, Tissue Engineering, Peptide/amino acid-based co-assembly, Drug delivery

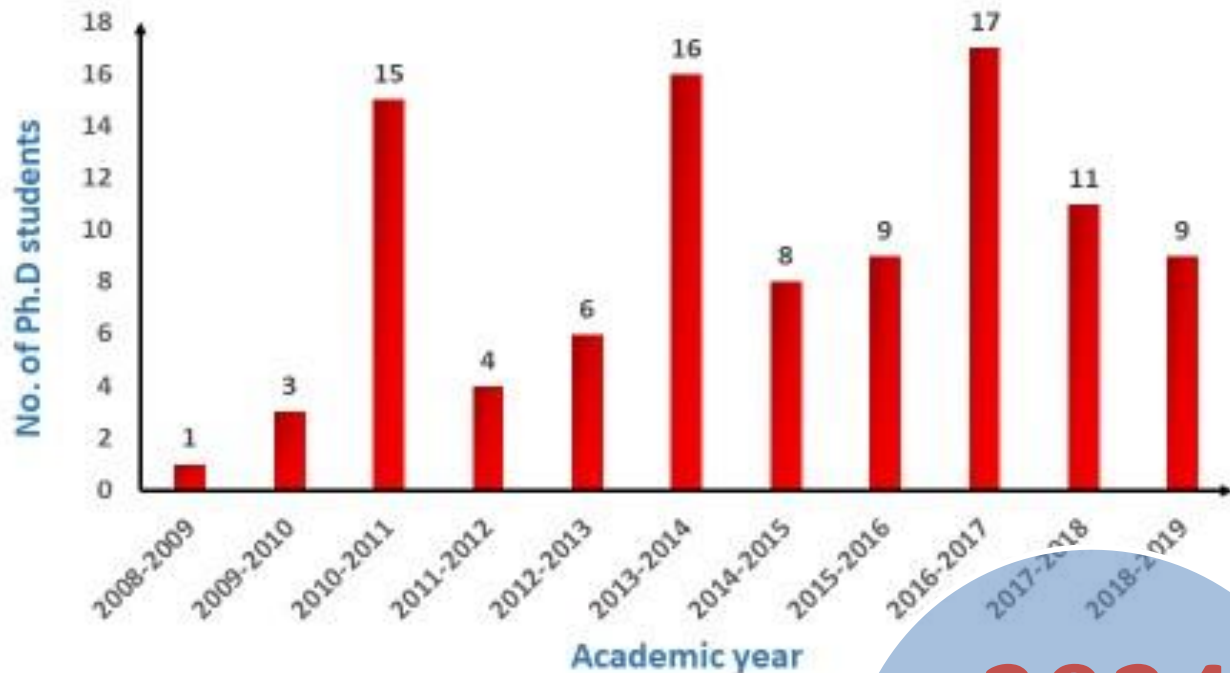
Facilities:

1. Multi-Mode Atomic Microscope
2. Powdered X-Ray Diffraction
3. 400 MHz NMR
4. HR-MS
5. Single Crystal XRD
6. Thermogravimetric Analysis
7. IR spectrometers
8. UV-Vis. spectrometers
9. Dispersive Raman Spectrometer
10. Photoluminescence
11. Solar Simulator
12. ESR
13. CHNS Analyzer



Department of Chemistry

Popularity of PhD Program



- Postdoctoral studies
- Academic positions in reputed educational institutes
- Industries

2021

35

2022

29

2024

19+

2023

40 + 6_(ID)

COURSES

Advanced Organic Chemistry

Advanced Organometallic Chemistry

Chemical & Electrochemical Energy Systems

Chemistry of Natural Products and Biomolecules

Organolanthanide Chemistry

Heterogeneous Catalysis

Separation Techniques & Dynamic Electrodes

Main Group Organometallic Chemistry

Nanochemistry & Applications

Drug Discovery, Design & Development

Asymmetric Synthesis

DNA Nanotechnology: structure and Application

Fundamentals of DNA Photonics, Bio Inspired Catalysis in Modern Research

Fundamentals and Applications of Small Molecule X-Ray Crystallography

Pharmaceutical solid-state chemistry and formulation technologies

Safe laboratory practices and Scientific Writing in Chemical Research

**Support
System**

**Faculty
advisers**

**Convener
DPGC**

HoD



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Dr. Jai Prakash
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Dr. Surendra Kumar Martha
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Outreach and Other programs

- **In-House Symposium**
- **Safety training**
- **Open day**



- **MSc poster session**
- **Teqip**
- **Seminars**

Alumni



ELIGIBILITY CRITERIA:

For Regular Candidates:

Master's (MSc) degree in Chemistry and related areas with good academic record.

Valid GATE-Score/ UGC-JRF/ CSIR-JRF/ DST INSPIRE/ Any other relevant Scholarship.

For Sponsored Candidates:

Students working under sponsored projects (i.e. DST, CSIR, BRNS, DBT, etc.) of the Indian Institute of Technology Hyderabad (IITH) with a valid GATE-Score/CSIR-JRF/UGC-JRF/Lectureship (LS) at the time of joining the project are also eligible to apply for the Ph.D. program (Candidates from sponsored program are not eligible for any stipend from Ministry of Education).

SELECTION PROCESS: The department may follow certain cut-off criteria:

Depending on the departmental requirement and based on the total number of applications received.

Based on the number of applications received for individual research disciplines.

The number of applications received in preference to each research discipline (i.e., first preference given by the candidate).

In general, more weightage will be given to the first choice of research interest (i.e., area of interest) given by candidates during the time of filling out their application.

SC/ST and OBC reservations will be implemented as per the Government rules.

Rules set by the IITH Senate will be applied.

APPLICATION PROCEDURE & LAST DATE:

Visit - <https://www.iith.ac.in/phdadmissions/> For detailed information and to apply online.

Some important guidelines for the candidates while filling out the application form:

1. The candidate must mention very clearly about his/her qualifying exam details such as CSIR/UGC-JRF and/or GATE in appropriate columns.
2. Also, the candidate should provide the rank, score and valid date of his/her qualifying exam adequately in the respective columns.
3. Without fail, the candidate should mention his/her category (Gen / EWS or OBC-Creamy layer or OBC-Non creamy layer or SC or ST).
4. Also, the candidate must specifically describe his/her area of interest (research discipline) as “Computational”, “Inorganic”, “Organic” or “Physical” Chemistry.
5. Incomplete applications will be rejected.
6. For more details of ongoing research interests in the “Department of Chemistry”, please visit the following link: <https://chemistry.iith.ac.in/>

Contact: Dr. Jai Prakash, dpgc@chy.iith.ac.in for any queries.