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

Department of Chemistry

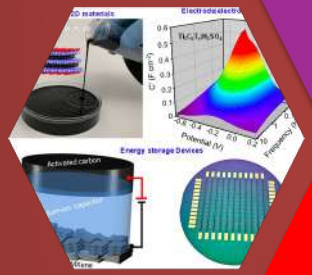
https://chemistry.iith.ac.in/

……"Welcome to the Department of Chemistry. The Department started functioning from the very inception of IITH in 2008. The Department has the distinction of starting the first PG program in science at IITH in 2010. In 2021, the department started B.Tech Industrial chemistry. The Department enjoys advanced and comprehensive research facilities, providing strong support for academic research and innovation. 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".

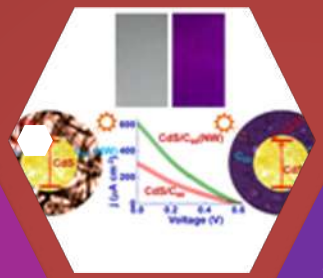
Prof. Bhabani Shankar Mallik
Head of the Department
E-mail:head@chy.iith.ac.in

Vision of the dept: To be a world-renowned institution in chemistry, delivering high quality teaching and research.

Mission: The Department of Chemistry is committed to excellence in chemistry by establishing world class research programs for meeting major scientific and technological challenges. Our aim is to produce highly sought after and knowledgeable graduates for pursuing careers with academia, industry and government



Faculty



Research

Staff

Students

Teaching

An overview of the Department's strength

Department Faculty	**- 28 + 1 (Lien)**
Adjunct Faculty	**- 4**
Department Technical Staff	**- 10**
Department Admin Staff	**- 2**
Current Ph.D. Students	**~ 200**
No. of PhDs graduated	**~ 150**
M.Sc. Students	**- 76**
B.Tech. IC Students	**- 88**
TOTAL PUBLICATIONS	**- +1300**

Publications

Some of the Q1 journals where we publish

- Chemical Reviews
- Nature Chemistry
- Angewandte Chemie International Edition
- Advanced Energy Materials
- JACS, Advanced Materials
- ACS Nano
- ACS Energy Letters
- ACS Applied Materials and Interfaces
- Chemical Communications
- ACS Catalysis
- ACS Materials Letters
- Inorganic Chemistry
- Journal of Catalysis
- Organic Letters
- Chemical Engineering Journal
- Journal of Power Sources
- JPC, PCCP, Dalton Transactions
- Journal of Materials Chemistry
- Journal of Energy Storage

Total publications with IITH affiliation: > 1300

Total patents (applied & granted): > 45

Prof. Faiz Ahmed Khan

Prof. G. Satyanarayana

Prof. C. Malla Reddy

Dr. Ashutosh Mishra

Dr. Venkata Rao Kotagiri

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
- Valorization of gases and small molecules
- Electrochemistry
- Photochemistry, Mechanochemistry
- Crystal Engineering
- Solid-state Pharmaceutical Chemistry
- Mechanically Flexible and Self-healing Organic Functional Crystals

Dr. Kishore Natte

Dr. Abhijit Sau

Dr. Anup Bhunia

Computational Chemistry

Prof. Bhabani Shankar Mallik

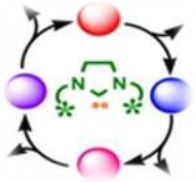
Dr. Arup Mahata

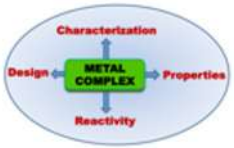
Dr. Debashish Koner

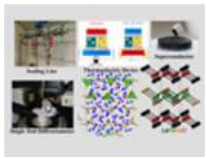
Computational Materials Science, Density Functional Theory, Perovskites Optoelectronics, Surface Catalysis, Molecular Catalysis, Spintronics, Energy Storage Materials

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. Tarun Kanti Panda

Prof. G. Prabusankar

Dr. Somnath Maji

Dr. Jai Prakash

Dr. Sivakumar Vaidyanathan

Dr. Saurabh K. Singh

Dr. Tarali Devi

Physical Chemistry

Prof. Ch. Subrahmanyam

Prof. M. Deepa

Dr. Surendra K. Martha

Dr. Surajit Maity

Dr. Krishna Gavvala

Dr. Narendra Kurra

Dr. Koyel B. Ghosh

Dr. Sudarsanam Putla

Dr. Priyadarshi Chakraborty

Dr. M. Annadhasan

Dr. Ashish Kulkarni

- Catalysis
- Nanomaterials
- Energy Systems
- Photovoltaics
- Batteries
- Supercapacitors
- Polymers
- Supramolecular biomaterials
- Conducting polymers
- Tissue Engineering
- Drug delivery
- Electrochromic Devices

- Applied Electrochemistry
- Solution Processed Solar Cells
- Spectroscopy of molecular clusters
- chemical evolution of interstellar ice
- Biophysical Chemistry, Time-Resolved Spectroscopy
- biomass conversion, selective C-N coupling reactions
- Green chemistry
- Spin dependent electrochemistry and its application,
- Molecular electronics
- Organic/inorganic flexible crystals, Mechano-photonics
- Optical waveguides & resonators,
- Photonic integrated circuits, Single-particle photonic studies

Research Facilities at Chemistry Department

1.Multi-Mode Atomic Microscope

2. Powdered X-Ray Diffractometer

3. 400 & 600 MHz NMR

4. HR-MS

5. Single Crystal XRD

6. Thermogravimetric Analysis

7. IR spectrometers

8. UV-Vis. spectrometers

9. Dispersive Raman Spectrometer

10. Photoluminiscence

11. Solar Simulator

12. ESR

13. CHNS Analyzer

14. ZEM

15. Close cycle cryostat with resistivity setup

15. And many more……..

Please visit https://chemistry.iith.ac.in/facilities.html For more details

Research Facilities at Chemistry Department


UG &PG Lab


UG &PG Lab


Research Lab


UV-Vis


GC-MS


TGA


Research Lab


Research Lab


XPS


HPLC


DSC


FT-IR


Glove Box


FT-IR


MW Syn


NMR


XRD


Mat Syn


UV-Vis


CHNS Analyzer


Polarimeter


SC X-Ray


HRMS


ICP

Funders


iNSERB
DIA


DST@
1971-2021
विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY


DEFENCE R&D ORGANISATION
MINISTRY OF DEFENCE


बी आर एन एस
BRNS
नाभिकीय विज्ञान अनुसंधान बोर्ड
Board of Research in Nuclear Sciences


ROYAL
ACADEMY OF
ENGINEERING


UKIERI
UK-India Education
and Research Initiative


नवीन एवं
नवीकरणीय ऊर्जा मंत्रालय
MINISTRY OF
NEW AND
RENEWABLE ENERGY
सत्यमेव जयते


ज्ञान-विज्ञान विमुक्तये
UGC
University Grants Commission


वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद
CSIR·INDIA


IIAY


jICA


Alexander von
HUMBOLDT
STIFTUNG


Ministry of Environment, Forest
& Climate Change

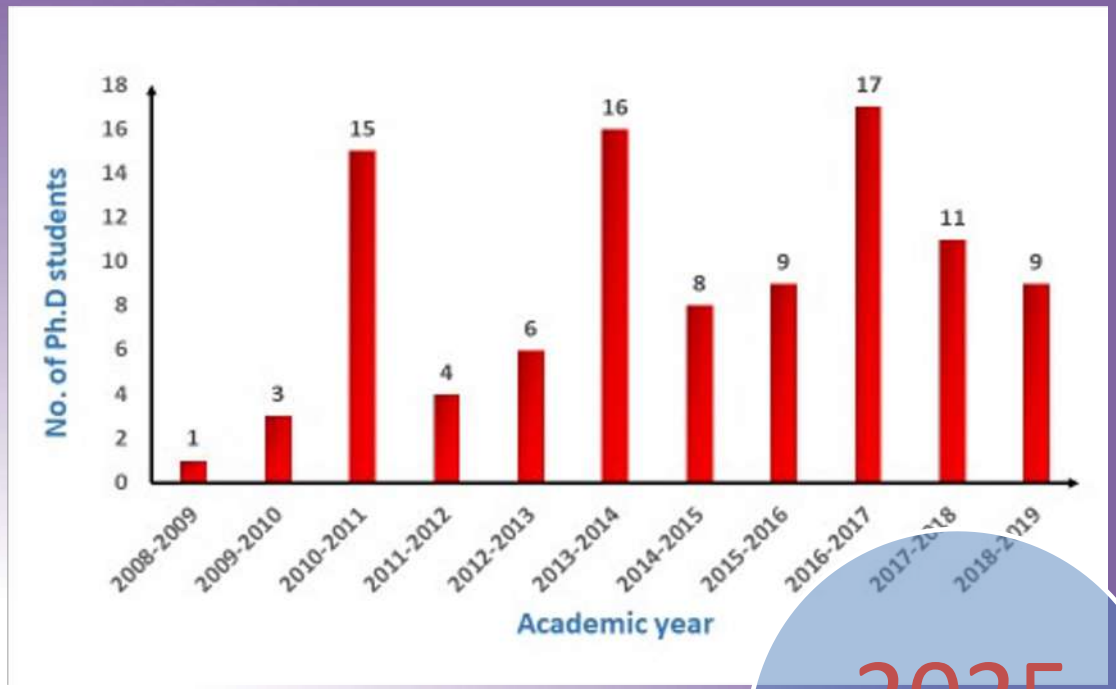

हिन्दुस्तान पेट्रोलियम
HP


nanospan


ROSHAN ENERGY
TECHNOLOGIES (P) LTD.


GLASS
DYENAMICS

Department of Chemistry
Popularity of PhD Program



2022
29

2023
40 +6(ID)

2024
50+

2025
40+

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

Current Ph.D. Students

>190

Total Graduated Ph.D. Students

>140

COURSES

Advanced Organic Chemistry

Advanced Organometallic Chemistry

Chemical & Electrochemical Energy Systems

Chemistry of Natural Products and Biomolecules

Organolanthanide Chemistry

Heterogeneous Catalysis

Separation Techniques & Dynamic Electrodics

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

Dr. Venkata Rao Kotagiri
kvrao@chy.iith.ac.in

Convener DPGC

Dr. Jai Prakash
dpgc@chy.iith.ac.in

HOD

Prof. Bhabani Shankar Mallik
head@chy.iith.ac.in

Outreach and Other programs

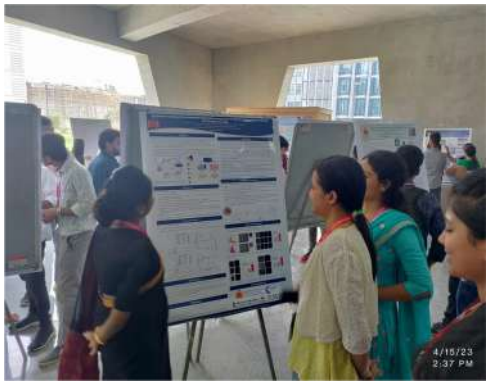
- In-House Symposium
- Safety training
- Open day

- MSc poster session
- TEQIP
- Seminars

Activities

IN-HOUSE SYPOSIUM CONDUCTED BY THE DEPARTMENT OF CHEMISTRY AT IIT HYDERABAD ON 15.04.2023




The department has organized an **In-house symposium** on 15.04.2023, and **Prof. V Chandrasekhar, Director, TIFR-Hyderabad,** attended as the guest of honor

Activities

INTERNATIONAL CONFERENCES ORGANIZED BY THE DEPARTMENT OF CHEMISTRY AT IIT HYDERABAD

International Conference on Chemistry for Sustainability (ICCS-2025)

3rd International Conference on Main-group Molecules to Materials (MMM III- 2023)

Alumni

Some notable alumni....

Ms. Rini Choudhury
Indian Information Service (IIS)
AIR 396 (UPSC)

Dr. Priyanka Verma
Assistant Professor, IIT Delhi

University of Stuttgart, Germany

Georgia Tech,
Atlanta

Drexel University

University of Illinois

University of Massachusetts

University of California

University of Delhousie

University of Texas,
Austin

Industry Collaborators

Hyderabad Photonics Initiative Group (HyPhI)

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.

1. Also, the candidate should provide the rank, score and valid date of his/her qualifying exam adequately in the respective columns.

1. Without fail, the candidate should mention his/her category (Gen / EWS or OBC-Creamy layer or OBC-Non creamy layer or SC or ST).

1. Also, the candidate must specifically describe his/her area of interest (research discipline) as "Computational", "Inorganic", "Organic" or "Physical" Chemistry.

1. Incomplete applications will be rejected.

1. 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.