

OUR STRENGTHS

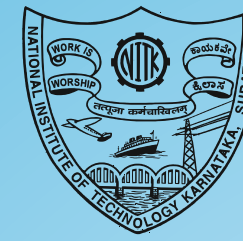
- Highly motivated GATE qualified students with scholarship from MHRD
- Well balanced curriculum with theory and practical components
- Strong industry-institutional collaboration
- Sophisticated lab facilities
- Research projects funded by DST, CSIR, FIST, TEQIP, TIFAC CORE, Ministry of Science and Technology, SERB, SERI, MHRD-NMEICT
- Co- Curricular & Extra –Curricular Activities:
 - Skill development program sponsored by TEQIP and MHRD.
 - TEQIP sponsored workshop on Nano technological basis for advanced sensors.
 - ICACE-2015: International Conference on Advances in Chemical Engineering
 - GIAN course (initiated by MHRD)
 - Fire and Safety training at MRPL
 - Field visit to UPCIL
 - INCIDENT- Intercollegiate cultural fest held annually
 - ENGINEER-Intercollegiate Technical fest held annually

OUR ALUMNI



CONTACT INFORMATION:

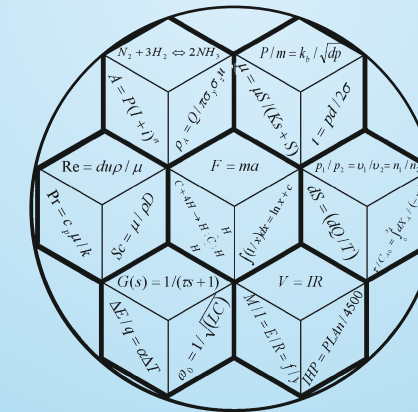
Head of the Department
 Department of Chemical Engineering
 National Institute of Technology Karnataka, Surathkal
 P.O Srinivasnagar, Mangalore 575025, India
 Email: hodchemical@nitk.edu.in
 Tel: +91-824-2474057
 Fax: +91-824-2474082
 Webpage: <http://chemical.nitk.ac.in>



NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA SURATHKAL
 MANGALORE, KARNATAKA, INDIA 575025



INDUSTRIAL POLLUTION CONTROL



DEPARTMENT OF CHEMICAL ENGINEERING

ABOUT THE DEPARTMENT

Department of Chemical Engineering was started in the year 1965. It is one of the leading chemical engineering department in the country and is known for its well-balanced curriculum having both theory and practical, good infrastructure and well qualified faculty. In order to keep pace with the changing needs, a lot of infrastructure in terms of additional space and modern instruments have been established utilizing funds available from MHRD, GOI, TEQIP, TIFAC-CORE, DST, DBT, CSIR, MOEF, FIST etc.

The Department offers an Under Graduate program in Chemical Engineering and three Post Graduate programs with specialization in Chemical Plant Design, Industrial Biotechnology and Industrial Pollution Control. In addition M.Tech (Research) and Doctoral programmes are also offered. The Department also offers product testing and industrial consultancy services.

FACULTY

Dr. B. Ashraf Ali	Dr. Hari Mahalingam	Dr. P. E. Jagadheesh Babu
Dr. C. Sankar Rao	Dr. Hari Prasad Dasari	Dr. Prasanna. B. D
Dr. D. V. R. Murthy	Dr. I. Regupathi	Dr. Raj Mohan. B (H.O.D.)
Dr. G. Srinikethan	Dr. Jagannathan. T. K	Dr. Ruben Sudhakar. D
Dr. Gangamma. S	Dr. Keyur Raval	Mr. S. Jithendra Pal (PhD.)
Dr. Gopal Mugeraya	Dr. M. B. Saidutta	Dr. Vidya Shetty. K

M.Tech - INDUSTRIAL POLLUTION CONTROL

- Established : 1994
- Students intake : 27

PROGRAMME OBJECTIVES

1. Advance professionally in the practice of Environmental Engineering in various industrial sectors and allied fields.
2. Advance in their chosen career path, wherein they apply the knowledge and professional skills with positive attitude in fulfilling the environmental, ethical and social responsibilities.
3. Be able to collaborate and work in multi disciplinary teams to tackle complex multi-dimensional industrial and environmental problems.
4. Inculcate inspiration to pursue higher studies and research in the area of environmental engineering and management.
5. Assume leadership roles in industry or business in the context of societal needs.

CURRENT RESEARCH AREAS

- Application of Quantum Dots for treatment / recovery of pollutants
- Application of rare earth elements in recovery / degradation of pollutants
- Bio-remediation of waste water / contaminated soil
- Bio-sensing of pollutants in the environment
- CO₂ capture by chemical looping combustion
- Photo-Catalytic Oxidation / Degradation of pollutants
- Regeneration of spent transformer oil
- Source apportionment studies of PM_{2.5}, PM₁₀, PAHs etc
- Wind Tunnel simulation study of vehicular exhaust dispersion

FACILITIES

- Atomic Absorption Spectrophotometer
- Autotitrator
- Cell culture facility
- Deep freezer
- Electro Spinning machine
- Fast Protein Liquid Chromatography
- Fermentors (2L, 3L,14L)
- Gas Chromatography
- Gel documentation system
- High Performance Liquid Chromatography
- High Speed Refrigerated Centrifuges
- Inductively Coupled Plasma – Optical Emission Spectrophotometer
- Ion Chromatography
- Liquid Chromatography – Mass Spectrophotometer
- Lyophilizer
- Nanodrop Spectrophotometer
- Particle Size and Zeta Potential Analyser
- Real time PCR
- Thermo-cycler
- UV Spectrophotometer



Conventional laboratories

- Chemical Reaction Engineering
- Heat Transfer
- Mass Transfer
- Mechanical Operations
- Momentum Transfer
- Process Control and Simulation

Specialised laboratories

- Advanced Instrumentation
- Bio-aerosol laboratory
- Environmental immunology
- Fermentation laboratory
- Industrial Biotechnology
- Quality testing laboratory

Computational Facilities

MATLAB, CHEMCAD, PHAST MICRO, CHARMS, UNISIM, ANSYS, AERMOD View.

CURRICULUM

Core Courses

- Air Pollution Control and Design of Equipment
- Applied Statistics and Numerical Analysis
- Industrial Domestic Wastewater Treatment
- Mathematical Modeling of Environmental systems
- Solid Waste Management
- Transport Phenomena

Electives

- Biochemical Engineering and Bio reactor Design
- Mathematical Methods in Chemical Engineering
- Risk & Safety Management
- Selected Separation Processes

CONSULTANCY ACTIVITIES

Department provides consultancy to MRPL, MCF, Hindustan Lever, and many more in areas of:

- Air Quality Modeling and Impact Studies
- Environmental Audit and Safety Audit
- Environmental Impact Assessment and Management Plan
- Environmental Quality Monitoring
- Design of treatment plants
- Risk and Safety Assessment in Process Industries