

Departmental Research: UGC DRS I: Rs. 1.41 Cr

Areas of Research (2015 - 2016)	Faculty involved	Publications	Research Project
Glass, Glass-ceramics, Shaped refractories, Nanostructured Ceramics, Refractory Castables, Sol gel Processing, Composites, Ceramic Membranes, Novel ceramics through plant precursors, Cement polymer concrete	4	11	1
Processing and modification of vegetable oils for edible and non-edible applications; Nutritional studies of various structured lipids & allied products; Lipid biotechnology, Surfactants, Aromatic oils, Nano-emulsion & nano-encapsulation techniques and other multidisciplinary areas	1	17	3
Petrochemicals, Petroleum Refining, Catalysis, Bioremediation, Biosurfactant development from hydrocarbons, Refinery Engineering, Membrane Technology, Biotechnology, Biosensor, Process Control, Modeling and Simulation, Sensor development	3	07	1
Biopolymer nanomedicine, Drug lipid interaction, Developments of anti cancer and anti mutagenic, hypoglycemic, hypolipidemic, contraceptive drugs, Drug design & cheminformatics study	4	25	3

Other activities

- Book/ Book Chapter published by Faculty Members (2015-2016) - 6
- Patent published by Faculty Members (2015-2016) - 2
- Extra mural grant received (2015-2016) - Rs. 3.1 Cr

Academic collaboration (2010 - 2016)

Academic collaborations is one regular activity and the department extend support to NITTR, NIPER, Bose Institute, ISI, IICB, IACS, BIT (Mesra), BIT (Ranchi), Academic Staff colleges of different universities, West Bengal Pollution Control Board, Jadavpur University, University of North Carolina, University of La Plata, Nottingham University, St. Xavier's College, Lady Brabourne College, Annamalai University, GCCET, Central Glass & Ceramic Research Institute etc.

Industrial Collaboration (2010 - 2016)

Food Safety & Standard Authorities of India (Govt. of India), Indian Customs, Coats of India, Mother Dairy, Edible Products Ltd., Quaker Chemicals Ltd., Proficient Food Products, Emami Agrotech Ltd., Suman Proteins Ltd., Aloka Oils Ltd, Vinayak Fats & Oils, Budge Budge Refinery Ltd., JVL Agroindustries Ltd., B.N. Exports Ltd., Albert David limited, Sigcap Pharmaceuticals, Chem Biotek Ltd. and several more

Sophisticated Instruments

SEM, CHNS analyser, FTIR, GCMS, HPTLC, DLS, GLC, HPLC, UV-VIS Spectrophotometer, ELIZA Reader, Tintometer, Gel Electrophoresis, High Pressure Reactor, Petroleum Product Analysers, Viscometer, Rheometer, Attritor Mill, Precision Cutter, Spin coater, TBP Distillation unit, Molecular Distillation Unit, Rotary Evaporator, Lyophilizer, Farmentor, BOD, Cold Centrifuge, Ultra Centrifuge, Microbalance, Tensiometer, Server, Cheminformatics tools etc.

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UNIVERSITY OF CALCUTTA

Department of Chemical Technology

A Journey towards Excellence...



Historical background

The inception of the Department of Applied Chemistry was in 1920. University of Calcutta is the first among the Indian universities to pioneer studies in Applied Sciences at the post graduate level. In January 1982, Department of Applied Chemistry was trifurcated into three departments; Department of Chemical Technology is one of them. University has introduced B. Tech (8 semesters) 4 years course (admitted through JEE) along with lateral entry from post B.Sc. (Chemistry Hons.), and 2-years (4 semester) M. Tech. degree courses with specializations in **Ceramic Engineering, Petrochemicals & Petroleum Refinery Engineering, Oil Technology and Pharmaceutical & Fine Chemical Technology** in the Department of Chemical Technology in 2015. Graduates of this university department are currently leaders in several significant chemical process industries in India and abroad. Many are avid researchers with excellent contributions in technology innovations. The department takes pride in excellent teacher-student relations, ample research facilities in different disciplines, industry communications and pursuing multi-disciplinary research activities. Department has one independent animal house under the institutional animal ethics committee, one scanning electron microscope and a variety of chemical analysis and process engineering facilities.

Faculty Strength (at present)		Courses Offered & Student Intake	
Professors - 7 Assistant Professors - 6 Number of Non-Teaching Staff - 6		B. Tech. in Chemical Technology - 45 M. Tech. in Ceramic Engg./Oil Tech/Petrochemical and Petroleum Ref. Engg./Pharmaceutical Technology - 10 each (5 regular and 5 sponsored) Ph.D. - 30 Scholars in the department at present.	
Student's performance (GATE and Placement)	GATE	Placement	
B. Tech. (2015 - 2016)	10	90%	
M. Tech. (2015 - 2016)	-	Majority opt for research career	
Scholar's performance (2015 - 2016)			
Fellowship	CSIR, DST, DBT, ICMR, UGC, CU etc.		
Awards	MRSI Young Scientists' award, Oil Tech Association of India award, Best Poster and presentation award in various national and international conferences		

Vision

- To achieve excellence in new age technology developments, innovations in technology fundamentals, and motivate in realistic scientific contributions cutting across different technology barriers. Strive will be a national model of excellence for challenging, learner-centred academic activities that will achieve the highest level of intellectual excellence, embrace diversity, motivate confidence within a diverse collaborative research environment.
- Excel in participative learning and inspire young mind for lifelong learning with social and professional commitments.
- Contribute whose members shall share a passion for research, teaching and lifelong learning with an abiding commitment to society.
- Promote strong traditions for intellectual academic delivery and application of knowledge in rapidly developing changes in national and international science and technology scenario.

Mission

- ❖ Inspiring young mind for continuance of cohesive contributions in science based technology applications and innovations.
- ❖ Creating multifaceted opportunities for the faculty, researchers and the freshmen for excellence in professional knowledge and skills, comprehensive social developments and personal commitments build upon strong ethical and moral values.
- ❖ Creating sustained developments through multilateral collaborations directed in innovative research, industry requirements and continued learning needs.

Program Educational Objectives

- ✓ To impart high quality education to the students for adaptation of emerging technologies in the field of Ceramic Engineering, Oil technology, Petrochemicals & Petroleum Refinery Engineering and Pharmaceutical & Fine Chemical technology and excel in their professional careers.
- ✓ To encourage the students to pursue higher education and contribute in research and development activities in the areas of Ceramic Engineering, Oil Technology, Petrochemicals & Petroleum Refinery Engineering and Pharmaceutical & Fine Chemical Technology.
- ✓ To lay the foundation on managerial and behavioral aspects of professional life, exhibit leadership qualities and satisfy the technological needs of the society.

