

Geotechnical Engineering Group

Major Research Initiatives for the academic year 2012-13 to 2015-16

No	Research Area
1	Polyaxial Strength Criterion for Rocks and Rock -mass
2	Behaviour of Geomaterials under cyclic triaxial state of stress
3	Numerical modeling of Liquefaction using coupled FEA

MAJOR RESEARCH INITIATIVES

Dr. J.K. Ghosh

1. Structural health monitoring using Geomatics.
2. Cognitive and psychovisual interpretation of satellite data.
3. Development of Indian geoid models.
4. Prototype development using GPS.

Dr. S.K. Ghosh

1. "Institutional Capacity reinforcement of Hanoi University of Science, in education and research in remote sensing and GIS applied to monitoring and management of natural resources" Deptt of Geography, HUS, Hanoi for Indo-Vietnam (DSt-MOST) bi-lateral project from 2011-2013
2. "Development of geo-informatic techniques for defining sensitive and vulnerable drought areas under impact of global climatic change in Southern Central of Veitnam (Case study in Ninh Thuan Province)" Institute of Geography, VAST, Hanoi for Indo-Vietnam (DST-MOST) bi-lateral project from 2012-2014.

ENVIRONMENTAL ENGINEERING GROUP

Major Research Initiatives

1	Soft Computing Tools: Air Emission Inventory and Health Risk Assessment
2	Megacities Air Pollution and Regional Impacts
3	Riverbank Filtration : Physico-Chemical and Microbial Contaminants Attenuation
4	Enhancement of Natural Water Systems and Treatment Methods for Safe and Sustainable Water Supply in India (Acronym: Saph Pani)
5.	Hybrid Sorbent : Arsenic Removal from Drinking Water
6	Environmental Nanotechnology: Fluoride Removal From Drinking Water
7	Advanced Wastewater Treatment & Reuse: Advanced on-site treatment, Vermifiltration, Upgradation, Process Optimization
8	Supporting consolidation, replication and up-scaling of sustainable wastewater treatment and reuse technologies for India.(Acronym: SARASWATI)
9	An innovative sustainable biotechnology for resource recovery from wastewater streams using microwave enhanced advanced oxidation with algae
10	Innovative Toilet with Black Soldier Fly (BSF) Larvae
11	High Rate Rotary Drum Composting

TRANSPORTATION ENGINEERING GROUP

Major Research Initiatives

Financial Year	Name of the Faculty	Title of New project	Sponsoring Agency	Total Project cost	Project Duration
2013-2014	Indrajit Ghosh	Effect of Countdown Display on Traffic Flow Characteristics and Driver Behaviour at Signalised Intersections	DST, Delhi	18,01,000.00	3 years
2013-2014	Indrajit Ghosh	Development of Performance Parameters for Two-lane Roads under Mixed Traffic Condition	IIT Roorkee	9,50,000.00	3 years
2013-2014	Satish Chandra	Development of Specifications of WMA for Indian Conditions	DST, Delhi		
	G D Ransingchun R N	A Pragmatic Approach Towards Using RAP in Flexible Pavement & PQC Mix	IITR and NBCC		
2013-2014	Satish Chandra	INDO-HCM	MHRD	90,00,000.00	3 years
2013-2014	M Parida	INDO-HCM	MHRD	10,00,000.00	3 years

HYDRAULIC ENGG. GROUP

Major Research Initiatives

S.No.	Research Area
1.	Planning of regional ground water development
2.	Planning of sustainable water resources development under changing climate scenario
3.	Morphological study of the Rivers
4.	Hydraulics of hilly rivers
5.	Soil moisture dynamics in the irrigated agriculture

STRUCTURAL ENGINEERING GROUP

Major Research Initiatives

No.	Research Area
1.	Studies on Energy Absorption Characteristics of Prestressed Concrete Elements under Drop Weight and Ballistic Impact
2.	Design, Development and Testing of Indigenous and Economic Ultra High Performance Concrete for Strategic Structures
3.	Development of Agriculture Waste-based Accelerator for Enhanced Concrete Hardening
4.	Multi-scale based Fracture and Fatigue Evaluation in Quasi-brittle Materials