

**SPONSORED RESEARCH PROJECTS UNDERTAKEN BY THE DEPARTMENT OF
CIVIL ENGINEERING DURING THE PERIOD 2009-13**

Sl. No.	Title of the project	Investigator(s)	Period	Rs. in lakhs	Funding Agency
1	Water science technology cell	Prof M S Mohan Kumar Prof M Sekhar	2000-2014	199.88	IRD, France
2	An integrated study of hydrology and mineralogy for assessment of water quality and quantity in the sub-catchment / watershed	Prof M Sekhar Prof M S Mohan Kumar Prof P V Sivapullaiah	2000-2014	102.68	IRD, France
3	Hydro-bio geo-chemical cycles into experimental watersheds of south India	Prof M S Mohan Kumar Prof M Sekhar	2005-2009	24.26	IFCPAR
4	Modeling of nonlinearity in experimental structural dynamics	Prof C S Manohar Prof. V.R. Sonti Dr.A.R.Upadhyay	2005-2009	14.58	ARDB
5	Assessment of water resources under climate change scenarios at river basin scale	Prof P P Mujumdar Prof D Nagesh Kumar Dr V V Srinivas	2006-2009	30.74	MWR
6	Development of nonlinear membrane elements with wrinkles and slack regions for design/analysis of inflatable structures	Prof Debasish Roy	2006-2009	5.38	ISRO
7	Indo-French network for water sciences	Prof M S Mohan Kumar	2006-2010	4.30	DST
8	Studies on the influence of blast induced seismic wave characteristics on the safety of surface structures and underground opening in joint rock mass	Prof T G Sitharam	2006-2009	17.05	CSIR
9	Guidelines for soil nailing in highway engineering	Prof G L Sivakumar Babu	2006-2009	28.11	Ministry of Surface Transport
10	Use of coir as drainage medium for soft ground improvements and as random reinforcing material	Prof G L Sivakumar Babu	2007-2009	7.05	Coir Board
11	Assessment of seismicity of peninsular India using remote sensing	Prof T G Sitharam	2007-2009	4.96	STC
12	Deploying broad band seismograph at IISc, Bangalore	Prof T G Sitharam	2007-2010	40.00	DST
13	Development of efficient surface aeration systems for water & waste water treatment	Prof A Ramakrishna Rao	2007-2010	52.98	DST
14	Prediction of declamation fracture strength of bonded silica tiles	Prof J M Chandrakishen	2007-2009	5.66	STC-IISc
15	Root zone moisture retrieval by assimilation of near surface measurements	Prof M Sekhar	2008-2010	7.99	STC-IISc
16	Sustainable ground water management for the Mulbhgal town under the integrated urban water management	Prof M Sekhar	2008-2011	26.52	Arghyam

	project of Arghyam				
17	Characterization of ground water flow in hard rock aquifers	Prof M Sekhar Prof M S Mohan Kumar	2008-2009	5.25	DST
18	Fire resistance & repair of earthquake damaged structures	Prof C S Manohar Prof Ananth Ramaswamy	2008-2012	9.94	UKIERI, UK
19	Prediction of stream flow at river basin scale under climate change scenarios	Prof P P Mujumdar	2008-2010	6.79	STC-IISc
20	In-situ behaviour of betonite buffer under deep geological repository conditions	Prof M Sudhakar Rao	2008-2010	27.97	BRNS, DAE
21	Prediction of residual strength / life of reinforced concrete membrane	Prof J M Chandrakishen Prof Ananth Ramaswamy	2007-2010	17.59	DST
22	Non-invasive imaging of vico-elastic in homogeneities in breast-tissue mimicking phantoms	Prof Debasish Roy	2008-2010	11.39	CSIR
23	Tsunami generation due to submarine landslides: numerical modeling of hazard scenarios in Indian ocean	Prof Debasish Roy Prof Kushala Rajendran	2008-2010	19.71	INCO
24	Site characterization of Indo-gangetic plains with studies of site response and liquefaction hazards	Prof T G Sitharam	2009-2012	45.77	MOES
25	Seismic microzonation of Bangalore urban centre	Prof T G Sitharam	2009-2010	4.00	MOES
26	Statistical downscaling of GCM Simulations for impact assessment	Prof P P Mujumdar	2009-2010	6.12	ISRO
27	Site response studies using strong motion accelerographs	Dr P Anbazhagan Prof T G Sitharam	2009-2012	28.63	MOES
28	Managing change in soil moisture and agricultural productivity under a global warming scenario using a catchment scale climate change assessment frame work	Prof D Nagesh Kumar Prof. V.V.Srinivas	2009-2011	16.07	DST
29	Dynamic properties of cohesionless soils using resonant column bender element tests and their effects in ground response amplification	Prof Jyant Kumar	2009-2012	16.29	DST
30	Testing of pavements using seismic waves	Prof Jyant Kumar	2009-2011	28.27	Ministry of Highways
31	Prediction of micro vibration in a spacecraft	Dr Debraj Ghosh	2009-2011	7.59	STC-IISc
32	Damage Assessment of Reinforced Concrete Bridge Beams Using Acoustic Emission Method	Dr R Vidyasagatr	2010-2012	4.30	CISTUP, IISc
33	Vibration Based Condition Assessment & Reliability Analysis of Existing Structures	Prof C S Manohar	2010-2013	29.42	BRNS DAEO
34	Low Cost Damping materials using Waste Tyres for Earthquake Resistance	Dr P Anbazhagan	2010-2013	7.44	DST

35	Assessing the Ground Water Storage Changes & Sustainability due to Climate Change in the Semi-Arid Watersheds of South India	Prof M Sekhar	2010-2013	15.60	CSIR
36	Characterization of Rail Track Ballast Fouling Using Ground Penetration Radar and Field Sampling	Dr P Anbazhagan	2011-2013	8.32	CISTUP
37	Performance Evaluation of Geosynthetic Reinforced Unpaved Roads	Prof G Madhavi Latha	2011-2013	6.95	CISTUP
38	Underground Construction in Urban Areas: Field Data analysis and Monitoring Numerical simulations and Validation	Prof T G Sitharam	2011-2013	11.80	CISTUP
39	Use of Solid Waste to enhance Properties of Problematic Soils	Prof P V Sivapullaiah	2011-2013	8.78	CISTUP
40	Retrofitting of Masonry in Compression. Flexure and Shear with FRP	Dr K S Nanjunda Rao	2012-2013	5.28	CISTUP
41	Evaluation of Municipal Solid Waste (MSW) characteristics of a Typical Landfill in Bangalore	Prof G L Sivakumar Babu	2012-2014	4.98	CISTUP
42	Evaluation of Psycho-physical traits of Drivers and Applicability of its Based Traffic Law Enforcement for Improving Road Safety and Mobility in India	Dr Ashish Verma	2011-2014	30.99	CSIR
43	Structural Safety Assessment of large Structures using Spectral Stochastic Finite Element Method	Dr Debraj Ghosh	2011-2014	12.30	DAEO, BRNS
44	Strength and Fracture Properties of Cement Stabilized Rammed Earth and its Application for Structural Walls	Dr K S Nanjunda Rao	2011-2014	24.00	DST
45	Exploratory Evaluation of Local Kinematics on Overall Deformation in Granular Media	Dr Tejas Gorur Murthy	2011-2014	45.47	DST
46	Ground Exploration Using Surface Seismic Waves: Effect of height of Fall/Weight of the Dropping Mass on the Influence Zone and Correlation with in-situ Penetration Tests.	Prof Jyant Kumar	2012-2015	26.25	DST
47	Guidelines for the use of Geocells in Flexible pavements	Prof G L Sivakumar Babu Prof G Madhavi Latha	2012-2015	66.02	DST
48	Engineering Behaviour of Fly-Ash Composites	Prof G L Sivakumar Babu	2010-2013	19.76	DST
49	Developing Design Guidance for Rammed Earth Construction	Prof B V Venkatarma Reddy	2011-2013	81.52	IFCPR
50	Global Mobility Monitor Network(GMMN)	Dr Ashish Verma	2012-2013	6.85	IFMO, Germany
51	Parallelized Computational Modelling of Tsunamis Through Ruptures or Submarine Landslides: Forward and inverse problems	Prof Debasish Roy	2011-2014	33.70	INCOIS

52	Energy of Mass Exchange in Vegetative Systems	Prof M Sekhar	2012-2013	10.00	ISRO
53	Megha Tropiques Utilisation Programme	Prof M Sekhar	2010-2013	21.50	ISRO
54	Development of Land Parameter Retrieval Techniques & Tools for Polarimetric SAR Data Analysis	Prof M Sekhar	2010-2010	21.60	ISRO
55	Measurements of Deformation Fields through Image Analysis for Complex Constitutive materials	Dr Tejas Gorur Murthy	2011-2013	13.84	STC-IISc
56	Probabilistic Behaviour of Modal Properties of an Airframe	Dr Debraj Ghosh	2011-2013	9.54	STC-IISc
57	Novel & parallelized Computational Schemes for Wrinkled Membranes and Unfurling Inflatable Structure	Prof Desbasish Roy	2010-2013	12.48	STC-IISc
58	Probabilistic Seismic Hazard Evaluation of Karnataka State considering Local Site Effects and Revisit of Source Characterisation Based on Remote Sensing Data	Prof T G Sitharam	2010-2013	7.82	STC-IISc
59	Development of domestic Wastewater Treatment Technology	Prof M Sudhakar Rao	2010-2012	25.93	KIST (Korea)
60	Remediation of Chromium Contaminated Groundwater Using Ferro-particles Based Technology	Prof M Sudhakar Rao	2012-2014	5.83	MDWS
61	Modelling Hydrology of Mahandi River Basin Considering changes in Land Use/Land Cover	Prof V V Srinivas	2011-2014	44.94	MoES
62	Hydrometeorological Feedback and changes in Water Storage and Fluxes in Northern Indian Basins	Prof P P Mujumdar	2011-2015	298.68	NERC-MoES
63	Hydrophobic Sand Applications such as Barrier material for Organic Pollutants	Prof M Sudhakar Rao	2012-2013	5.98	PIPO
64	Making Performance based Structural Engg. For The Resistance Attainable	Prof C S Manohar	2012-2012	11.31	UKIERI, UK
65	Studies on Fatigue crack growth in graphite	Prof J M Chandrakishen	2012-2015	45.61	BRNS, DAEO
66	Development of a Model for evaluating Prestress Losses considering Creep & Shrinkage Losses in Concrete & Relaxation Losses in Steel over 100 years	Prof Ananth Ramaswamy	2012-2015	32.76	BRNS, DAEO
67	Seismic Site Classification for Indian Shallow Soil Deposits	Dr. P. Anbazhagan Prof. G. Madhavi Latha	2012-2015	107.37	BRNS, DAEO
68	Safety and Global sensitivity analyses of structures with alternative uncertainty models	Prof C S Manohar	2012-2015	31.69	BRNS, DAEO
69	Stochastic modeling of groundwater flow and contaminant transport modeling at the proposed uranium tailings pond	Prof M Sekhar	2012-2015	36.11	BRNS, DAEO

70	Stochastic modeling of hydration process in concrete : Investigation into creep and shrinkage	Prof Ananth Ramaswamy	2012-2015	32.39	BRNS, DAEO
71	Estimation of soil hydraulic properties in a catchment using agro-hydrological models and microwave remote sensing	Prof. M Sekhar	2013-2015	7.77	STC-IISc
72	Studies on integration of GPS & INS for varying coupling architectures using stochastic filters	Prof. D Roy	2013-2015	11.27	STC-IISc
73	Study of Agara and Bellandur lakes as source of water	Prof. T G Sitharam	2013-2014	9.50	Mantri, Bangalore
74	Influence of seasonal variation on ground water quality at landfill site in Goa	Prof. M Sudhakar Rao	2013-2014	6.49	Nicco Industries, Goa
75	Adaption of irrigated agriculture to climate change	Prof. M Sekhar	2013-2016	55.00	IFCPAR
76	Studies for form based code: CMP for Tier II cities (Tumkur) implementation	Prof. T G Sitharam	2013-2014	9.90	DULT, GoK
77	Performance evaluation of public transport operations in Karnataka by using multivariate and non-parametric techniques	Prof. T G Sitharam	2013-2015	9.98	CISTUP, IISc
78	Assessment of fatigue crack propagation in concrete beams and columns of bridges	Prof. J M Chandra Kishen	2013-2015	4.28	CISTUP, IISc
79	Removal efficiencies of degraded organic contaminants present in the municipal solid waste of Bangalore city after treatment by clays	Prof. P V Sivapullaiah	2013-2015	4.67	CISTUP, IISc
80	Static and cyclic load characteristics of geocell reinforced aggregates	Prof. G Madhavi Latha	2014-2015	7.88	IBM
81	IBM Faculty Award 2013	Prof. MS Mohan Kumar	2013-2015	6.14	DST
82	Software-hardware system for crack resistance characteristics determination of engineering materials and structures under mixed mode fracture	Prof. J M Chandra Kishen	2013-2015	11.53	CISTUP, IISc