

Department of Civil Engineering

The Department of Civil Engineering with its multifaceted faculty continues to maintain and cultivate its strong links with the building and construction industry and academic and research institutions both within and outside the country. Besides high quality teaching and instruction at both UG and PG levels, the Department is actively involved in basic and applied research and consultancy and provides high quality technical advisory support through various R & D projects and consultancy to various organizations. The department has attracted significant amount of sponsored research funding from government and private agencies.

Academic Programmes

The Department of Civil Engineering offers broad-based undergraduate BTech degree programme. A dual degree BTech-MTech programme is also run in structural engineering. Postgraduate MTech. (admissions through GATE/sponsorships) and PhD (through selections/ sponsorships) programmes are offered in the following five specializations:

Transportation Systems Engineering
Geotechnical Engineering
Water Resources Engineering
Structural Engineering
Geodesy & Remote Sensing

This year, 57 MTech and 17 PhD students were on admitted in the above specializations. In the first year, 51 students were on rolls in the BTech, 22 in the dual degree BTech/MTech programmes. During the year, 40 BTech, 39 MTech, 8 DD and 13 PhD students graduated from the Department.

AWARDS AND DISTINCTIONS

Prof. **D. Choudhury** received INAE Young Engineer Award – 2006 by Indian National Academy of Engineering.

Prof. **D. Choudhury** was invited to visit Department of Civil and Environmental Engineering, University of California, Berkeley, CA, USA during April to October, 2006 as 'Visiting Scholar' under the BOYSCAST Fellowship programme of DST, Govt. of India.

Prof. **M.C. Deo** received IIT Bombay Research Award for the paper “K. Thirumalaiah and M.C. Deo, River stage forecasting using neural networks, ASCE Journal of Hydrologic Engineering, Volume 3, No 1, pp 26-32, 1998”.

Prof. **T.I. Eldho** received DAAD visiting Fellowship to visit China for one week and present paper in Chinese International Conference.

Prof. **K. Gupta** was awarded the ICEWaRM (A Government of Australia initiative) visiting fellowship (4 week) to carry out research on in the area of water sensitive urban design at the University of South Australia, Adelaide, Australia.

Prof. **Tarun Kant** was elected a Fellow of the Indian National Science Academy (INSA) in 2006.

Prof. **Tarun Kant** received the Prof. H.H. Mathur Award for Excellence in Research in Applied Sciences of IIT Bombay for the year 2006.

Prof. **M.N. Kulkarni** was awarded Gold Medal for "Best Paper on GPS" at the International Conference at Sabargamuwa Univ., Sri Lanka, July 6, 2006.

Prof. **M.N. Kulkarni** was awarded "Institute Medal" by the National Research Institute for Astronomy & Geophysics, Egypt, December 21, 2006.

Extension Activities

In order to encourage and facilitate interaction amongst practitioners and researchers, the following activities were organized:

QIP/CEP Course on Advanced Techniques in Water Resources Management, AICTE Sponsored, November 13-16, 2006.

Symposium on CITIES AND FLOODS, Indian Society for Hydraulics, November 17-18, 2006.

NPEEE Training Course on Structural Dynamics – Applications to Earthquake Engineering, July 3-14, 2006.

CEP course on Urban Drainage Management-State-of-the-Art, May 4-6, 2006.

In House CEP course on General Civil Engineering for Senior Executives, CEM Baxi and Company, September-December, 2006.

DST-Sponsored Short Training Course on GPS & Its Application to Atmospheric Research, February 27 – March 4, 2007.

CEP Training Course on GPS for Lavasa Corpn. Ltd., January 27-31, 2007.

Orientation Course on Road Works for BMC Engineers (Roads Department), 19th September to 6th October, 2006.

CEP course on Construction and Quality Control Issues in Road Works for the field engineers employed by BMC Contractors, March 14-15 and 21-22, 2007.

Sponsored Research

During the financial year 10 projects were completed and 13 new sponsored research projects worth about 65.7 lakhs were initiated during the year. A few of the ongoing and new projects are listed below:

Centrifuge model studies on stabilization of slopes with piles (DST)
Projection of deep water satellite data of waves and wind to shallow water using ANN (ISRO)
Real time wave forecasting using soft computing tools (NRB)
In-filling of gaps in the wave height time series using soft computing tools (DST)
GPS application to meteorology - Procurement of met. packages (DST)
Displacement-based earth pressures under seismic conditions (YSRA of BRNS-DAE)
Characterization of soft clays for road and infrastructure developments projects in Port area (SBPO).
Development of numerical models for the prediction of hydrodynamics and transport in branched estuary channels (DST)
Integrated watershed modelling using IRS data and geographical information systems (ISRO-IITB)
Inelastic displacement-based design of steel plate shear wall (SPSW) structures (DST)
GPS studies for crustal deformations in Western Maharashtra & Konkan (DST)
RRPPS rural road pavement performance study (MRD)
PMGSY project for scrutiny of rural roads proposals (MRD)
Centrifuge model studies on strong ground motion in the near field (BRNS)
Grants for research in geotechnical engineering: Soft clay characterization (MEARSK)
Soil-structure interaction problem for earth retaining structure under seismic condition (AERB)
Determination of liquefaction potential of soils using electrical properties (CSIR)
Development of web-based wave forecasting system for NIOT (NIOT)

Consultancy Work

270 consultancy projects worth about Rs. 5.57 crores were undertaken during the year by the Civil Engineering Department. 23 faculty members were involved in the above consultancy work.

Books/Chapters in Books

Prof. **M.C. Deo** has compiled a monogram on “Waves and Structures” and put it on Departmental web site as courseware (350 pages).

Prof. **Madhav N. Kulkarni** edited the Training Volume titled “GPS & Its Application to Atmospheric Research” under the DST-sponsored short training course during 27th February to 4th March, 2007 at IIT Bombay.

Prof. **B.V.S. Viswanadham** published “Geosynthetics Reinforcement Aspects of Clay Barriers” Co-memorative Volume to be brought out on the occasion of two decades of Geosynthetics in India by Central Board of Irrigation and Power, New Delhi.

National Journal Papers

Bhajantri M.R., **Eldho T.I.** and Deolalikar P.B.
Two-dimensional free surface flow over a spillway – A numerical model case study, *ISH Journal of Hydraulics Engineering*, Volume 12, No 2, pp 7-24, 2006.

Bhajantri M.R., **Eldho T.I.** and Deolalikar P.B.
Hydrodynamics modeling of flow over a spillway using a two dimensional Finite Volume based numerical model, *Sadhana - Journal, Indian Academy of Sciences*, Volume 31, No 6, pp 743-754, 2006.

Bhosale S.S. and **Mandal J.N.**
Reflection cracking on asphalt overlays: An overview, *Indian Highways*, Volume 34, No 3, pp 11-22, 2006.

Choudhury D. and Chatterjee S.
Dynamic active earth pressure on retaining structures, *Sadhana - Journal, Indian Academy of Sciences*, Volume 31, No 6, pp 721-730, 2006.

Choudhury D., Nimbalkar S.S. and **Mandal J.N.**
Comparison of pseudo-static and pseudo-dynamic methods for seismic earth pressure on retaining wall, *Journal of Indian Geophysical Union*, Volume 10, No 4, pp 311-319, 2006.

Dodagoudar G.R. and **Venkatachalam G.**
Reliability analysis of finite earth slopes, *Indian Geotechnical Journal*, Volume 36, No 4, pp 348-372, 2006.

Eldho T.I., Mohammed Shrique M.
Hydrodynamics modeling of estuaries using an implicit finite element model, *Institution of Engineers India – Civil Engineering Journal*, Volume 87, pp 15-23, 2006.

Gupta K.
Hydrological Simulation for sizing treatment plant for reducing pollution in Hussain Sagar Lake, Hyderabad (India), *J. of the Indian Waterworks Association*, Volume 38, No 2, pp 15-21, 2006,

Jothiprakash V., Devamane M.G. and Mohan S.
Comparative study on multi-site stream-flow generation model HEC-4 and ANN model, *Journal of Institution of Engineers*, Volume 87, pp 9-14, 2006.

Jothiprakash V. and Ganesan Shanthi G.

Genetic algorithms for multi-reservoir system optimization, *Journal of Indian Society for Hydraulics*, Volume 12, No 3, pp 70-79, 2006.

Prajapat M. and **Eldho T.I.**

Experimental and theoretical investigations of multiple inclined jets, *ISH Journal of Hydraulics Engineering*, Volume 12, No 3, pp 49-62, 2006.

Sreeja P. and **Gupta K.**

Modelling of detention tank-gate system using frequency and time domain approach, *ISH J. of Hydraulic Engineering*, Volume 12, pp 110-120, 2006.

International Journal Papers

Azmathullah H.M., **Deo M.C.** and Deolalikar P.B.

Estimation of scour below spillways using neural networks, *Journal of Hydraulic Research*, IAHER, Volume 44, No 1, pp 61-69, 2006.

Bajoria K.M. and Talikoti R.S.

Determination of flexibility of beam-to-column connectors used in thin walled cold-formed steel pallet racking systems, *Thin-Walled Structures*, Volume 44, No 3, pp 372-380, 2006.

Bakre S.V., **Jangid R.S.** and Reddy G.R.

Optimum X-plate dampers for seismic response control of piping systems, *International Journal of Pressure Vessels and Piping*, Volume 83, pp 672-685, 2006.

Balappgol B.S., **Bajoria K.M.** and Kulkarni S.A.

A two-dimensional finite element analysis of a shape memory alloy laminated composite plate, *Smart Materials and Structures*, Volume 15, No 4, pp 1009-1020, 2006.

Balappgol B.S., **Bajoria K.M.** and Kulkarni S.A.

Natural frequencies of a multilayer SMA laminated composite cantilever plate, *Smart Materials and Structures*, Volume 15, No 4, pp 1021-1032, 2006.

Bartake P.P. and **Singh D.N.**

A generalized methodology for determination of crushing strength of granular materials, *Geotechnical and Geological Engineering*, Volume 25, pp 203-213, 2007.

Bartake P.P. and **Singh D.N.**

Studies on determination of shear wave velocity in sands, *Geomechanics and Geoengineering: An International Journal*, Volume 2, No 1, pp 41-49, 2007.

Bartake P. P., Raghunandan S. and **Singh D. N.**

Modelling liquefaction of sand in a geotechnical centrifuge, *Jr. of South East Asia Geotechnical Society*. Volume 11, pp 131-135, 2006.

Bhaskararao A.V. and **Jangid R.S.**

Seismic response of adjacent buildings connected with friction dampers, *Bulletin of Earthquake Engineering*, Volume 4, pp 43-64, 2006.

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Harmonic response of adjacent structures connected with a friction damper, *Journal of Sound and Vibration*, Volume 292, pp 710-725, 2006.

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Seismic analysis of structures connected with friction dampers, *Engineering Structures*, Volume 28, pp 690-703, 2006.

Bindhu M., **Mathew T.V.** and **Dhingra S.L.**

A prototype time-space diary design and administration for a developing country, *Journal of Transportation Engineering*, ASCE, Volume 132, No 6, pp 489-498, 2006.

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Higher-periodic and aperiodic stick-slip dynamics in a friction damper, *Int. J. of Acoustics and Vibration*, Volume 11, No 2, pp 67-78, 2006.

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Choudhury D., Basu S. and Bray J.D.

Behaviour of slopes under static and seismic conditions by limit equilibrium method, in embankments, dams and slopes: Lessons from the new orleans levee failures and other current issues, *Geotechnical Special Publication*, ASCE, Volume 161, pp 1-10, 2007.

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Centrifuge model study on pile responses due to adjacent excavation, in foundation analysis and design: Innovative methods, *Geotechnical Special Publication, ASCE*, Volume 153, pp 145-151, 2006.

Garg A.K., Khare R.K. and **Kant T.**
Free vibration of skew fiber-reinforced composite and sandwich laminates using a shear deformable finite element model, *Journal of Sandwich Structures and Materials*, Volume 8, pp 33-53, 2006.

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Higher-order closed-form solutions for free vibration of laminated composite and sandwich shells, *Journal of Sandwich Structures and Materials*, Volume 8, pp 205-235, 2006.

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Huggi V.P. and **Rastogi A.K.**
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On the angle ply higher order beam vibrations, *Computational Mechanics*, Volume 40, pp 25-33, 2007.

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Seismic response of simply supported base-isolated bridge with different isolators, *International Journal of Applied Science and Engineering*, Volume 6, pp 53-69, 2006.

Mishra S.K., Sahu R.K., **Eldho T.I.** and Jain M.K.

An improved I_a -S relation incorporating antecedent moisture in SCS-CN methodology, *Journal of Water Resources Management*, Volume 20, No 5, pp 643-660, 2006.

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Seismic stability of reinforced soil-wall by pseudo-dynamic method, *Geosynthetics International*, Volume 13, No 3, pp 111-119, 2006.

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Response to discussion on seismic stability of reinforced soil-wall by pseudo-dynamic method, *Geosynthetics International*, Volume 13, No 6, pp 277-278, 2006.

Pendhari S.S., **Kant T.** and **Desai Y.M.**

Non-linear analysis of reinforced concrete beams strengthened with polymer composites, *Structural Engineering Mechanics - An International Journal*, Volume 24, No 1, pp 1-18, 2006.

Rastogi A.K., Patil S. and Ukarande S.K.

Periodic water waves on the shear flow in open channel, *Journal of Inst. of Engg.* (Civil Engg. Divn.), Volume 87, pp 47-51, 2006.

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A generalized relation between initial abstraction and potential maximum retention in SCS-CN based model, *International Journal of River Basin Management, IAHR*, Volume 4, No 4, pp 245-253, 2006.

Satale D. and **Kulkarni M.N.**

Application of geospatial information technology to alleviate urban problems in Mumbai India, *Journal of Institute of Civil Engineering Survey*, Volume 1, pp 1-10, 2006.

Satish V.U., **Mathew T.V.** and Waller T. S.

Robust network design problem under demand uncertainty using an evolutionary algorithm, *Computer-Aided Civil and Infrastructure Engineering*, Volume 22, pp 6-18, 2007.

- Shah P.H., Sreedeeep S. and **Singh D.N.**
Evaluation of methodologies used for establishing soil-water characteristic curve, *Journal of ASTM International*, Volume 3, No 6, pp 1-11, 2006.
- Shah P.H. and **Singh D.N.**
Methodology for determination of hygroscopic moisture content of soils, *Journal of ASTM International*, Volume 3, No 2, pp 1-14, 2006.
- Singh P. and **Deo M.C.**
Suitability of different neural networks in daily flow forecasting, *Applied Soft Computing*, Volume 7, pp 968-978, 2007.
- Snehlata S., **Rastogi A.K.**, Patil S. and Fengyin L.
Development of numerical model for inverse modeling of confined aquifer: application of simulated annealing method, *Water International*, Volume 31, No 2, pp 266–271, 2006.
- Soneji B.B. and **Jangid R.S.**
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Seismic control of cable-stayed bridge using semi-active hybrid system, *Bridge Structures*, Volume 2, pp 45-60, 2006.
- Sreedeeep S. and **Singh D.N.**
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- Sreedeeep S. and **Singh D.N.**
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- Thakur V.K.S., Sreedeeep S. and **Singh D.N.**
Evaluation of various pedo-transfer functions for developing soil water characteristic curve for a silty soil, *Geotechnical Testing Journal*, ASTM, Volume 30, No 1, pp 25-30, 2007.
- Witthüser K., Dalinaidu A. and **Singh D.N.**
Investigations on diffusion characteristics of granite and chalk rock mass, *Geotechnical and Geological Engineering*, Volume 24, No 2, pp 325-334, 2006.
- Young D.L., **Eldho T.I.** and Chang J.T.

Large eddy simulation of turbulent flows in external flow field using three-step FEM-BEM model, *Int. Journal of Engineering Analysis with Boundary Elements*, Volume 30, pp 564-576, 2006.

National Conference Papers

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Behaviour of subgrade under cyclic load below railway track, *Indian Geotechnical Conference*, IGC-2006, Chennai, Volume 2, pp 731-732, December 14-16, 2006.

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Useful life period estimation of a reservoir using trap efficiency, *National Conference, on Hydraulics and Water Resources*, HYDRO-2006, Pune, pp 749–756, December 8-9, 2006.

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Level of service and saturation flow analysis of urban streets in Indian context, *National Workshop on Characterisation of Urban Road Traffic*, IIT Madras, Chennai, pp 73-83, March 9-10, 2007.

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Application of GPS in water vapour estimation, *National Conference on Civil Engineering Systems 2006*, Osmania University, Hyderabad, May 11, 2006.

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Datta D. and **Ghosh S.**

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Datta D. and **Ghosh S.**

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Deepa D., and **Eldho T.I.**

Experimental and numerical investigation on scour caused by multiple offset jets, *15th Congress of Asia and Pacific Division of IAHR and International Symposium on Maritime Hydraulics*, IIT Madras, Chennai, Volume I, pp 1349-1355, August 7-10, 2006.

Deepa D. and **Eldho T.I.**

Investigations on scouring process due to multiple offset jets, *Int. Conf. on Application of Fluid Mechanics in Industry & Environment*, Indian Statistical Institute, Calcutta, pp 185-191, August 29-31, 2006.

Eldho T.I.

Role of common effluent treatment plants for sustainable water management in industrial areas, *SURED Int. Seminar, DAAD on Sustainable Watershed Management*, Haikou, China, pp 205-214, August 26-28, 2006.

Garg A.K., Khare R.K. and **Kant T.**

Free vibration of laminated folded plates using a shear deformable finite element model, *Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, IIT Guwahati, December 8-10, 2006.

Garg V. and **Jothiprakash V.**

Estimation of sediment retention in a reservoir: A case study, *International Conference on Hydrology and Watershed Management*, JNTU, Hyderabad, Volume II, pp 1054-1061, December 5-8, 2006.

Garudkar A.S., **Rastogi A.K.** and **Eldho T.I.**

Benchmarking for performance evaluation of irrigation water management: A case study, *International Conference on Perspective on Environment and Water Resources*, New Delhi, December 18–20, 2006.

Geetha K., Mishra S.K., **Eldho T.I.**, **Rastogi A.K.** and Pandey R.P.

Development of SCS-CN based modified model for hydrologic forecasting, *International Conference on Perspective on Environment and Water Resources*, New Delhi, December 18–20, 2006.

Ghosh S. and **Ghosh S.**

Life cycle cost optimization of shear wall buildings, *Civil Engineering in the New Millenium* (CENeM), Howrah, India, January 11-14, 2007.

Ghosh S. and **Ghosh S.**

Seismic design of steel plate shear walls considering inelastic drift demand, *Tenth East Asia Pacific Conference on Structural Engineering and Construction* (EASEC-10), Bangkok, August 3-5, 2006.

Gopal Naik M., Rao E. P., **Eldho T. I.** and Venkata Reddy K.

Modelling of soil erosion and sediment yield using finite element method and geographical information systems, *2nd Int. Conf. on Hydrology & Watershed Management*, Hyderabad, December 5-8, 2006.

Gopal Naik M., Rao E. P. and **Eldho T. I.**

Simulation of soil erosion and sediment yield using remotely sensed data and GIS techniques, *6th Int. R & D Conf. on Sustaibale Development of Water & Energy Resources Needs & Challenges*, Lucknow, February 13-16, 2007.

Gupta K.

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Huggi V.P. and **Rastogi A.K.**

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Jothiprakash V. and Mohan S.

Fuzzy optimization for optimal crop planning in an irrigation system, *International Symposium on Maritime Hydraulics*, IITM Chennai, Volume 1, pp 641-648, August 7-10, 2006.

Jothiprakash V. and Shanthi G.

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Jothiprakash V. and Nirmala J.

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Jothiprakash V. and Jukker Wala K.A.

Probabilistic forecasting of meteorological parameters using frequency analysis – A case study *International Conference Civil Engineering*, Shibpur, January 11-14, 2007.

Jothiprakash V. and Garg V.

Trap efficiency estimation for reservoir sedimentation – A case study, *6th International Symposium on Ecohydraulics*, Christchurch, February 18-23, 2007.

Juneja A.

Study on the effect of sand compaction pile installation using the centrifuge, *International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges*, Howrah, January 11-14, 2007.

Kant T., Pendhari S., Desai P. and **Desai Y.M.**

On a novel partial discretization methodology in anisotropic elasticity, *Seventh World Congress on Computational Mechanics (WCCM VII)*, Los Angeles, California, July 16-22, 2006.

Kant T.

A large deflection higher order theory for laminated composite and sandwich plates, *Indo-Russian Workshop on Problems in Nonlinear Mechanics of Solids with Large Deformation*, IIT Delhi, pp 115-119, November 22-24, 2006.

Kant T. and Pendhari S.S.

Title of Keynote Lecture, *Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, IIT Guwahati, December 8-10, 2006.

Kant T., **Desai Y.M.** and Pendhari S.S.

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Kant T. and Pendhari S.S.

An unified and general dimensional reduction procedure in anisotropic elasticity, Lecture, *International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges*, Howrah, January 11-14, 2007.

Kant T. and Pendhari S.S.

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Kant T. and Desai P.

A numerical integration technique for elastic analysis of thick orthotropic axisymmetric circular cylinders of finite length, *Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, IIT Guwahati, December 8-10, 2006.

Kulkarni M.N.

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Kulkarni M.N.

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Kulkarni M.N.

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Kulkarni M.N., Radhakrishnan N. and Kamal Sakr

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Mathew T.V., Gundaliya P. and **Dhingra S. L.**

Heterogeneous traffic flow modeling and simulation using cellular automata, *9th ASCE International Conference on Applications of Advanced Technology in Transportation (AATT06)*, Chicago, August 14-16, 2006.

Mathew T.V. and Sharma S.

Network design with emission pricing as a bi-level optimization problem, *9th ASCE International Conference on Applications of Advanced Technology in Transportation (AATT06)*, Chicago, August 14-16, 2006.

Matsagar V.A. and **Jangid R.S.**

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Mir M. S. and **Krishna Rao K.V.**

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Pani B.S.

Mean flow characteristics of swirling buoyant turbulent jets, *Launching Symposium, Jr. of Hydro-environment Research*, IAHR, Hong Kong, January 18-19, 2007.

Patel P. and **Kulkarni M.N.**

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Patel H.M., **Eldho T.I.** and **Rastogi A.K.**

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Prasanth T. and **Ghosh S.**

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Genetic algorithms for multi-reservoir system optimization, TN India, *International Conference on Hydrology and Watershed Management*, JNTU, Hyderabad, Volume I, pp 615-622, December 5-8, 2006.

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Generational genetic algorithms for optimal groundwater pollution remediation design in aquifer systems, *International Conference on Perspective on Environment and Water Resources*, New Delhi, December 18-20, 2006.

Shinde A. and **Mandal J.N.**

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Singh R.K., Singh R.K. and **Kant T.**

Nonlinear analysis of reinforced concrete structures using fracture and damage mechanics constitutive models, *Second International Congress on Computational Mechanics and Simulation (ICCMS-06)*, IIT Guwahati, December 8-10, 2006.

Soneji B.B. and **Jangid R.S.**

Hybrid control strategy for seismic protection of cable-stayed bridge, *1st European Conference on Earthquake Engineering and Seismology*, Geneva, Paper No 276, September 3-8, 2006.

Sreedeeep S. and **Singh D.N.**

Comparison of methods used for establishing contaminant retention in a fine-grained soil, *International Conference on New Development in Geoenvironmental and Geotechnical Engineering, IETeC2006*, Incheon, Republic of Korea, November 9-11, 2006.

Sreedharan M., Mathada V.S. and **Venkatachalam G.**

Reliability analysis of rock slopes – case studies, *Tenth International Conf. on Structural Engineering and Construction (EASEC -10)*, Bangkok, Thailand, Volume 8, pp 71-76, August 3-5, 2006.

Suman K. and **Eldho T.I.**

Two-dimensional modeling of hydrodynamics and transport in branched estuaries using finite element method, *15th Congress of Asia and Pacific Division of IAHR and International Symposium on Maritime Hydraulics*, IIT Madras, Chennai, Volume I, pp 1041-1048, August 7-10, 2006.

Varma M.N., **Jangid R.S.** and Achwal V.G.

Tension ring in masonry domes, *Fifth International Conference on Structural Analysis of Historical Constructions*, New Delhi, pp 1187-1193, November 6-8, 2006.

Venkata Reddy K., **Eldho T.I.** and **Rao E.P.**

Integrated watershed modeling for runoff simulation using finite element method, GIS and remote sensing techniques, *ASCE-EWRI Int. Conf., An International Perspective on Environmental & Water Resources*, New Delhi, December 18-20, 2006.

Venkata Reddy K., **Eldho T.I.**, **Rao E.P.** and Chithra N.R.

Finite element and gis based rainfall - Runoff modeling of watershed, *15th Congress of Asia and Pacific Division of IAHR and International Symposium on Maritime Hydraulics*, IIT Madras, Chennai, Volume I, pp 665-670, August 7-10, 2006.

Venkatachalam G.

Role of reliability analysis in geotechnical engineering, *International Conf. on Civil Engg. in the New Millenium (CENeM) - Opportunities and Challenges*, Howrah, January 11-14, 2007.

Viswanadham B.V.S., Sengupta S.S. and Muthukumaran A.E.

Studies on the deformation behaviour of randomly reinforced soil liners in a geocentrifuge, *8th International Conference on Geosynthetics*, Yokohama, Japan, Volume 4, pp 1671-1674, September 18-22, 2006.

Viswanadham B.V.S. and Tripathi K.K.

Non-uniform settlement behaviour of sand-bentonite liners in a geotechnical centrifuge, *6th Int. Conf. on Physical Modelling in Geotechnics*, Hongkong, Volume 2, pp 1237-1242, August 4-6, 2006.

Viswanadham B.V.S. and Mahajan R.R.

Deformation behaviour of geotextile reinforced sand slopes, *6th Int. Conf. on Physical Modelling in Geotechnics*, Hongkong, Volume 1, pp 367-372, August 4-6, 2006.

Viswanadham B.V.S. and Sengupta S.S.

Deformation behaviour of compacted clay liners of landfills in a large beam centrifuge, *6th Int. Conf. on Physical Modelling in Geotechnics*, Hongkong, Volume 2, pp 1231-1236, August 4-6, 2006.

Viswanadham B.V.S., König D. and Triantafyllidis T.

Centrifuge model tests on geotextile reinforced slope subjected to differential settlements, *6th Int. Conf. on Physical Modelling in Geotechnics*, Hongkong, Volume 1, pp 597-602, August 4-6, 2006.

Viswanadham B.V.S. and Sengupta S.S.

Deformation behaviour of compacted soil liners in a geocentrifuge *5th Int. Congress on Environmental Geotechnics*, Cardiff, Wales, UK, Paper No 233, June 27-30, 2006.

Wei E., **Kulkarni M.N.** and Liu F.

On the design of geodetic space VLBI satellite orbit and tracking network, *ION/GNSS-2006 Conference*, South Korea, September 26-29, 2006.

Wei E., Sandor F. and **Kulkarni M.N.**

Design of Chinese space VLBI, satellite orbit and its tacheometry network, *VI Hotine Marussi Symposium on Theoretical and Computational Geodesy*, Wuhan University, China, May 29-June 2, 2006.

Honorary Works

Chandiramani N.K.

Reviewer for Journal of Sound and Vibration and Proc. of the Royal Society-Series A.

Choudhury D.

Reviewer of Soil Dynamics and Earthquake Engineering, Journal of Geotechnical and Geoenvironmental Engineering, Computer – Aided Civil and Infrastructure Engineering, Geosynthetics International, Geotechnical and Geological Engineering' Current Science, Indian Geotechnical Journal, Journal of Civil Engineering, ISET Journal of Earthquake Technology and Indian Journal of Engineering & Material Sciences.

Developed for the NPTEL Web-based course on “Foundation Engineering”.

Deo M.C.

President, Indian Society for hydraulics

Associate Editor, ASCE Journal of Computing in Civil Engg.

Member, Editorial Board, International Journal of Ships and Offshore Structures, Thomas Telford

Member, Editorial Board, International Civil-Comp -2006 Conf., Spain

Editor: Special issues of the ISH Journal of Hydraulic Engineering -2007

Co-chair, HYDRO-2006 Conference held at Pune, December 8-9, 2006

Chair, Editorial Committee of Journal of hydraulic Engg., Indian Society for Hydraulics

Member, Editorial Committee, Int. JI of Ecology and Development

Session chair at APD IAHR conf., IIT-M and hydro-2006 conf., Pune

Acted as a Judge for the best paper selection at the European Geological Union at Vienna in April 2006.

Reviewed paper for International Journal of Applied Thermal Engineering, Coastal Engineering (Elsevier), Canadian Journal of Civil Engg., International Journal of

Applied Mathematical modeling, International Journal of Ships and Offshore Structures, International Journal Of Coastal Research, ASCE Journal of Computing in Civil Engg., Indian Journal of Marine Sc., International Journal Of Hydroinformatics, Continental Shelf Science (Elsevier), Advances in Engg. Sc (Elsevier), Computers and Geoscience, International Journal of Ecology and Development and Journal of Indian Society for hydraulics

Member, Building Committee, Nehru Centre

Advisor, UPSC Selections

Member, Scientists Selection, NIO, Goa

Advisor, UGC Affiliation Committee.

Member, Steering Committee, Indo-US forum of Engg.

Member, Advisory Board, Indian National Committee for Hydraulics, Ministry for Water Resources.

Eldho T.I.

Executive Council Member, Indian Society of Hydraulics, Pune

Reviewed research papers for ASCE Int. Journal of Irrigation and Drainage, Int. Journal of Water, Air and Soil Pollution, Journal Institution of Engineers India (Civil Engineering Section), Journal Hydraulics Research (IAHR), Journal of Environmental Monitoring and Assessment, Journal of Environmental Modeling and Software, ASCE Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management, ISH Journal Hydraulics Engineering, APD-IAHR Congress, 33rd FMFP Int. & National Conf., and CASST-07, IISC-ISRO Conference

Chaired a Session in 15th Congress of Asia and Pacific Division of IAHR and International Symposium on "Maritime Hydraulics" held at IIT Madras, Chennai, India on August 7-10, 2006

Chaired a Session in HYDRO2006 National Conf., ISH, Pune, Dec. 8-9, 2006

Chaired a Session in 3rd Int. Conf. & 33rd National Conf. on Fluid Mechanics & Fluid, Power, IIT Bombay, December 7-9, 2006

Selected as Member, National Academy of Sciences, India

DAAD Fellowship to attend International Conference in China

Ghosh S.

Co-ordinator for the IIT Bombay Thrust Area on Earthquake Engineering

Departmental representative of the IIT Bombay Research Fellowship and Summer Internship scheme (2005-2006)

Gupta K.

Member of three International working groups of the IAHR/IWA joint committee on Urban Drainage: (i) Sewer Systems and Processes Working Group (SS&PWG) and (ii) Urban Rainfall Group (URG)

Jangid R.S.

Reviewer for research papers of ASCE Journal of Structural Engineering, Soil Dynamics and Earthquake Engineering, Journal of Sound and Vibration, Wind and Structures, Advances in Structural Engineering-An International Journal, Engineering Structures, International Journal of Solids and Structures and Finite Elements in Analysis

Jothiprakash V.

Reviewed papers for International Journal of Spatial Hydrology, Journal of Indian Society of Hydraulics, International Journal - Water Resources Management and IAHR Journal of Hydro Environment Research

Co-opted Member of Indian Society for Hydraulics, Pune

Member of Technical Group of National Water Academy, Central Water Commission, Khadakwasala, Pune

Juneja A.

Reviewer of a paper in Geotechnical Testing Journal, ASTM

Krishna Rao K.V

Member, Standing Technical Advisory Committee (STAC) of BMC on Road Works

Member, Transport Planning, Traffic Engineering and Road Safety Committee of Indian Roads Congress

Kant T.

Member, Editorial Board, International Journal for Computational Methods in Engineering Science and Mechanics (IJCMESM) and Structural Engineering and Mechanics-An International Journal.

Kulkarni M.N.

Member, Editorial Board, Survey Review International Journal, UK

Member, Expert Committee, Natural Resource Development & Management Service, DST, Govt. of India

Member, Indian National Science Academy Committee for International Association of Geodesy

Member, Advisory Committee, Symbiosis Institute of Geo-informatics, Pune

Member, Advisory Board, Coordinates: GIS-GPS Magazine, New Delhi

Referee for review of journal papers for Survey Review UK, Current Science, India, GIS at development, India, NISCAR Journal, India, GPS World, USA, Indian Surveyor, Journal of Institution of Surveyors and Journal of Indian Society of Remote Sensing

Chaired a Session on Space Geodynamics at the International Conference: Asia Pacific Space Geodynamics, Jeju Island, Korea, October 16-18, 2006

Mandal J.N.

Chairman of the Session, R-7 Reinforced slopes and Walls- Modeling and Design 2, in the 8th International Conference on Geosynthetic, Yokohama, Japan, September 18-22, 2006

Review Panel Member of 1st international Conference on New Developments in Geoenvironmental and Geotechnical Engineering, Republic of Korea, November 9-11, 2006

Chaired Technical Session 6-18, Ground Improvement Techniques, Indian Geotechnical conference, IIT Madras, Chennai, December 14-16, 2006

Mathew T.V.

Reviewer of the Research Papers for the 86th Transportation Research Board meeting at Washington DC, January 2007

Pani B.S.

Reviewed papers for ASCE, IAHR, AIAA and ISH Journal

International Advisory Board Member for the Jr. of Hydro-environment, IAHR

Member of the UGC Expert team to monitor the progress of the Centre for Water Resources, Anna university

Rastogi A.K.

Technical Research Papers Reviewed for Jr. of Earth System Science, ISH-Jr. of Hydr. Engg., 12th National Symposium on Hydrology, Jr. of Inst. of Engineers – Civil Engg. Divn, Hydrology Jr. of IAH, ASCE, Jr. of Water Resources Planning and

Management, Hydrology Jr. of IAH, ISH-Jr. of Hydr. Engg., Jr. of Inst. of Engineers – Civil Engg. Divn

Member of the International Scientific Committee for the 4th International Conference on Water Resources and Environment Research and the 31st Hydrology and Water Resources Symposium to be held from April 15–17, 2008 at the Adelaide, Australia.

Member of International Groundwater Conference (IGC–2007) held at Coimbatore

Presented views before the Parliamentary Standing Committee on Water Resources at Parliament House Annex on the Inter-linking of Rivers on June 20, 2006.

Singh D.N.

Reviewer for Journals Applied Thermal Engineering, ASCE Journal of Geotechnical and Geoenvironmental Engineering, Cement and Concrete Composites, Cold Regions Science and Technology, Construction and Building Materials, Engineering Structures, FUEL, Geomechanics and Geoengineering, Geotechnical and Geological Engineering, Geotechnical Engineering Journal, ASTM Geotechnical Testing Journal, Indian Geotechnical Journal, Indian Journal of Engineering and Materials Sciences, International Communications in Heat & Mass Transfer, International Journal of Geotechnical Engineering, Iranian Journal of Science and Technology, Journal of Civil Engineering, Journal of Hazardous Materials, Journal of the Indian Institute of Science, Powder Technology

Member of the Board of Studies in Foundation Engineering, Goa University

Board Member, Swami Vivekananda College of Engineering, Indore

Venkatachalam G.

Member, Editorial Committee, Journal of Rock Mechanics and Tunnelling Technology

Member, National Panel of Advisors, International Conference on Civil Engineering in the New Millenium (CENeM) - Opportunities and Challenges, B.E. College, Howrah, January 11-14, 2007

Member, National Advisory Committee, Second International Congress on Computational Mechanics and Simulation (ICCMS – 06), IIT Guwahati, Deecember 8-10, 2006

Member, Consortium for advising Aamby Valley City on Landslide Control Measures

Member, Experts Committee, KRCL for Advising on Remedial Measures for Track-Formation Subsidence

Member, Expert Committee, DST, for Evolving Proposal for Establishing Indian Geotechnical Institute

Member, Peer Review Committee, MSRDC, for advising on landslide and rockfall protection along Pune Bombay Expressway

Member, Buildings Committee, Small Scale Industries Services Centre, Mumbai

Member, Rock Mechanics Sectional Committee 48, Sub-Committee 48:3 on Underground Openings and Field Monitoring, Bureau of Indian Standards

Member, Soil and Foundation Engineering Sectional Committee CED 43. Sectional Committee on Rock Mechanics, Bureau of Indian Standards

Chaired Session 8K-PR-II on Professional Practices at EASEC-10, August 3-5, Bangkok, Thailand

Chaired a Session and Presented Keynote Lecture at InfraCE-2006, ACCE(I), August 12-13, 2006, Nashik

Chaired a Session and Presented Keynote lecture at TDM-2006, September 29-30, NIT, Hamirpur

Viswanadham B.V.S.

Member of TC2 – Physical Model testing of International Society for Soil Mechanics and Geotechnical Engineering

Invited Lectures

Chandiramani N.K.

Control by active and semi-active devices, BARC Mumbai, September 11, 2006

Choudhury D.

Recent developments in earthquake resistant design of retaining walls, Jawharlal Nehru Technical University (JNTU), Kukatpally, Hyderabad, March 3, 2007

Earthquake engineering, Indian National Academy of Engineering (INAE), New Delhi, December 9, 2006

Dynamic soil properties: Evaluations and uses, and Seismic Design of Retaining Structures under Passive Earth Pressure Condition, Indian Geotechnical Society, Bhavnagar Chapter, Gujarat, November 22-23, 2006

Seismic design of retaining structures under passive earth pressure condition, Department of Civil and Environmental Engineering, University of California, Los Angeles, October 2, 2006

Design of retaining structures under earthquake conditions, Indian National Academy of Engineering (INAE), New Delhi, September 8, 2006

Computation of seismic passive earth pressures on retaining structures, Department of Civil and Environmental Engineering, University of California, Berkeley, May 10, 2006

Deo M.C.

Neural networks in ocean engineering at NIOT, May 11, 2006

Neural networks and applications in Ocean engineering, Workshop on Soft Computing, University of Hyderabad, November 16, 2006

Eldho T.I.

Groundwater flow and contaminant transport modeling, Theme Meet Organized by Health, Safety & Environment Group, BARC, Mumbai, January 8-12, 2007

Numerical modeling of contaminant transport in porous media, Theme Meet Organized by Health, Safety & Environment Group, BARC, Mumbai, January 8-12, 2007

Integrated watershed modeling using finite element method, remotely sensed data and GIS, International Workshop between Australian Universities & IITS, Adelaide, February 12-15, 2007

Modeling of Water Resources Systems, Nirma University, March 19, 2007

Numerical methods in water resources modeling, Nirma University, March 19, 2007

Application of GIS and Finite Element Method for Hydrological Modeling, Nirma University, March 19, 2007

Ghosh S.

Displacement-based design of steel plate shear walls, 3rd Indo-German Workshop & Theme Meeting on Seismic Safety of Structures, Risk Assessment & Disaster Mitigation, Mumbai, March 12-14, 2007

Gupta K.

Innovative technologies for the removal of sediments from urban drainage systems at the DST Indo-Mexican workshop on water management in metropolis at IIT Delhi, November 1, 2006

Jothiprakash V.

Application of genetic algorithms in civil engineering, SRES College of Engineering, Koperganj, Maharashtra, August 25, 2006

Experience in urban storm water design, workshop on disaster mitigation strategies for river flood-A case study, SVNIT Surat, December 28-29, 2006

Modeling concept for ground water resource assessment (Indian Scenario), Centre for Water Resources, Anna University, Chennai, January 3-5, 2007

Juneja A.

Invited lecture during the special group training program on Quality control and Quality assurance in Soil Testing Equipment, held at NCB-Ballabgarh, February 11, 2006

Kant T.

Higher order theories for behaviour of FRC laminates, NC A&T State University, Greensboro, NC, USA, June 21, 2006

A new partial discretization methodology for BVPs, NC A&T State University, Greensboro, NC, USA, June 21, 2006

Recent advances in mechanics of FRCs, JNTU-Ananthpur, March 9, 2007

Polymer composite laminates – Historical perspective, BITS Pilani, March 9, 2007.

Krishna Rao K.V.

Master plan for mumbai metro, Osmania University, Hyderabad, June 1-3, 2006

Rigid pavement design and white topping, Osmania University, Hyderabad, December 26-27, 2006

Kulkarni M.N.

Geodesy, differential GPS & applications, DST-sponsored School on GPS, Navigation Electronics Research & Training Centre, Osmania University, Hyderabad, May 28, 2006

Mathew T.V.

Heterogeneous traffic flow modeling using cellular automata, Rensselaer Polytechnic Institute (RPI), Troy, NY, June 11, 2006

Heterogeneous traffic flow modeling using cellular automata, Wayne State University at Detroit, July 6, 2006

Rastogi A.K.

Importance of groundwater modeling in water management, The Energy Research Institute, New Delhi, June 21, 2006

Venkatachalam G.

Application of ANN and Fuzzy reliability analysis to slope stability, CEP course on Soft Computing Approaches in Engineering Applications, IIT Madras, January 19-21, 2007

Application of DTM and GIS to landslide studies, CEP Training course on GPS for Lavasa Corporation, January 27-31, 2007

Participation/Organization of Conference

Chandiramani N. K.

2nd International Congress on Computational Mechanics and Simulation (ICCMS-06), IIT Guwahati, December 8-10, 2006.

Choudhury D.

First Indian Young Geotechnical Engineers Conference 2007 (FIYGEC-2007) at JNTU, Kukatpally, Hyderabad, March 2-3, 2007.

Geo-Denver-2007, ASCE Specialty Conference at Denver, CO, USA, February 18-21, 2007.

Indo-US Hazard Mitigation Workshop, IIT Madras, Chennai, January 16-17, 2007.

150 Year Celebration International Conference (CENeM-2007), B.E. College Shibpur, West Bengal, January 11-14, 2007.

Indian Geotechnical Conference - 2006 (IGC-2006) at IIT Madras during 14-16 December, 2006.

First India Disaster Management Congress - 2006 (IDMC-2006), New Delhi, November 29-30, 2006.

Eldho T.I.

15th Congress of Asia and Pacific Division of IAHR and International Symposium on "Maritime Hydraulics" held at IIT Madras, Chennai, India on August 7-10, 2006.

SURED Int. Seminar, DAAD on Sustainable Watershed Management, Haikou, China, August 26-28, 2006.

3rd Int. Conf. & 33rd National Conf. on Fluid Mechanics & Fluid, Power, IIT Bombay, December 7-9, 2006.

ASCE-EWRI Int. Conf., "An International Perspective on Environmental & Water Resources", New Delhi December 18-20, 2006.

HYDRO2006 National Conf., ISH, Pune, December 8-9, 2006.

CASST 2007, ISRO-IISC Conf., January 29-31, 2007.

IWWA Annual Conf., Mumbai, February 1-3, 2007.

Ghosh S.

Tenth East Asia Pacific Conference on Structural Engineering and Construction (EASEC-10), Bangkok, Thailand, August 3-5, 2006.

2nd Meeting on the Indo-US Collaborative Research Program, New Delhi, India, September 04-05, 2006.

13th National Symposium on Earthquake Engineering (13SEE), at IIT Roorkee, India, December 18-20, 2006.

National Workshop on Earthquake Engineering Education in India: Looking Ahead, organized by NPEEE, at IIT Delhi, India, January 05, 2007.

International Conference on Civil Engineering in the New Millenium (CENeM), in Bengal Engineering and Science University, India, January 11-14, 2007.

3rd Indo-German Workshop & Theme Metting on Seismic Safety of Structures, Risk Assessment & Disaster Mitigation, Mumbai, India, March 12-14, 2007.

Jangid R.S.

13th Symposium on Earthquake Engineering, Roorkee, December 18-20, 2006.

7th International Congress on Advances in Civil Engineering, İstanbul, October 11-13, 2006.

1st European Conference on Earthquake Engineering and Seismology, Geneva, September 3-8, 2006.

Jothiprakash V.

International Symposium on Maritime Hydraulics, IIT Madras, Chennai, August 7-10, 2006.

ASCE International Conference to on Perspective on Environmental and Water Resources, New Delhi, December 18-21, 2006.

International Conference Civil Engineering, Bengal Engineering College, India, January 11-14, 2007.

6th International Symposium on Ecohydraulics, Christchurch, New Zealand, February 18-23, 2007.

National Conference on Hydraulics and Water Resources, HYDRO-2006, Bharati Vidyapeeth University, Pune, December 8-9, 2006.

Juneja A.

International Course on Computational Geotechnics, IIT Madras, February 21-23, 2007.

Kant T.

Seventh World Congress on Computational Mechanics (WCCM VII), Los Angeles, California, July 16-22, 2006.

Indo-Russian Workshop on Problems in Nonlinear Mechanics of Solids with Large Deformation, Department of Applied Mechanics, Indian Institute of Technology Delhi, November 22-24, 2006.

Second International Congress on Computational Mechanics and Simulation (ICCMS-06), Indian Institute of Technology Guwahati, December 8-10, 2006.

International Conference on Civil Engineering in the New Millennium: Opportunities and Challenges, Department of Civil Engineering, Bengal Engineering and Science University, Shibpur, Howrah, January 11-14, 2007.

National Conference on Emerging Technology and Developments in Civil Engineering, Department of Civil Engineering, Government College of Engineering, Amravati, March 22-23, 2007.

Krishna Rao K.V

Organised the 7th International Workshop on Transportation Planning & Implementation Methodologies for Developing Countries (TPMDC-2006), December 1-3, 2006.

Mathew T.V.

Organized the 7th International Workshop on Transportation Planning & Implementation Methodologies for Developing Countries (TPMDC) December 3-6, 2006, at IIT Bombay.

9th ASCE International conference on Applications of advanced technology in transportation (AATT06), Chicago, USA, August 14-16, 2006.

Pani B.S.

Launching Symposium on Jr. of Hydro-environment Research, IAHR, The Univ. of Hong Kong, January 18-19, 2007.

Hydro 2006, Bharati Vidyapeeth University, Pune, December 8-9, 2006.

Venkatachalam G.

Tenth International Conf. on Structural Engineering and Construction (EASEC -10), Bangkok, Thailand, August 3-5, 2006.

National Seminar on Fast Track Development of Infrastructure in Civil Engineering, ACCE(I), Nashik, August 12-13, 2006.

National Conference on Technology for Disaster Mitigation (TDM – 2006), NIT, Hamirpur, September 29-30, 2006.

National Fourth Terzaghi Memorial Workshop on effect of vibrations on cutting slopes and tunnels, KRCL, Goa, October 28-29, 2006.

First India Disaster Management Congress, Ministry of Home Affairs and NIDM, New Delhi, November 28-30, 2006.

Indian Geotechnical Conference (IGC-06), December 14-16, 2006,

International Conference on Civil Engineering in the New Millenium (CENeM) - opportunities and challenges, B.E.College, Howrah, January 11-14, 2007.

Viswanadham B.V.S.

DST-PAC meeting for Civil, Mechanical and Robotic Engineering was organized at IIT Bombay during June 13-14, 2006.

Specializations of the Faculty

K.M. Bajoria, PhD (Cambridge)

Associate Professor

Structural engineering: Computer aided design, Non-linear analysis, Nuclear structures.

P. Banerji, PhD (Berkeley)

Professor

Structural engineering: Earthquake analysis, Risk assessment, Artificial neural networks, Nuclear structures.

N.K. Chandiramani, PhD (Virginia Tech)

Associate Professor

Structural engineering: Nonlinear dynamics; Stability and control; Computational mechanics; Solid mechanics

D. Choudhury, PhD (IISc Bangalore)

Associate Professor

Geotechnical engineering: Geotechnical Earthquake Engineering, Earth retaining structures, Slope Stability, Anchor, Pile, Bearing capacity problems, Centrifuge Modeling, Fundamentals of soil behaviour for fine grained soils, DDL theory.

M.C. Deo, PhD (IIT Bombay)

Professor and Head

Ocean engineering: Random data analysis using artificial intelligence techniques, Neural networks, Genetic programming, Model trees, Locally weighted learning, Support vector machines, Soft computing, Data mining, Statistical and stochastic analysis, Hydrology (Random data analysis using soft computing tools)

Y.M. Desai, PhD (Manitoba)

Professor

Structural engineering: Wind induced vibrations, Computational mechanics, Nonlinear analysis, Finite elements, Parallel computing, Fiber reinforced polymer composites, Composites in construction.

D.M. Dewaikar, PhD (IIT Bombay)

Professor

Geotechnical engineering: Offshore foundations, Ground improvement, Seepage.

S.L. Dhingra, PhD (IIT Kanpur)

Professor

Transportation systems engineering: Modeling, Simulation, Economics, Environmental impact assessment, GIS, Expert systems, Artificial intelligence, Genetic algorithms, Fuzzy set theory.

T.I. Eldho, PhD (IIT Bombay)

Associate Professor

Water resources engineering: Groundwater flow, pollutant transport, remediation – numerical & experimental investigations Computational fluid dynamics – Incompressible viscous flows, shallow water flow, estuary dynamics, pollutant transport Watershed management – applications of numerical models, Geographical Information Systems, Remote sensing.

Alok Goyal, PhD (Berkeley)

Professor

Structural engineering: Base isolation systems and energy absorbing devices, Earthquake analysis and design, Liquid storage tanks, Bridges, Vibration control of structures, Service life assessment of buildings.

S. Ghosh, PhD (Michigan)

Assistant Professor

Structural engineering: Performance-Based Seismic Design, Reliability-Based Seismic Design, Plastic Design of Steel Structures, Life Cycle Cost Analysis of Buildings.

Kapil Gupta, PhD (Sheffield)

Associate Professor

Water resources engineering: Urban water supply systems, Urban drainage, Urban water infrastructure management, Flood Protection structures, Computational fluid dynamics, Optimization, Environmental Impact assessment, Water quality analysis and modeling, Constructed Wetlands, Urban Disaster Management.

R.S. Jangid, PhD (IIT Delhi)

Professor

Structural engineering: Structural mechanics, Structural dynamics and earthquake engineering, earthquake-resistant design, Base isolation for a seismic design of structures, Seismic isolation of bridges and liquid storage tanks, Non-classically damped system, Vibration control using tuned mass dampers.

A. Juneja, PhD (NUS Singapore)

Assistant Professor

Geotechnical engineering: In-situ and laboratory engineering properties of soil; Numerical and physical modeling in geotechniques; Earthwork; Ground improvement

V. Jothiprakash, PhD (IIT Madras)

Assistant Professor

Water resources engineering: Water Resources Systems Analysis Reservoir Operation, Policy Issues, Multi-objective Analysis Stochastic Hydrological Modeling Irrigation Water Management

Tarun Kant, PhD (IIT Bombay)

Professor

Structural engineering: Solid mechanics, Plates, Shells, Fiber reinforced polymer composite laminates, Higher order theories, Thermal stresses, Transient dynamic techniques, Finite elements, Numerical techniques, Polymer composites in construction, Composite mechanics, Computational mechanics.

Madhav N. Kulkarni, PhD (Ohio State)

Professor

Surveying and remote sensing: Global positioning system (GPS), Space geodesy, Geodetic Studies for geodynamics and earthquake monitoring, Mapping, GIS.

J.N. Mandal, PhD (IIT Kharagpur)

Professor

Geotechnical engineering: Geosynthetics for civil engineering construction.

T.V. Mathew, PhD (IIT Madras)

Associate Professor

Transportation systems engineering: Traffic flow modeling and simulation, Transportation network optimization, control and management

A. Mukherjee, PhD (IIT Kharagpur)

Professor (on lien)

Structural engineering: Composite materials, Environmental effects, Artificial neural networks, Artificial intelligence, Fiber reinforced composites.

B.S. Pani, PhD (Alberta)

Professor

Water resources engineering: diffusion of jets and plumes, multiple diffusers, offshore pipelines, scour problems, cooling water structures.

E.P. Rao, PhD (IIT Bombay)

Assistant Professor

Remote sensing: Remote sensing applications to water resources, Runoff modeling, Water distribution systems optimization.

K.V. Krishna Rao, PhD (IIT Madras)

Professor

Transportation systems engineering: Travel demand modeling; Evolutionary algorithms, neural networks and GIS in transport planning; Traffic design and analysis.

A.K. Rastogi, PhD (Birmingham)

Professor

Water resources engineering: Groundwater flow modeling of aquifers, Ground water quality modeling.

P.K. Sikdar, PhD (Waterloo)

Professor (on lien)

Transportation systems engineering.

D.N. Singh, PhD (IIT Kanpur)

Professor

Geotechnical engineering: Environmental geotechnics, Radioactive waste disposal, Solid waste utilization, Geotechnical centrifuge modeling.

Ravi Sinha, PhD (Northwestern)

Professor

Structural engineering: Earthquake engineering, Vibration control and isolation, Structure rehabilitation and condition monitoring, Disaster management.

G. Venkatachalam, PhD (Leningrad)

Professor

Geotechnical engineering: Finite element analysis, Digital image processing, Digital terrain modeling, Centrifuge, Numerical and GIS modeling of landslides.

B.V.S. Viswanadham, PhD (Ruhr)

Associate Professor

Geotechnical engineering: Centrifuge modeling, Soil reinforcement, Ground improvement, Environmental geotechnics- waste materials behaviour, waste containment systems.