

## 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, 48 MTech and 16 PhD students were on admitted in the above specializations. In the first year, 54 students were on rolls in the BTech, 22 in the dual degree BTech/MTech programmes. During the year, 27 BTech, 42 MTech, 6 DD and 15 PhD students graduated from the Department.

## AWARDS

Prof. **N.K. Chandiramani**'s work on control of thin-walled rotating blades has been extensively cited and paraphrased in the following monograph - L. Librescu and O. Song, 'Thin-walled composite beams – Theory and application', Springer series in Solid Mechanics and its applications, Volume 131, Springer, Netherlands, 2006.

Prof. **D. Choudhury** received (i) BOYSCAST Fellowship for 2005 - 2006, given by Department of Science and Technology (DST), (ii) INSA Young Scientist Medal - 2005, given by Indian National Science Academy, New Delhi and (iii) ISCA Young Scientist Award - 2005, given by The Indian Science Congress Association, Kolkata.

Prof. **D. Choudhury** was invited and visited University of Wollongong, NSW 2522, Australia during May - June, 2005 as "Visiting Fellow".

Prof. **M.C. Deo** received Certification of appreciation and plaque given by the American Society of Civil Engineers for "distinguished service to the Society as

outstanding Associate Editor of the ASCE Journal of Computing in Civil Engineering”.

Prof. **S. Ghosh** awarded Visiting Fellowship to conduct research on "Ductility-Based Seismic Design" in the Dept. of Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI, USA during May-June, 2005.

Prof. **K. Gupta** received award from Royal Society, London to carry out research on “Optimization of the Use of Stormwater Channel Invert Traps for Urban Indian Catchments” at the University of Sheffield, Sheffield, UK from 4th December 2005 to 15 January 2006.

Prof. **Madhav N. Kulkarni** was awarded a plaque and honorarium, "in recognition of distinguished contribution, by the Chairman of Department of Civil Engineering of the National Chiao Tung University, Taiwan, during his research visit to the University in December, 2005, on invitation by the National Science Council of Taiwan.

Prof. **D.N. Singh** received The International Association for Computer Methods and Advances in Geomechanics (IACMAG) SIGNIFICANT JUNIOR/SENIOR Paper Award (2005).

### **Extension Activities**

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

DST-sponsored short training course on Fundamentals of Geodesy, IIT Bombay, May 3-8, 2005

QIP short-term course on Physical modeling in geotechnical engineering, July 11–17, 2005.

CEP Course on "Urban Drainage Management- State-of-the-Art" IIT Bombay, 18-20 July 2005.

A five day QIP short-term course on Recent Developments in Urban Transportation Systems Planning was conducted during November 22-26, 2005.

A three day CEP short-term course on Travel Demand Modeling was conducted during November 24-26, 2005.

CEP Course on Urban Drainage Management-State-of-the-Art, IIT Bombay, December 1-3, 2005.

QIP Course on Soft Computing in Civil Engineering at IIT Bombay, January 2-6, 2006

One day Workshop on “Roadside Drainage System – Design & Practices, for MMRDA Engineers/Consultants on January 7, 2006 at IIT Bombay.

Training program (in-house) on Structural Dynamics, Research and Development Engineers, DRDO, Pune, January 13-14 & 27-28, 2006.

CEP Course (In-house) on "Urban Drainage Management- State-of-the-Art" City Managers' Association of Karnataka, January 20-21, 2006.

A ten-day Refresher cum Orientation Course on Road Works for BMC Engineers was conducted through CEP during 18<sup>th</sup> January to 2<sup>nd</sup> February 2006.

CEP course (In-house) on Advanced analysis and design of offshore structures, for SPSL Ltd., Chennai, March 6-24, 2006.

CEP short-term course on Physical modeling in geotechnical engineering, March 14-17 2006.

### **Sponsored Research**

During the financial year 12 projects were completed and 8 new sponsored research projects worth about 0.764 crores were initiated during the year. A few of the ongoing and new projects are listed below:

Development of Numerical Models for the Prediction of Hydrodynamics and Transport in Branched Estuary Channels

Centrifuge model studies on pile stabilized slopes

Integrated Watershed Modeling Using IRS Data and Geographical Information Systems

Projection of deep water satellite data of waves and wind to shallow water using ANN,

Establishment of Artificial Intelligence Lab (DST-FIST program)

Real time wave forecasting using soft computing tools

In-filling of gaps in the wave height time series using soft computing tools

GPS Studies for Crustal Deformations in W. Maharashtra & Konkan,

GPS application to Meteorology- procurement of Met. Packages,

Microbiologically Induced Calcite Precipitation in Mortar and Concrete Under Indian Condition.

Indo-US project on Health Monitoring and Retrofitting of Infrastructure

Application of Fibre Reinforced Composites in Civil Engineering

Upgradation of Concrete Structures with Fiber Reinforced Composites

Design and Characterization of Composite Materials with Graded Interfaces (BMBF-DST Indo-German Program)

Displacement-based earth pressures under seismic conditions (YSRA of BRNS-DAE)

Interactive software for Vaigai reservoir operation with Inflow prediction using Artificial Neural Networks

Artificial Neural Network model to assess the water Loss/gain in a run-off river system

Characterization of soft clays for road and infrastructure developments projects in plot area.

### Consultancy Work

242 consultancy projects worth about Rs. 3.45 crores were undertaken during the year by the Civil Engineering Department. 24 faculty members were involved in the above consultancy work. Some of the major consultancy work include Road Drainage system design, MMRDA, Storm water drainage system at Nerul, CIDCO, Frequency of marine growth removal, ONGC and GPS Studies for Subsidence in Surat Region, NIKO Resources Ltd.

### Books/Chapters in Books

Prof. **A. Mukherjee** edited Special Issue on Computational Mechanics of Materials at Different Length Scales, Journal Computational Materials Science.

### National Journal Papers

#### **Gupta K.**

Hydrological Simulation for Rejuvenation of the Hussain Sagar Lake, Hyderabad in "Urban Lakes in India, Conservation, Management and Rejuvenation, *NIH Publication*, Volume 15, pp 300-311, 2005.

### International Journal Papers

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

Neural Networks for Estimation Of Scour Downstream Of Ski-Jump Bucket, *Journal of Hydraulic Engineering*, ASCE, Volume 131(10), pp 898-908, 2005.

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(1), pp 61-69, 2006.

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

Determination of Crushing Strength of Cenospheres, *Journal of ASTM International*, Volume 2(7), pp 1-9, 2005.

Chitnis M.R., **Desai Y.M.**, Shah A.H. and **Kant T.**

Elastodynamic Green's function for reinforced concrete beams, *International Journal of Solids and Structures*, Volume 42(15), pp 4414-4435, 2005.

**Chandiramani N.K.**, Srinivasan K., and Nagendra J.  
Experimental Study of Stick-Slip Dynamics in a Friction Wedge Damper, *Journal of Sound and Vibration*, Volume 291, pp 1-18, 2006.

**Chandiramani N.K.** and Pothala T.  
Dynamics of 2-DOF Regenerative Chatter during Turning, *Journal of Sound and Vibration*, Volume 290, pp 448-464, 2006.

**Choudhury D.** and Singh S.  
New Approach for Estimation of Static And Seismic Active Earth Pressure, *Geotechnical and Geological Engineering*, Springer, Netherlands, Volume 24(1), pp 117-127, 2006.

**Choudhury D.** and Nimbalkar S.  
Seismic Passive Resistance By Pseudo-Dynamic Method, *Geotechnique*, Volume 55, No 9, pp 699-702, 2005.

**Choudhury D.** and Subba Rao K.S.  
Seismic Bearing Capacity of Shallow Strip Footings, *Geotechnical and Geological Engineering*, Volume 23, No 4, pp 403-418, 2005.

**Choudhury D.** and Subba Rao K.S.  
Seismic Uplift Capacity of Inclined Strip Anchors, *Canadian Geotechnical Journal*, Volume 42, No 1, pp 263-271, 2005.

**Eldho T.I.**, Jha A. and Singh A.K.  
Integrated Watershed Modeling using a Finite Element Method and a GIS Approach, *International Journal of River Basin Management*, IAHR, Volume 4(1), pp 1-9, 2006.

**Eldho T.I.** and Chandramohan P.V.  
Hydrodynamics and Salinity Transport Modeling of Cochin Estuary, *ISH Journal of Hydraulics Engineering*, Volume 11(3), pp 163-177, 2005.

**Gupta K.**  
The Drainage System of Indian Cities, *Waterlines: International J. of Appropriate Technologies for Water Supply and Sanitation*, Volume 23, No 4, pp 22-24. 2005.

Jain P. and **Deo M.C.**  
Neural Networks in Ocean Engineering, *International Journal of Ships and Offshore Structures*, Volume 1(1), pp 25-35, 2006.

**Jangid R.S.**  
Optimum Friction Pendulum System for Near-Fault Motions, *Engineering Structures*, Volume 27, pp 349-359, 2005.

**Jangid R.S.**  
Computational Numerical Models for Seismic Response of Structures Isolated By Sliding Systems, *Structural Control and Health Monitoring*, Volume 12, pp 117-137, 2005.

Kalra R., **Deo M.C.**, Kumar R. and Agarwal V.K.  
RBF Neural Network for Spatial Mapping of Wave Heights, *Marine Structures*, Elsevier, Volume 18, pp 289-300, 2006.

Kalra R., **Deo M.C.**, Kumar R. and Agarwal V.K.  
Artificial Neural Network to Translate Offshore Satellite Wave Data to Coastal Locations, *Ocean Engineering*, Elsevier, Volume 32, pp 1917-1932, 2005.

Kalra R., **Deo M.C.**, Kumar R. and Agarwal V.K.  
Relating Deepwater Waves With Coastal Waves Using ANN, *Journal of Hydraulic Research*, ISH, Volume 11(3), pp 152-162, 2005.

Khare R.K., Garg A.K. and **Kant T.**  
Free Vibration of Sandwich Laminates With Two Higher-Order Shear Deformable Facet Shell Element Models, *Journal of Sandwich Structures and Materials*, Volume 7, pp 221-244, 2005.

Krishnaiah S. and **Singh D.N.**  
Determination of Thermal Properties of Some Supplementary Cementing Material Used in Cement and Concrete, *Construction and Building Materials*, Volume 20(3), pp 193-198, 2006.

**Kulkarni M.N.**  
Geo-informatics for Disaster Management: The July-2005 Mumbai Floods, *Civil Engineering Surveyor*, Journal of Institution of Civil Engineering Surveyor, UK, Volume VII, pp 26-29, 2006.

**Kulkarni M.N.**  
Indian GPS Programme for Earthquake Studies, *GIM International*, Volume 20, No 1, pp 37-39, 2006.

**Kulkarni M.N.**  
Enter the GPS Era, *Geospatial Today*, Volume 4, pp 42-46, 2005.

Kumar P.R. and **Singh D.N.**  
A Novel Technique for Monitoring Contaminant Transport Through Soils, *Environmental Monitoring and Assessment*, Volume 109(1-3), pp 147-160, 2005.

Matsagar V.A. and **Jangid R.S.**  
Base-Isolated Building with Asymmetries Due to the Isolator Parameters, *Advances in Structural Engineering*, Volume 8, pp 603-621, 2005.

Matsagar V.A. and **Jangid R.S.**  
Viscoelastic Damper Connected Adjacent Structures Involving Seismic Isolation, *Journal of Civil Engineering and Management*, Volume 11, No. 4, pp 309-322, 2005.

Mishra S.K., Geetha J.K., **Rastogi A.K.** and Pandey R.P.  
Long Term Hydrologic Simulation Using Storage and Source Area Concepts, *Journal of Hydrological Processes*, Volume 19, pp 2845-2861, 2005.

Mishra S.K., Tyagi J., Singh V.P., Singh R. and **Rastogi A.K.**  
A Study of The Variants of Singh-Yu Infiltration Model, *Water and Energy International*, Volume 62, No. 3, pp 11–27, 2005.

**Mukherjee A.** and Arwikar S.J.  
Performance of GFRP Rebars in Tropical Environment- I. Structure Scale Tests, *ACI Structural Journal*, Volume 102(5), pp 745-753, 2005.

**Mukherjee A.** and Arwikar S.J.  
Performance of GFRP Rebars in Tropical Environment- II. Microstructural Tests, *ACI Structural Journal*. Volume 102(6), pp 816-822, 2005.

**Mukherjee A.** and Saha Chaudhuri A.  
Nonlinear Dynamic Response of Piezolaminated Smart Beams, Volume 83(15-16), pp 1298-1304, 2005.

**Mukherjee A.** and Saha Chaudhuri A.  
Active Control of Piezolaminated Columns-Exact Solutions And Experimental Validation, *Smart Material and Structures*, Volume 14, pp 475-482, 2005.

**Mukherjee A.** and Joshi M.  
FRPC Reinforced Concrete Beam-Column Joints Under Cyclic Excitation, *Composite Structures*, Volume 70(2), pp 185-199, 2005.

Naithani R. and **Deo M.C.**  
Estimation of Wave Spectral Shapes Using ANN, *Advances in Engineering Software*, Elsevier, Volume 36, pp 750-756, 2005.

Patil K.C. and **Jangid R.S.**  
Passive Control of Offshore Jacket Platforms, *Ocean Engineering*, Volume 32, pp 1933-1949, 2005.

Shah P. and **Singh D.N.**  
Generalized Archie's Law for Estimation of Soil Electrical Conductivity, *Journal of ASTM International*, Volume 2(5), pp 1-20, 2005.

Sreedeeep S. and **Singh D.N.**  
Estimating Unsaturated Hydraulic Conductivity of Fine-Grained Soils Using Electrical Resistivity Measurements, *Journal of ASTM International*, Volume 2(1), pp 1-11, 2005.

Subba Rao K.S. and **Choudhury D.**  
Seismic Passive Earth Pressures in Soils, *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Volume 131, No 1, pp 131-135, 2005.

Thakur V.K.S. and **Singh D.N.**  
Rapid Determination of Swelling Pressure of Clay Minerals, *Journal of Testing and Evaluation*, ASTM, Volume 33(4), pp 1-7, 2005.

Thakur V.K.S., Sreedeeep S. and **Singh D.N.**

A Study on Parameters Affecting Soil Water Characteristic Curves of Fine-grained Soils, *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Volume 131(4), pp 521-524, 2005.

Verma A. and **Dhingra S.L.**

Feeder Bus Routes Generation within Integrated Mass Transit Planning Framework, *Journal of Transportation Engineering*, Volume 131, pp 822-834, 2005.

Verma A. and **Dhingra S.L.**

Optimal Urban Rail Transit Corridor Identification within Integrated Framework Using Geographical Information System, *Journal of Urban Planning and Development*, Volume 131, pp 98-111, 2005.

**Viswanadham B.V.S.** and Jessberger H.L.

Centrifuge modeling of Geosynthetic Reinforced Clay Liners of landfills, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, Volume 131, No 5, pp 564–574, 2005.

### **National Conference Papers**

Ahmad S.M. and **Choudhury D.**

Behaviour of Waterfront Retaining Structures Under Earthquake And Tsunami: An Overview, *Seminar on Impact of Earthquake and Tsunami on Architecture, Structural Design and Coastal Protection Works*, Port Blair, Volume 1, pp 165-175, March 3-4, 2006.

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

Determination of Electrical Properties of Sands, *Indian Geotechnical Conference*, Ahmedabad, pp 119-122, December 17-19, 2005.

Basu S. and **Choudhury D.**

Seismic Slope Stability Analysis By Method of Vertical Slices, *Proc. of Indian Geotechnical Conference*, IGC-2005, Nirma University, Ahmedabad, Volume 1, pp 377-380, December 17-19, 2005.

Bhaskar B.V.S.S.R. and **Ghosh S.**

Life Cycle Cost Analysis of RC Moment Frame Structures," *National Conference on Earthquake Analysis and Design of Structures (EQADS-06)*, Coimbatore, February 2-3, 2006.

Chatterjee S. and **Choudhury D.**

Displacement-Based Seismic Earth Pressure On Walls Rotating About Top, *Proc. of Indian Geotechnical Conference*, IGC-2005, Ahmedabad, Volume 1, pp 381-384, December 17-19, 2005.

**Choudhury D.**, Nimbalkar S.S. and **Mandal J.N.**

Comparative Study Between Pseudo-Static And Pseudo-Dynamic Methods of Retaining Wall Design Under Earthquake Condition, *42nd Indian Geophysical Union, IGU-2005*, Bhopal, December 7-9, 2005.

Datta D. and **Ghosh S.**,  
Probabilistic Response Spectra in Earthquake Engineering: An Overall Review," *National Conference on Earthquake Disaster: Technology and Management (Earth'06)*, Allahabad, February 11-12, 2006.

**Eldho T.I.**, and Suman K.  
Modeling Hydrodynamics in Dahanu Creek Using Finite Element Method, *Proc. 32<sup>nd</sup> National Conference on Fluid Mechanics & Fluid Power*, Osmanabad, December 15-17, 2005.

**Jothiprakash V.** and Ganesan S.  
Genetic Algorithm model for Reservoir Operation, *Proceedings of the National Conference on Advances in Water Engineering for Sustainable Development – NCAWESD 2005*, IITM, Chennai, pp 113-118, May 16- 18, 2005.

**Jothiprakash V** Devamane M.G. and Mohan S.  
Multi-Reservoir Optimization Using Linear Programming, *National Conference on HYDRO 2005, with special reference to TSUNAMI*, Siddaganga Institute of Technology, Tumkur, pp 149-157, December 8-9, 2005.

**Jothiprakash V** and Ganesan S.  
Genetic Algorithms for Multi-reservoir System Optimization, *National Conference on HYDRO 2005, with special reference to TSUNAMI*, Siddaganga Institute of Technology, Tumkur, pp 162-170, December 8-9, 2005.

Kori J.G. and **Jangid R.S.**  
Parametric Study On Semi-Active MR Damper for Seismic-Excited Structure, *National Conference on Earthquake Analysis and Design of Structures*, Coimbatore, Volume A, pp 19-27, February 2-3, 2006.

**Kulkarni M.N.**  
Research Activities in GPS-GIS, *Digital India & Map Mela National Conference*, Hyderabad, November 18-19, 2005.

**Kulkarni M.N.**  
GNSS, Photogrammetry and LASER Mapping, invited paper, *Workshop on Cartographic Workflow*, New Delhi, February 2, 2006.

Mahajan R.R. and **Viswanadham B.V.S.**  
Centrifuge Modeling of Geotextile Reinforced Slopes, *Proc. Indian Geotechnical Conference, IGC-2005*, Ahmedabad, pp. 225-228, December 17-19, 2005.

Prajapat M. and **Eldho T.I.**  
Experimental and Theoretical Investigations of Multiple Inclined Jets, *Proc. National Conf., HYDRO 2005*, ISH, Tumkur, December 8-9, 2005.

**Rastogi A.K.**

Consideration of Environmental Models for Interlinking of River Project, *Proc. 11<sup>th</sup> National Water Convention*, Vigyan Bhavan, New Delhi, pp 343–352, May 11, 2005.

Shah P.H. and **Singh D.N.**

Determination and Applications of Electrical Properties of Soils, *Indian Geotechnical Conference*, Ahmedabad, pp 229-232, December 17-19, 2005.

**Viswanadham B.V.S.**, Gupte A., Satkalmi V. and Bhonsle S.

Performance of a road reinforced with a Polypropylene geotextile- A case study, *Proc. Indian Geotechnical Conference*, IGC-2005, Ahmedabad, pp 339-342, December 17-19, 2005.

### International Conference Papers

Bandivadekar T.P. and **Jangid R.S.**

Optimal Mass Distribution of Multiple Tuned Mass Dampers for Vibration Control, *International Conference on Advances in Structural Dynamics and its Applications*, Visakhapatnam, December 7-9, 2005.

Bhajantri M.R., **Eldho, T.I.** and Deolalikar P.B.

Hydrodynamic Simulation of Flow Over Spillway Using Weakly Compressible Flow Formulation, *Proc. XXXI World IAHR Congress*, Seoul, September 11-16, 2005.

**Choudhury D.**

Seismic Analysis of Single End Bearing Pile, *First International Conference on Geotechnical Engineering for Disaster Mitigation and Rehabilitation (GEDMR 2005)*, Singapore, pp 275-280, December 12-13, 2005.

Clement S.J., Taylor M.A.P., **Krishna Rao K.V.**, **Mathew T.V.** and Gundaliya P.J.

From Chaotic Road Traffic to Cooperative Opportunistic Percolation Using Cellular Automata," *Proceedings of the 28<sup>th</sup> Australian Research Forum*, ATRF-2005, Sydney, September 28-30, 2005.

Dalainaidu A., Parashar A. K. and **Singh D.N.**

Chloride ingress in Portland slag cement concrete-A case study, *9<sup>th</sup> NCB International Seminar*, New Delhi, Volume 4, pp 646-651, November 8-11, 2005.

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

Identification of Dominant Runoff Generation Processes Using the Modified SCS-CN Concept, *Proc. International Conf. on Recent Advances in Water Resources Development & Management*, Roorkee, November 23-25, 2005.

**Ghosh S.** and Collins K.R.

Life Cycle Cost Optimization of a 20-story Steel Moment Frame Building, *9<sup>th</sup> International Conference on Structural Safety and Reliability (ICOSSAR)*, Rome, Italy, June 19-23, 2005.

**Gupta K.**, Mehta P., Thinglas T., Tait S.J. and Stovin V.

Optimization of Sediment Trap Configuration using CFD Modeling, *10<sup>th</sup> International Conference on Urban Drainage*, Copenhagen/Denmark, August 21-26, 2005.

Jain A. and **Mandal J.N.**

Computer Aided Design and Analysis of Geosynthetic landfills, *The 20<sup>th</sup> International Conference on Solid Waste Technology and Management*, Philadelphia, April 3-6, 2005.

**Kant T.** and Subbaiah C.V.

A Précis On Computational Mechanics of Functionally Graded Beams, Plates and Shells, *Proc. Third MIT Conference on Computational Fluid and Solid Mechanics*, Massachusetts Institute of Technology, Cambridge, June 14-17, 2005.

**Kant T.**

A Novel And An Accurate Finite Element-Numerical Integration Technique for Evaluation of Interlaminar Stresses In Laminates, *Proc. International Conference on Computational and Experimental Engineering and Sciences (ICCES'05)*, IIT Madras, December 1-6, 2005.

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

On A Semi-Discretization Method for Three Dimensional Boundary Value Problems, Talk, *Proc. Structural Engineering Convention-2005 (SEC-2005)*, IISc Bangalore, December 14-16, 2005.

Kori J.G. and **Jangid R.S.**

Seismic Response Control of Buildings Using Semi-Active Magnetorheological Damper, *1<sup>st</sup> International Conference on Structural Condition Assessment, Monitoring and Improvements*, Perth, Volume 1, pp 223-230, December 12-14, 2005.

Krishnamoorthi S. and **Jothiprakash V.**

Database Management in Water Resources Using GIS with Graphical User Interface, *Proceedings of National Conference on geomatics for infrastructural development* Anna University, Chennai, January 4-6, 2006.

**Kulkarni M.N.** and Pillai P.

Numerical Simulation for Geodetic Parameter Estimation from Space VLBI Data, *A Window to the Future of Geodesy, IAG Symposium*, Volume 128, pp 137-140, Springer Verlag, July 1-11, 2005,

**Kulkarni M.N.**

Recent Advances in Indian National Programme on GPS Studies for Geodynamics, proc. on CD, *Asia Pacific Space Geodynamics International Conference: APSG-2005*, Hongkong, June 15-17, 2005.

**Kulkarni M.N.**

Indian GPS Programme, invited paper, *Indo-Australian International Conference on Information Technology in Civil Engineering*, IIT Roorkee, February 20-21, 2006.

Kumar M. and **Krishna Rao K.V.**

A Stated Preference Residential Location Choice Model in Indian Context, *Proc. of the 28<sup>th</sup> Australian Research Forum, ATRF-2005*, Sydney, September 28-30, 2005.

**Mukherjee A.**, Joshi S.P. and Saha Chaudhuri A.

Graded Optimal Transducers for Instability Control of Smart Piezolaminated Columns, *Invited paper to International Conference on Computational and Experimental Engineering and Sciences*, Indian Institute of Technology Madras, December 1-6, 2005.

**Mukherjee A.**

Graded Piezoelectric Transducers in Structural Control and Monitoring, *Fifth Structural Engineering Convention*, IISc Bangalore, December 14-16, 2005.

**Mukherjee A.** and Rai G.L.

Performance of Concrete Structures Externally Prestressed with Fiber Composites, *Plenary lecture at the Pre-conference Symposium on Developments in High Performance Cement and Fiber Reinforced Composites*, *Fifth Structural Engineering Convention*, IISc Bangalore, December 14-16, 2005.

**Mukherjee A.** and Samadhiya R.

Acoustic Wave Propagation through Discretely Graded Materials, *Seventh International Conference on Vibration Problems*, Isik University, Sile Turkey, September 05-09, 2005.

Panchal V.R. and **Jangid R.S.**

Base Isolation Using Sliding System With Variable Friction Coefficient, *National Symposium on Structural Dynamics, Random Vibrations and Earthquake Engineering*, Bangalore, pp 189-193, July 21-22, 2005.

**Pani B.S.** and Dugad S.B.

Effect of Seepage on Scour Caused by Circular Plunging Jets, *17th Canadian Hydrotechnical Conference*, Edmonton, Alberta, August 17-19, 2005.

**Pani B.S.** and Ali K.A.M.

Mean Flow Characteristics of Three Dimensional Wall Jets in a Cross-Flow, *XXXI International Association for Hydraulic Research Congress*, Seoul, Korea, September 11-16, 2005.

Parashar A.K., Dalinaidu A. and **Singh D.N.**

Durability of Portland Slag Cement Concrete - A Case Study on Chloride Ingress, *ICI-ASIAN Conference, ACECON2005*, Mumbai, VII-23-27, September 22-25, 2005.

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

Modeling of Riverbed Aquifer With Radial Collector Well And Stream Recharge Using MODFLOW And Analytic Element Method: A Case Study, *Proc. International Conf. on Groundwater for Sustainable Development*, New Delhi, February 1-4, 2006.

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

Surface Water Groundwater Interaction Simulation Using AEM and Parameter Estimation Using GA, *Proc. XXXI World IAHR Congress*, Seoul, September 11-16, 2005.

Patil L.G. and **Pani B.S.**

Dual Basin Jet Flocculators, *17th Canadian Hydrotechnical Conference*, Edmonton, Alberta, August 17-19, 2005.

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

Runoff Simulation for a Watershed with Diffusion Wave Model by Using FEM, GIS and Remote Sensing Techniques, *Proc. XII World Water Congress*, New Delhi, November 22–25, 2005.

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

A SCS-CN Based Model Incorporating Direct Use of Antecedent Rainfall in Runoff Equation, *Proc. XXXI World IAHR Congress*, Seoul, September 11-16, 2005.

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

A Modification to the Initial Abstraction in the Existing SCS-CN Methodology Incorporating Storm Duration and Antecedent Rainfall, *Proc. International Conf. on Recent Advances in Water Resources Development & Management*, Roorkee, India, November 23-25, 2005.

Satyanarayana S, **Eldho T.I.**, Gupta S.K. and Gurunadha Rao V.V.S.

Groundwater Quality Degradation due to Industrialization – the Cost of Non-action: A Case Study of Patancheru, India, *Proc. 15<sup>th</sup> Stockholm International Water Symposium*, Stockholm, August 21-27, 2005.

Satyanarayana S, **Eldho T.I.**, Gupta S.K. and Gurunadha Rao V.V.S.

Degradation of Groundwater Quality: A Case Study on Industrial Pollution, *Proc. XII World Water Congress*, New Delhi, November 22–25, 2005.

Sharief S.M.V., **Eldho T.I.** and **Rastogi A.K.**

Investigation of Aquifer Remediation Strategies By Coupled Finite Element Model for Groundwater Flow And Contaminant Transport, *Proc. International Conf. on Groundwater for Sustainable Development*, New Delhi, February 1-4, 2006.

Sharief S.M.V., **Eldho T.I.** and **Rastogi A.K.**

Strategies for Aquifer Remediation By A Coupled Flow And Transport Simulation, *Proc. International Conf. on Environmental Geosciences*, Chennai, February 15-16, 2006.

Snehlata S. and **Rastogi A.K.**

Inverse Modeling in Flow through Porous Media involving Simulated Annealing Method, *Second International Conference on Groundwater for Sustainable Development (IGC 2006)*, New Delhi, February 1–4, 2006.

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

Response of Seismically Isolated Cable-Stayed Bridge Using Elastomeric Bearings, *9th World Seminar on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures*, Kobe, Japan, June 13-16, 2005.

Sreeja P., **Gupta K.** and Ole M.

Dynamic Modeling of Detention Tanks for Flood Control in Urban Drainage Systems in Developing Countries, *10<sup>th</sup> International Conference on Urban Drainage*, Copenhagen/Denmark, August 21-26, 2005.

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

Ascertainment of Bentonite Content for Sand-Bentonite Liners, *10<sup>th</sup> Int. Symp. On Waste management and Landfill symposium*, Cagliari, Italy, Paper No. 368, October 3- 7, 2005.

**Viswanadham B.V.S.**

Application of Centrifuge Modeling Technique for Prediction In Geotechnical Engineering, *Proc. National Symp. On Prediction methods in Geotechnical Engineering*, Geopredict- 2005, IIT Chennai, pp 40-51, June 3, 2005.

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

Deformation behaviour of compacted clay liners of landfills in a geocentrifuge, *10<sup>th</sup> Int. Symp. Waste management and Landfill symposium*, Cagliari, Italy, Paper No. 367, October 3-7, 2005.

## Other Publications

Singh A.K., **Eldho T.I.** and Lindenmaier F.

GIS, Remote Sensing and Computer Models for Water Resources Management, *Lecture Notes for the Short term Course on "GIS, Remote Sensing and Computer Models for Water Resources Management*, 6-8 December, 2005, organized at Nirma Institute of Technology, Ahmedabad.

**Kulkarni M.N.**

Mumbai Floods – How GPS-GIS can help, *Coordinates*, Centre for Geo-informatics Technology, New Delhi, Volume 1, Issue 3, pp 42-46, August, 2005.

**Kulkarni M.N.**

Fundamentals of Geodesy, Training Volume (printed and on CD), *DST-Sponsored short training course*, IIT Bombay, May 3-8, 2005

## Honorary Works

**Naresh K. Chandiramani**

Reviewed papers for International Journal of Acoustics and Vibration and Journal of Zhejiang University of Science.

**Choudhury D.**

Reviewer of referred Journal Geosynthetics International, Journal of Institute of Engineers, Indian Geotechnical Journal; ISET Journal of Earthquake Technology.

Member of International Society of Soil Mechanics and Geotechnical Engineers (ISSMGE), for 2006-2009.

Affiliate Member of American Society of Civil Engineers (ASCE)

**Deo M.C.**

President, The Indian Society of Hydraulics, Pune,

Associate Editor of ASCE Journal of Computing in Civil Engg. (2000-).

Member, Editorial Board of the Journal of Ships and Offshore Structures, Woodhead Publishers, Cambridge, U. K.

Member, Editorial Board of Civil-Comp conferences, 2005, U. K.

Chairman, Conference; "Hydro 2005"

Editor, Special Issue of ISH Journal of Hydraulic Engineering 2005.

Member, Expert Committee, Indian National Committee of Hydraulics, Ministry of Water Resources

Member, Expert Committee, Indian National Centre for Ocean Information Services, Department of Ocean Development

Referee for Ph D theses (2) of IIT Madras, VNIT Nagpur

Referee for papers submitted to the Journals of Advances in water resources Environmental management, Advances in engineering software, ASCE Journal of Hydraulic Engineering, ASCE Journal of Waterways, Port, Coastal and Ocean Engg. ASCE Journal of Computing in Civil Engg, Journal of Ships and Offshore Structures, Journal of Hydrology, Hydrologic Processes, Hydrological Sciences, Coastal Engineering, Current Science, Journal of Marine Sciences.

Best paper selection Committee of ASCE-JCCE.

Chairman of a technical session, International Conference Artificial Intelligence, Dec. 22-24, 2005

Chairman of a technical session, International Civil-Comp-2005 conference, Aug 30-Sept1, 2005, Rome, Italy.

**Eldho T.I.**

Reviewed research papers for ASCE Int. Journal of Irrigation and Drainage, Int. Journal of Water, Air and Soil Pollution, Journal Institution of Engineers India, Journal of Indian Association of Hydrologists, Journal of Indian Institute of Science, ISH Journal Hydraulics Engineering.

Chaired a Session on Climate extremes, hydrometeorology and natural disasters in XXXI World IAHR (International Association of Hydraulics Research) at Seoul, South Korea September 11-16, 2005.

### **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.**

Reviewer for papers and member of scientific committee for the 10<sup>th</sup> International Conference on Urban Drainage” held at Copenhagen, Denmark during August 21-26, 2005

Reviewer for papers for 7<sup>th</sup> Urban drainage Modeling and Water Sensitive Urban Design 2006 Conference: Adelaide, 7-10<sup>th</sup> April 2006

Reviewed research paper for International Journal of Natural Hazards

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

Member, Expert Committee, Mumbai Disaster Management Plan, BMC, Mumbai.

### **Jangid R.S.**

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

### **Jothiprakash V.**

Reviewer Journal of the Indian Society of Remote Sensing, International Journal of Spatial Hydrology, Journal of Indian Society of Hydraulics

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

### **Krishna Rao K.V**

Completed my 3 year term (January 2003 to January 2006) as a member of the *Rigid Pavement Committee (H-5)* of Indian Roads Congress.

Appointed as a member of the *Transport Planning, Traffic Engg. & Road Safety Committee (H-1)* of Indian Roads Congress for a three year term effective from 1<sup>st</sup> January 2006.

Member of the Standing Technical Advisory Committee on road works, constituted by the Commissioner of Municipal Corporation of Greater Mumbai.

Upon the invitation of Pro Vice Chancellor – Research and Innovation, University of South Australia (UniSA), Adelaide and as a part of collaborative research agreement between IIT Bombay and University of South Australia, I along with Prof. S.L. Dhingra visited Transportation Systems Centre (TSC) during October 2-8, 2005.

### **Kant T.**

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

Expert member of selection committee for faculty selection for IIT-Guwahati;

Member of AICTE's sectoral committee and NBA's accreditation teams; Expert member for faculty selection, Public Service Commission, Goa; Reviewer of DST project proposals; Examiner of PhD theses of other IITs and universities; Member, Senate, Visvesvaraya NIT-Nagpur; Member, Building and Works Committee, NITIE-Mumbai; Member, Senate Nominations, IRCC Advisory and IRCC Awards Committees of the Institute .

### **Kulkarni M.N.**

Member, Editorial Board, Survey Review International Journal, UK

Member, National Expert Committee on GPS, DST, Govt of India

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, N. Delhi

Referee for review of papers for journals: Survey Review UK, Current Science, India, GIS at development, India, NISCAR Journal, India, GPS World, USA, Indian

Surveyor, Journal of Institution of Surveyors, Journal of Indian Society of Remote Sensing, etc.

Chaired a session in the Workshop on 'Research Initiatives in NE Region', organized by NRDMS, DST, at IIT Guwahati, on 15 February, 2006

### **Mandal J.N.**

Reviewed papers for Journal of Institute of Engineers and India Geotechnical Journal.

Reviewed papers for 8<sup>th</sup> International Conference on Geosynthetic, Japan, 2006.

Chaired a technical session in The 20<sup>th</sup> International Conference on Solid Waste Technology and Management, Philadelphia, April 3-6, 2005.

Member of Steering Committee for growth and development of technical textiles (SC&DTT), Ministry of Textiles, Govt. of India.

### **Mukherjee A.**

Guest Editor, Journal of Computational Materials Science

Selection Committee for Scientist C position for DRDO.

Expert Committee on the Design of Nuclear, chemical and Biological Warfare Shelter, Research and Development Engineers, DRDO, Pune

Selection Committee for Teaching Faculty, M S university Baroda

### **Rastogi A.K.**

Technical Research Papers Reviewed for Hydrology Journal, Jr. Institution of Engineers – Civil Engg Divn., IJEMS, ISH – Jr. of Hydr. Engg. Jr. of Porous Media., Jr of Spatial Hydro Advances in Geosciences, ASCE, Jr. Computing in Civil Engg.

Chaired a session in All Indian seminar on challenging problems in water resources management and development, Organised by Inst. of Engg. and IWRS, Nagpur, November 12–13, 2005.

Chaired a session in Water Resources and presented a paper entitled ' Techniques of Artificially Recharging Confined and Unconfined Aquifers'in the National Seminar on Empowering the Masses through Technology Application Organised by NITTTR (National Institute of Technical Teacher Training and Research), Chandigarh, December 1-2, 2005.

Co-Chaired a session on Modeling and its Application in Soft and Hard Rock Aquifer Systems at International Groundwater Conference for Sustainable Development-Problems, Perspectives and Challenges (IGC 2006) held at India International Centre, New Delhi, February 1–4, 2006.

Member of the National Committee for International Conference on Sustainable Technologies for Environmental Protection (ICSTEP 2006) Organised by C I T Coimbatore, and Univ. of Toledo, Ohio, January 7–9, 2006.

Member of the National Advisory Committee for International Conference on Groundwater for Sustainable Development (IGC 2006) Organised by Academic Institutions of India, Sweden, Germany and Costa Rica, held at Indian International Centre, New Delhi, February 1–4, 2006.

### **Singh D.N.**

Editorial Board Member-- Geomechanics and Geoengineering

Expert TPDM-2005 BRNS projects.

Reviewer to the ASCE Journal of Geotechnical and Geoenvironmental Engineering, Journal of Geotechnical Testing Journal, ASTM, Geomechanics and Geoengineering, Applied Thermal Engineering (ELSEVIER Ltd.), Journal of Hazardous Materials (ELSEVIER Ltd.), FUEL (ELSEVIER Ltd.), International Communication of Heat & Mass Transfer, Powder Technology (ELSEVIER Ltd.), Construction and Building Materials (ELSEVIER Ltd.), Geotechnical Engineering Journal (SEAGS, Thailand), Journal of Civil Engineering, The Institution of Engineers (India), Indian Geotechnical Journal

### **Viswanadham B.V.S.**

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

### **Invited Lectures**

#### **Choudhury D.**

Design and construction of earthquake resistant foundations for rural areas, Organized by ISCA on the occasion of 'National Science Day' at Kolkata on February 28, 2006.

Design of retaining structures under earthquake conditions, Organized by Department of Civil Engineering, JNTU Kukatpally, Hyderabad, on December 29, 2005.

Comparative study between pseudo-static and pseudo-dynamic methods of retaining wall design under earthquake condition, Organized by Indian Geophysical Union (IGU) during 42nd Annual Convention of IGU, Hyderabad on December 7, 2005.

Earthquake resistant design of retaining structures and foundations, Organized by Department of Civil Engineering, University of Sydney, NSW, June 1, 2005.

Some studies on retaining structures and foundations under seismic conditions, Organized by School of Civil Engineering, University of Wollongong, NSW, Australia on May 25, 2005.

### **Deo M.C.**

Invited talk on Coastal hazard reduction, INMEX-2005, Mumbai

Invited talk on Soft computing in ocean engineering, National Institute of Ocean Technology, Chennai, August 17, 2005.

### **Eldho T.I.**

“Status of Water Resources and Sustainable Development, **Key-note address** delivered at Nirma Institute of Technology, Ahmedabad, for the Short term course “GIS, Remote Sensing and Computer Models for Water Resources Management, on 6 December 2005.

“Mathematical Modeling of Water Resources System, **Invited Lecture** delivered at Nirma Institute of Technology, Ahmedabad, for the Short term course “GIS, Remote Sensing and Computer Models for Water Resources Management, on 6 December 2005.

“Application of GIS and FEM for Hydrological Modeling, **Invited Lecture** delivered at Nirma Institute of Technology, Ahmedabad, for the Short term course “GIS, Remote Sensing and Computer Models for Water Resources Management, on 6 December 2005.

Hydroinformatics – Scope of Integrated Web based Model, **Invited Lecture** delivered at Nirma Institute of Technology, Ahmedabad, for the Short term course “GIS, Remote Sensing and Computer Models for Water Resources Management, on 6 December 2005.

“Sustainable Development through Integrated Watershed Management, **Invited Lecture** delivered at Institute of Environment & Architecture, Dadar, Mumbai, on 10 December 2005.

### **Gupta K.**

Guest lecture on “Urban Flood Vulnerability, Preparedness and Mitigation” at the “Workshop on Disaster Management, Mumbai organized by Second Administrative Reforms Commission, Government of India, New Delhi, February 22-23, 2006.

### **Jothiprakash V.**

Genetic algorithms as a water resources modeling technique” STTP on Artificial Intelligence in Civil Engineering, Department of Civil Engineering, IIT Bombay, Powai Mumbai 400 076, 3<sup>rd</sup> Jan. 2005.

Application of Artificial Intelligence in Civil Engineering, D.Y. Patel College of Engg, Pune, 27.2.2006

**Juneja A.**

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

**Kant T.**

On developments in mechanics of composite laminates, Special Presentation, Department of Mechanical Engineering, The Ohio State University, Seminar Series, 2.00-3.00 pm, 19 August 2005, Room 6040, Building Six.

On mechanics of fiber reinforced polymer composites, Department of Civil Engineering, College of Engineering, Andhra University, Visakhapatnam, 09.30-11.00 am, 30 November 2005.

On higher order displacement models for composites, Department of Civil Engineering, IIT-Madras, 3.00-4.00 pm, 5 December 2005.

**Krishna Rao K.V.**

Delivered a seminar on “Master Plan for Mumbai Metro” at the Transportation Systems Centre, University of South Australia, Adelaide on 5<sup>th</sup> October 2005.

**Kulkarni M.N.**

Applications of GPS & GIS, Symbiosis Institute of Geo-informatics, Pune, August 28, 2005

GPS & Its Applications, National Water Academy, Pune, August 29, 2005

Differential GPS & Applications, DST-sponsored School on GPS, Navigation Electronics Research & Training Centre, Osmania University, Hyderabad, November 25, 2005

Research Activities in GPS-GIS, invited talk, Digital India & Map Mela National Conference, Hyderabad, November 18-9, 2005

Indian GPS Programme, invited talk, National Chiao Teng University, Taiwan, December 1, 2005

GPS Research Activities in India, invited talk, National Cheng Kung University, Tainan, Taiwan, December 3, 2005.

**Mukherjee A.**

Rehabilitation and Restoration of Structures, National Conference on Restoration and Safety in Structural Engineering, JNTU Kakinada, February 11-12, 2006.

Software for Structural Engineering, Lecture and Chairman for Panel Discussion, Cotton Research Institute, Matunga, Mumbai, January 7, 2006.

Performance of Concrete Structures Externally Prestressed with Fiber Composites, Plenary lecture at the Pre-conference Symposium on Developments in High Performance Cement and Fiber Reinforced Composites, The Fifth Structural Engineering Convention, December 14-16, 2005.

IITs and Others, Invited Lecture at Bengal Engineering and Science University, Howrah, December 23, 2005.

New Generation Materials, Two Day Seminar on Innovative Repair Materials and Chemicals, Institution of Engineers, India and Indian Society for Structural Engineering, September 18-19, 2005.

### **Rastogi A.K.**

Delivered guest of honour lecture entitled 'National Hazards Mitigation by Interlinking of Rivers Project in India' at Civil Engg Assn, MGM College of Engg, Mumbai, April 7, 2005

Delivered an invited lecture entitled "Importance of groundwater models as tools for effective water management' at Civil and Environmental Engineering Department, National University Singapore, June 24, 2005.

Delivered three invited lectures in DST sponsored program entitled 'Training Course on Numerical Simulation of Groundwater Flow and Mass Transport for Effective Management of Aquifers' on August 9-10, 2005 at CESS (Centre of Earth Sciences Studies) Trivendrum.

Delivered two invited lectures on i) Solute transport modeling by finite elements and ii) Inverse modeling in groundwater models in a DST sponsored program entitled ' Groundwater Flow and Mass Transport for Assessment and Management of Aquifers' on October 14, 2005 at Water Technology Centre, Coimbatore.

Delivered two invited lectures on i) Inverse modeling in groundwater system analysis and ii) Groundwater modeling - finite element method in a DST sponsored program entitled ' Role of Mathematical Modeling in Groundwater Flow and Mass Transport' on January 27, 2006 at Dept. of Geology, Andhra University, Visakhapatnam.

Delivered the following lectures on January 2, 2006 in the QIP course on Soft computing in Civil Engineering: 1. Parameter inversion by GNM and SA 2. Inverse groundwater modeling by GA

### **Viswanadham B.V.S.**

Centrifuge modeling of geotechnical structures, LIRGIM, University Josep Fourier, GRENOBLE, FRANCE, October 10, 2005

Performance of a road reinforced with a Polypropylene geotextile- A case study (on December 18, 2005) at Executive Engineers conference, Maharashtra PWD, Pune.

## **Participation/Organization of Conference**

### **Choudhury D.**

Invited and attended the special session "Interface between Nobel Laureates, World Food Prize Awardees, Nation Builders, Eminent Scientists and Young Scientist Awardees" of 93rd Indian Science Congress at Hyderabad, on January 3, 2006 as ISCA Young Scientist Awardee of year 2005.

### **Deo M.C.**

International Civil-Comp-2005 conference, Aug 30-Sept 1, 2005, Rome, Italy.

### **Eldho T.I.**

15<sup>th</sup> Stockholm International Water Symposium, Stockholm, August 21-27, 2005.

XXXI World IAHR Congress, Seoul, September 11-16, 2005.

XII World Water Congress, New Delhi, November 22–25, 2005.

National Conf., HYDRO 2005, ISH, Tumkur, December 8-9, 2005.

### **Ghosh S.**

National Conference on Earthquake Analysis and Design of Structures (EQADS-06), Coimbatore, India, February 2-3, 2006

9th International Conference on Structural Safety and Reliability (ICOSSAR), Rome, Italy, June 19-23, 2005

### **Jangid R.S.**

9th World Seminar on Seismic Isolation, Energy Dissipation and Active Vibration Control of Structures, Kobe, Japan, June 13-16, 2005

1<sup>st</sup> International Conference on Structural Condition Assessment, Monitoring and Improvements, Perth, December 12-14, 2005.

### **Jothiprakash V.**

*National Conference on HYDRO 2005, special emphasis on Tsunami* Department of Civil Engineering, Siddaganga Institute of Technology, Tumkur, December 8-9, 2005.

### **Krishna Rao K.V**

Attended the 28<sup>th</sup> Australian Research Forum (ATRF-2005) held at Sydney during 28-30 September 2005 and presented a paper on *A Stated preference residential location choice model in Indian context*.

**Rastogi A.K.**

Asia – Oceania Geosciences meet (AOGS), 2005, Suntec Convention Centre, Singapore, June 20-24, 2005.

**Viswanadham B.V.S.,**

10<sup>th</sup> Int. Symp. Waste management and Landfill symposium, S. Margherita di Pula, Cagliari, Italy, during October 3- 7, 2005.

Indian Geotechnical Conference (IGC-2005), during December 17-19, 2005, Ahmedabad.

DST-Royal Society workshop on Physical modeling in geotechnical engineering during March 16 – 18, 2006 at IIT Bombay.

**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)

*Assistant 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*

Off-shore Engineering, Wave hydrodynamics, Analysis of random data, Neural networks and Statistical analysis.

**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.

**K. Gopal Rao**, PhD (IIT Bombay)

*Professor*

Surveying and remote sensing, Digital Analysis and modeling, GIS, Decision support systems, Software development.

**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**, Ph.D (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)

*Associate 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.

**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.

**A. Mukherjee**, PhD (IIT Kharagpur)

*Professor*

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: Soil exploration and characterization, Foundation analysis and design, Stability analysis, Environmental geotechnics, Soil contamination detection and modeling, 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.

**V.M. Tom**, PhD (IIT Madras)

*Assistant Professor*

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