

6. PUBLICATIONS, PRESENTATIONS & OTHER SCIENTIFIC ACTIVITIES

6.1 Publications in Journals

K. Basak and **M. Mukul**, 2000

Deformation Mechanisms in the South Kalijhora Thrust and Thrust Sheet in the Darjiling Himalayan Fold-and-Thrust belt, West Bengal India

Ind. J. Geol., 72 (2), pp 143-52

P. Goswami and **K. Rameshan**, 2000

Convective Coupling and Interannual and Intraseasonal Coupled Variabilities in the Tropics

J. Atm. Sc., 57, pp 2445-62

M. Mukul, 2000

The Geometry and Kinematics of the Main Boundary Thrust and Related Neotectonics in the Darjiling Himalayan Fold-and-Thrust Belt, West Bengal, India

J. Str. Geol., 22 (9), pp 1261-83

J. Paul, R. Burgmann, R. Bilham, K. M. Larson, **M. B. Ananda**, **Sridevi Jade**, **M. Mukul**, **T. S. Anupama**, G. Satyal, and **P. D. Kumar**, 2001

The Motion and Active Deformation of India
Geophy. Res. Lett., 28(4), pp 647-51

Sridevi Jade, T. G. Sitharam and **H. M. Chandrashekar**, 2000

Simulation of Jointed Rock Mass Behaviour Using Finite Element Method

J. Rock Mech. Tunn. Tech., 6(2), pp 113-32

T. G. Sitharam, **Sridevi Jade** and N. Shimizu, 2001

Practical Equivalent Continuum Characterization of Jointed Rock Masses

Int. J. Rock Mech. Mining Sci., 38, pp 437-48

P. S. Swathi, **M. K. Sharada** and **K. S. Yajnik**, 2000

A Coupled Physical-Biological-Chemical Model for the Indian Ocean

Proc. Indian Acad. Sci. (Earth & Planet. Sci.), 109, pp 503-537

6.2 Publications in Books/Proceedings

N. K. Indira, 2000

Fractal Analysis of Tide Gauge Data

In: Paradigms of Complexity: Fractals and Structures in

the Sciences (Ed. M. M. Novak)

World Scientific, Singapore

A. Kumar, **H. Ravi**, A. K. Lele and R. A. Mashelkar, 2000
Numerical Simulation of ECTN Fluid Flow : Resolution of Flow Anomalies

In: Proc. 13th Intl. Congress on Rheology, Cambridge, UK, Aug 20-25, 2000 (Eds. D. M. Binding et al.)

British Soc. Rheology, Glasgow, pp 2:309-11

M. Mukul and **A. Kumar**, 2000

Flow Modelling of Mountain Glaciers - A Review

In: Background Papers and Abstracts, Mathematical Modelling for Glacier Studies, Brain Storming Session at The National Academy of Sciences, Allahabad, Aug 25-26, 2000, pp 13-42

6.3 Presentations at Conferences and Symposia

P. Goswami, P. V. S. Raju and U. C. Mohanty, 2001

Intraseasonal Oscillations and Interannual Variabilities of Indian Summer Monsoon

International Conference on Forecasting Monsoons from Days to Years, New Delhi, Mar 21-22

P. Goswami, 2001

Evaluation of a Gradient Measure for Genome Sequence Analysis,

Workshop on Computational Methods in Protein Sequence Analysis, JNU, New Delhi, Mar 30

N. K. Indira, 2000

Fractal Analysis of Tide Gauge Data

FRACTAL 2000 - 6th International Multidisciplinary Conference, Singapore, Apr 16-19

K. S. Yajnik and **M. K. Sharada**

Uptake by Phytoplankton in a Two-Nutrient Environment: a Proposed Law and Supporting Evidence

JGOFs Open Science Conference, Bergen, Norway, Apr 13-19, 2000

6.4 Internal Reports

RR CM 0001

G. Prathap and S. R. Marur

Extra-Variational Simplifications in Finite Element Formulations of Geometric Nonlinear Vibration Problems, Aug 2000

RR CM 0002

A. Kumar

Multi-Dimensional Finite Difference Formulae, Aug 2000

RR CM 0003

S. Raja, **G. Prathap** and P. K. Sinha

Active Vibration Control of Composite Sandwich Beams with Distributed Piezoelectric Extension-Bending and Shear Actuators, Sep 2000

RR CM 0004

G. Prathap and S. Mukherjee

The Finite Element to a Boundary Value Dirichlet Problem and the Best-Fit Paradigm, Nov 2000

RR CM 0101

Sridevi Jade, T. G. Sitharam and N. Shimizu

Equivalent Continuum Characterization of Jointed Rock, Jan 2001

RR CM 0102

Sridevi Jade and T. G. Sitharam

Characterisation of Strength and Deformation of Jointed Rock Mass Based on Statistical Analysis, Jan 2001

PD CM 0001

P. Goswami, **M. K. Sharada**, **G. Prathap**, R. Sadourmy, M. Désbois and L. Méméry

Indo-French Centre for Environmental Research (IFCER)/ Centre Franco-Indien De Recherche Sur L'Environnement (CEFIER) - A Status Report, Jul 2000

PD CM 0002

A. Stella Margaret, **S. Sita** and **T. R. Krishna Mohan**

Knowledge Creation and Dissemination During 1988-2000, Dec 2000

PD CM 0102

Sridevi Jade, **M. B. Ananda** and **P. Dileep Kumar**

Surveying of GPS Antenna Location at NFTC for the Purpose of Locating Master Station for LCA Flight Testing, Feb 2001

PD CM 0103

Sridevi Jade, **M. Mukul**, **I. A. Parvez**, **M. B. Ananda**, **P. Dileep Kumar** and **V. K. Gaur**

An Experiment to Determine the Time Evolving Surface

Strain Field Around the Bhuj Area Using GPS Towards Investigating the Rheological Characteristics of the Lower Crust, Mar 2001

PD CM 0104

A. Kumar

Numerical Simulation of Oscillatory Rayleigh-Bénard Convection in a Viscoelastic Liquid, Mar 2001

TR CM 0001

S. Himesh, C. V. C. Rao and A. U. Mahajan

Calibration and Validation of Water Quality Model; Case 1: River, May 2000

TR CM 0002

S. Himesh, C. V. C. Rao. and A. U. Mahajan

Calibration and Validation of Water Quality Model; Case 2: Estuary, May 2000

TR CM 0101

Sridevi Jade and T. G. Sitharam

Finite Element Analysis of Large-Scale Cavern in Jointed Rock Mass using Simple Equivalent Continuum Approach, Mar 2001

PP CM 0001

S. Himesh

Development of Environmental Information System for Select Indian Rivers, Nov 2000

6.5 Invited Talks

P. Goswami

Inter-Organizational Programme on Weather Modification Research,

IITM, Pune, May 30, 2000

Ocean and Atmosphere: An Eternally Coupled System

Valedictory of Golden Jubilee Celebrations of Official Language and Hindi Day Function, NAL, Bangalore, Sep 14, 2000

Internal Dynamics and Observed Precipitation Climatology,

LMD, Paris, Jan 5, 2001

Diagnostic Applications of 4-Dimensional Variational Assimilation,

SERC School, CAS, IIT-Delhi, Mar 20, 2001

T. R. Krishna Mohan

Fractal Aspects of Sedimentation

Contact Course on Basin Modelling, C-MMACS, Jun 9, 2000

M. Mukul

Geological Aspects of Sedimentary Basins

Contact Course on Basin Modelling, C-MMACS, Jun 6, 2000

Depositional Modelling

Contact Course on Basin Modelling, C-MMACS, Jun 7, 2000

Computational Deposition Modelling

Contact Course on Basin Modelling, C-MMACS, Jun 9, 2000

Contemporary Concepts in Fold-and-Thrust Belt Deformation: Examples from the Servier (USA) and the Himalayan Fold-and-Thrust Belts

National Geophysical Research Institute, Hyderabad, Aug 28, 2000

Basics of Geophysics

CSIR Programme on Youth for Leadership in Science, National Aerospace Laboratories, Bangalore, Dec 5, 2000

Retrodeformable Models and Their Application in the Petroleum Industry

UGC Sponsored Refresher Course in Applied Geology, MS University, Vadodara, Dec 24, 2000

Deformation Mechanisms in Natural Fault Zones

Physical Research Laboratory, Ahmedabad, Dec 26, 2000

Geology and Kinematics of Earthquakes and the Bhuj Earthquake of 2001

Airforce Station, Jamnagar, Gujarat, Feb 8, 2001

G. Prathap

Differential Equations, Least Action Principles, Approximate Solutions and Errors Thereof

Summer Workshop on Diff. Eqns. for M.Sc. Students, Indian Institute of Science, Bangalore, May 15, 2000

Modelling of Plates

Contact Course on Basin Modelling, C-MMACS, Jun 7, 2000

Stress Correspondence Paradigm, Part I and II

Two lectures at All-India Council for Technical Education (AICTE)–Indian Society of Technical Education (ISTE)

Short Term Training Programme on Recent Numerical Techniques to Solve Engineering Problems, Regional Engineering College (REC), Calicut, Jun 1, 2000

Science of FEA

Lecture at AICTE-ISTE Short Term Training Programme on Recent Numerical Techniques to Solve Engineering Problems, REC, Calicut, Jun 2, 2000

Error Analysis for Finite Element Elastodynamics

3-Day Workshop on Recent Trends in Structural Dynamics, Ghousia College of Engineering, Ramnagaram, Jun 21, 2000

Finite Element Solution to a Dirichlet Problem and the Best-Fit Paradigm

Indian Society for Mathematical Modelling and Computer Simulation (ISMMACS) Annual Conference on Mathematical Modelling and Computer Simulation, Nagpur, Oct 23-24, 2000

FE Stress Analysis As a Least Action Process, Error Estimates and Adaptive Meshing.

Taylor Memorial Lecture, 45th Indian Society for Theoretical and Applied Mechanics (ISTAM) International Conference, Sivakasi, Dec 26-29, 2000

Sridevi Jade

Numerical Modeling of Jointed Rock Mass

Indian Institute of Science, Bangalore, Oct 4, 2000

K. S. Yajnik

Uptake by Phytoplankton in a Two-Nutrient Environment

Southampton Oceanographic Centre, Southampton, UK, Apr 19, 2000

CCMS, Plymouth Marine Laboratory, Plymouth, UK, Apr 21, 2000

Computer Modelling at Thane Creek: Past Studies and Future Prospects

Workshop on Water Quality Monitoring at Thane Creek, Mumbai, Aug 8, 2000

Digital Revolution and Dynamics of R & D

CSIR Foundation Day Lecture, Central Mining Research Institute, Dhanbad, Sept 26, 2000

New Concepts in Nonlinear System Dynamics

Indian Society for Mathematical Modelling and Computer Simulation (ISMMACS) Annual Conference on Mathematical Modelling and Computer Simulation, Nagpur, Oct 23, 2000

Modelling of Cataract Epidemiology
World Bank, New Delhi, Jan 16, 2001

6.6 Conferences/Symposia/Workshops Attended

M. B. Ananda, P. Dileep Kumar, Gangan Prathap, V. K. Gaur, Malay Mukul and R. P. Thangavelu

National Seminar on Advances in GPS Technology and its Application Potential
Bangalore, Nov 24, 2000

V. Anil Kumar

ADCOM 2000: 8th International Conference on Advanced Computing and Communications
Cochin, Dec 14-16, 2000

T. R. Krishna Mohan

itt 2000: Media Convergence and Knowledge Management
National Aerspace Laboratories, Bangalore, Nov 22-24, 2000

Management Awareness Programme

National Aerspace Laboratories, Bangalore, Feb 5-9, 2001

G. K. Patra and R. P. Thangavelu

HiPC 2000: 7th International Conference on High Performance Computing
Bangalore, Dec 17-20, 2000

Prabhu

Web 2000: 3rd Annual IT Conference of CSIR Laboratories
National Metallurgical Laboratory, Jamshedpur, Sep 14-15, 2000

6.7 At C-MMACS

6.7.1 Meetings and Workshops

Indo-French Centre for Environmental Research (IFCER):
Discussion Meeting on the Science Plan
May 3-5, 2000

Contact Course on Basin Modeling
Jun 6-10, 2000

IFCER: Discussion Meeting of the Indian Participants
Jun 14, 2000

6.7.2 Lectures

Apr 13, 2000

U. C. Mohanty, Centre for Atmospheric Sciences, Indian Institute of Technology, Delhi
Atmospheric Modelling in the Tropics: Results from Regional and Meso-Scale Models

Apr 20, 2000

Roy Chowdhury, Utrecht University, The Netherlands
1. What Colour is the Lower Crust ... and the Upper Mantle?
2. Seismic Wave Propagation in Multi-Scale Media

Sep 8, 2000

Janaki Balakrishnan, Dept. of High Voltage Engineering, Indian Institute of Science, Bangalore
Neural Network Learning Dynamics in a Path Integral Framework

Oct 18, 2000

Mini Ghosh, Indian Institute of Technology, Kanpur
Mathematical Modelling of Infectious Diseases: Environmental and Demographic Effects

Nov 16, 2000

Seshu Bhagavathula, Managing Director, Daimler-Chrysler Research Centre India (P) Ltd., Bangalore
Intelligence in Transportation Vehicles

Dec 4, 2000

Michel Ramonet, Laboratoire des Sciences du Climat et de l'Environnement, France
Climate Change and Carbon Cycle: Estimating the Regional Fluxes

Feb 23, 2001

Itamar Procaccia, (Raman Professor of Indian Academy of Sciences), Weizmann Institute of Science, Rehovot, Israel
Statistical Theory of Turbulent Transport

6.7.3 Seminars by C-MMACS Staff

Jun 5, 2000

K. S. Yajnik
New Diagnostic Tools for Non-Linear Dynamical Systems

Jun 22, 2000

K. Rameshan

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| Interannual Oscillations Sustained by Tropical Internal Dynamics | University, Nagpur May 31 – Jun 10, 2000 |
| Jun 29, 2000 Shubham Basu & Nitai Utkarsh, (C-MMACS Student Trainees) Institute of Technology, Banaras Hindu University Fragmentation Process – an Overview of the Models | M. M. Sarin, Oceanography & Climate Studies, PRL, Ahmedabad Jun 14-16, 2000 |
| Jul 11, 2000 A. Rajyalakshmi Adjoint Method and Four Dimensional Variational Assimilation (4D-VAR) | Uttam Chand Banerjee, Institute of Microbial Technology, Chandigarh Jun 22-23, 2000 |
| Aug 9, 2000 C. Kalyani Devasena Indian Ocean Circulation Studies Using NCEP and SSM/I Wind Data in an OGCM | Kishore Kumar and Elangovan, National Institute of Epidemiology, Chennai Jun 28-30, 2000 |
| Jan 12, 2001 K. Sandeep Inverse Problems and Adjoint Method | D. D. Misra, Central Mining Research Institute, Dhanbad Jul 7-11, 2000 |
| Feb 9, 2001 Gopal Krishna Patra Cryptography: A Symmetric Encryption Scheme Using Modified Back-Propagation Algorithm | Dr. Pierre Mazzéga, LEGOS, CNRS/CNES, Toulouse, France Aug 1, 2000 |
| Mar 1, 2001 P. Goswami High Resolution Monsoon Simulation: Experiments With a GCM | Kishore Kumar and Elangovan, National Institute of Epidemiology, Chennai Aug 7-11, 2000 |
| | Sethuraman, Dept. of Marine, Earth & Atmospheric Sciences, North Carolina State University, USA Aug 13-15, 2000 |
| | P. V. S. Raju, CAS, Indian Institute of Technology, Delhi Aug 13-24, 2000 |
| | Jayan Krishnaswami, Physical Research Laboratory, Ahmedabad Aug 25-28, 2000 |
| | Kishore Kumar and Elangovan, National Institute of Epidemiology, Chennai Sep 13-15, 2000 |
| | U. C. Mohanty, CAS, Indian Institute of Technology, Delhi Sep 15-17, 2000 |
| | S. N. Singh, Estuarine Fisheries Res. Centre, Central Inland Capture Fisheries Res. Instt., Vadodara Oct 10-15, 2000 |
| | Mini Ghosh, IIT, Kanpur Oct 16-18, 2000 |

6.7.4 Visitors

U. C. Mohanty, Indian Institute of Technology, New Delhi
April 11-15, 2000

P. Bhimasankaram, SQC Unit, Indian Statistical Institute, Hyderabad
Apr 16-19, 2000

Olivier Talagrand, Laboratory for Dynamic Meteorology, CNRS, Ecole Normal Superieure, France
May 15 – Jun 10, 2000

A. D. Bhide and Dr. B. Z. Alone, National Environmental Engineering Research Institute, Nagpur
May 22-27, 2000

R. N. Sonalikar, Dept. of Chemical Engineering, Nagpur

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| Kishore Kumar and Elangovan, National Institute of Epidemiology, Chennai Oct 16-20, 2000 | Simon See Chong Wee, Asia Pacific Technology Networks, SGI, Singapore Jan 12, 2001 |
| I. A. Parvez, Banaras Hindu Univ., Varanasi Oct 31 - Nov 3, 2000 | Howard Barnes, Unilever Research, Port Sunlight Laboratory, UK Jan 18, 2001 |
| B. Jagannadh, IICT, Hyderabad Nov 5, 2000 | Keith Priestley, Bullard Laboratories, University of Cambridge, UK Jan 22-30, 2001 |
| K. K. Rao, Transgene Biotek Ltd., Hyderabad Nov 5, 2000 | Andrew Wyatt, SGI, Australia Feb 22, 2001 |
| Helmut Schwarz, Berlin Academy of Sciences & Humanities, Berlin, Germany Dec 1, 2000 | Itamar Procaccia, Weizmann Institute of Science, Rehovot, Israel Feb 23, 2001 |
| Michel Ramonet, Laboratoire des Sciences du Climat et de l'Environnement, France Dec 4-6, 2000 | S. Elmaleh, Embassy of France, India Mar 8, 2001 |