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Knowledge Products : Publications, Presentations ..

Knowledge creation, knowledge enhancement, knowledge dissemination and knowledge management have been among the core activities of C-MMACS ever since its inception. C-MMACS has maintained high knowledge output in terms of publications and other scientific programmes, knowledge synthesis and exchange through conferences, workshops, brainstorming sessions etc.

Highlights

- 10 SCI publications
- 12 Papers Presented in International Conferences

Inside

- Publications in Journals
- Publications in Books/Proceedings
- Presentations at Conferences and Symposia
- Internal Reports
- Conferences/Symposia/Workshops Attended
- Invited Talks
- Workshops/Scientific Meetings
- Lectures

5.1 Publications in Journals

A Kumar, Isotropic Averaging for Cell-Dynamical-System Simulation of Spinodal Decomposition, *PRAMANA – Jour. of Physics*, 61(1), 1-5, 2003

P Goswami and G Liberti, A Prognostic Model of Cloud Cover Based on Satellite Data, *Geophysical Res. Lett*, 2004

B K Gogai, N N Dutta, **P Goswami** and **T R Krishna Mohan**, A Case Study of Bioremediation of Petroleum-Hydrocarbon Contaminated Soil at a Crude Oil Spill Site, *Advances in Environmental Research*, 7(4), 767-782, 2003

G Prathap, A Soft Mathematical Model for Brain Drain, *Current Science*, 85, 593-596, 2003

G Prathap and S Mukherjee, The Engineer Grapples with Theorem 1.1 and Lemma 6.3 of Strang and Fix, *Current Science*, 85, 989-994, 2003

S Raja, P K. Sinha and **G Prathap** Active Stiffening and Active Damping Effects on Closed Loop Vibration Control of Composite Beams and Plates, *Jour. of Reinforced Plastics*, 22(12), 1101-1121, 2003

Imtiyaz A Parvez, F Vaccari and G F Panza, A Deterministic Seismic Hazard Map of India and Adjacent Areas, *Geophysical Jour. International*, 155(2), 489-508, 2003

T R Krishna Mohan and Surajit Sen, Impulse Backscattering in Granular Beds: Introducing a Toy Model, *Phys. Rev. E* 67 (Rapid Communications), (6), 060301-1060301-4(R), 2003

Malay Mukul, D Roy, S Satpathy and **V Anil Kumar**, Bootstrapped Spatial Statistics: A More Robust Approach to the Analysis of Finite Strain Data, *Jour. of Structural Geology*, 26(3), 595-600, (2004)

K Asokan and **T R Ramamohan**, The Rheology of a Dilute suspension of Brownian Dipolar Spheroids in a simple shear flow under the action of an external force, *Physics of Fluids*, 2004, 16 (2), 433 -443.

Sridevi Jade and T G Sitharam, Characterization of Strength and Deformation of Jointed Rock Mass Based on Statistical Analysis, *ASCE International Jour. of Geomechanics*, 3(1), 1-131, 2003

Sridevi Jade, Malay Mukul, Imtiyaz A Parvez, M B Ananda, P Dileep Kumar, V K Gaur, R Bendick, R Bilham, K Wallace, I A Abbasi, M Asif Khan and S Ulahdi, Preseismic, coseismic and post-seismic displacements associated with the Bhuj 2001 earthquake derived from recent and historic geodetic data, *Proc. Indian Acad. Sci (Earth Planet. Sci.)*, 112(3), 331-345, (2003)

B Jagannadh, S Sumathi Reddy and **R P Thangavelu**, Conformational preferences of 1,4,7-trithiyacyclononane: a molecular mechanics and density functional theory study, *Jour. of Molecular Modelling*, 2004, 10, 55-59.

K Matsumoto, J L Sarmiento, R M Key, O Aumont, J L Bullister, K Caldiera, J M Campin, S C Doney, H Drange, J C Dutay, M Follows, Y Gao, A Gnanadesikan, N Gruber, A Ishida, F Joos, K Lindsay, E. Maier-Raimer, J C Marshall, R J Matear, P Monfray, A Moushet, R Najjar, G K Plattner, R Schlitzer, R Slater, **P S Swathi**, I J Totterdell, M F Eirig, Y Yamanaka, A Yool, and J C Orr, Evaluation of ocean carbon models with data-based metrics *Geophysical Research Letters*, 31, 2004

V V S S Sarma, **P S Swathi**, M D Kumar, S Prasannakumar, P M A Bhattathiri, M Madhupratap, V Ramaswamy, M M. Sarin, M Gauns, N Ramaiah, S Sardesai and S N De Sousa, Carbon Budget in the Eastern and Central Arabian Sea: An Indian JGOFS synthesis, *Global Biogeochemical Cycles*, 17(4), 13, 2003

Yajnik K S and **Sharada M K**, Ammonium Inhibition of Nitrate Uptake by Phytoplankton: A New Relation Based on Similarity and Hyperbolicity, *Current Science*, 85(8), 1180-1189, 2003

5.2 Publications In Books/ Proceedings

V Anil Kumar, R P Thangavelu and G K Patra,

Secure and Active Hop-Count Mapping for Early Detection of IP Spoofed Denial-of Service Attacks, in *Proceedings of National Conference on Hardware and Software Solutions for Secure Networks*, Hyderabad, 23-24 Jan. 2004

Malay Mukul, Bootstrapped Spatial Statistics : A More Robust Approach to the Analysis of Spatial Data, Rao K K Reddy P S R Mishra V N (Ed), *Computer Applications in Mineral Industry*, Allied Publishers Pvt. Ltd., New Delhi, 246-258, 2003

Malay Mukul, Sridevi Jade, Imtiaz A Parvez, M B Ananda, P D Kumar and V K Gaur, Compressive Deformation in the Kachchh Basin, Gujarat, India : *Abstracts, XXIII General Assembly of the International Union of Geodesy and Geophysics (IUGG)*, June 30-July 11, 2003

Surajit Sen, D P Visco, **T R Krishna Mohan**, Impulse Backscattering Based Detection and Imaging of Shallow Buried Objects, Granular Material Based Technologies, S Sen, M L Hunt, A J Hurd, M R S (Ed), *Symp. Proc. 759, 65-72* (MRS, Warrendale, 2003)

5.3 Presentations In Conferences/Symposium/Workshops

Anand Kumar, Numerical Methods I & II, 10th *National Conference on Liquid Crystals*, Garden City College, Bangalore, 9-10-Oct. 2003

V Anil Kumar, Sonia Oberoi, Anna Pepler and Roswitha Paul-Walz, *Living and Learning in a Foreign Culture, Asia Pacific Week*, Berlin Germany, 24-29, 2003.

Gangan Prathap, Axioms, Models and Algorithms: The Method of Science, *Workshop on Finite Element Analysis and Design of Structures*, SERC, Chennai, 11-12 December 2003

Gangan Prathap, A Priori Error Estimation for FEA Elastodynamics, *Workshop on Finite Element Analysis and Design of Structures*, SERC, Chennai, 11-12 December 2003

G K Patra and P Goswami, Organisation of Dynamics and Monsoon variability, *International*

Conference on Scale Interaction and Variability of Monsoon (SiVoM), Munnar, Kerala, 6-10 October, 2003.

G K Patra and R P Thangavelu, Modified Hill Clipher for Protection against known Plain Text Attacks and Data Integrity Checking, *National Workshop on Cryptology 2003*, Chennai, 16-18 October, 2003.

P Goswami, Temporal Scale Interaction & Monsoon Variability, *International Conference on Scale Interaction and Variability of Monsoon (SiVoM)*, Munnar, Kerala, 6-10 October, 2003.

S Himesh and P Goswami, Hydro-Biosphere Processes and Soil Moisture Variability, *International Conference on Scale Interaction and Variability of Monsoon (SiVoM)*, Munnar, Kerala, 6-10 October, 2003.

Imtiaz A Parvez, F Vaccari and G F Panza, Microzonation and Site-specific Ground Motion Modelling for Delhi City", *XXIII General assembly of the International Union of Geodesy and Geophysics (IUGG-2003)* meeting held at Sapporo, Japan, June 30-11, 2003.

Imtiaz A Parvez, F Vaccari and G F Panza, A deterministic Seismic Hazard Map of India and Adjacent Areas, *XXIII General Assembly of the International Union of Geodesy and Geophysics (IUGG-2003)* meeting held at Sapporo, Japan held during June 30-11, 2003.

P Jafarali, FEA as Element Strain Projections: A Function Space Review, *Workshop on Design of Earthquake Resistant Structures*, 4-17 Jan, 2004, Government College of Engineering, Kannur, Kerala, India.

P Jafarali, Introduction to Finite Element Method, CONFIGURATION 2004, *National Conference and Technical Symposium*, 23-24 Feb, 2004, Government College of Engineering, Kannur, Kerala, India.

Surajit Sen, Donald P Visco Jr. and **T R Krishna Mohan**, Impulse Penetration Based Detection and Imaging of Shallow Buried Objects, *Symposium MM: Granular Material based*

Technologies, Fall 2002, Materials Research Society Symposium Boston, Massachusetts, USA, Dec 2-3, 2002

Surajit Sen and **T R Krishna Mohan**, The Quasi-equilibrium Phase in Nonlinear ID Systems, VIII *Latin American Workshop on Nonlinear Phenomena Salvador, Bahia, Brazil*, Sept. 28 – Oct 3, 2003

A Mandal and **P Goswami**, Evolution of Bay of Bengal Cyclones in GCM, *International Conference on Scale Interaction and Variability of Monsoon (SiVoM) Munnar* in October-2003

P Rajeevan and **P Goswami**, Relationship between Surface Wind, SST and Simulated Sub-Surface Temperature in the Tropics, *International Conference on Scale Interaction and Variability of Monsoon (SiVoM) Munnar* in October-2003

P S Swathi and **C Kalyani Devasena**, Simulation of upper ocean thermal structure at the WHOI Arabian Sea Mooring site, *International Conference on Scale Interaction and Variability of Monsoon (SiVoM) Munnar* in October-2003

K S Yajnik, **M K Sharada** and **P S Swathi**, Uptake Kinetics of Phytoplankton in Presence of Nutrient Interaction: Lessons from JGOFS experiments in the Indian Ocean, A Sea of Change: JGOFS accomplishments and the Future of Ocean Biogeochemistry, *JGOFS Final Open Science Conference*, Washington D.C., USA, May 2003

5.4 Internal Reports

K S Yajnik and **M K Sharada**, *Hyperbolic Least Square Method of Estimation of Nutrient Kinetic Parameters in Marine Biology*, CM TR 0301, January 2003

P S Swathi, **M K Sharada**, **P Goswami**, **R P Thangavelu** and **Kalyani Devasena**, *INDOMOD Project, Final Technical Report*, CM TR 0302, February 2003

Sridevi Jade, **M S M Vijayan** and **M B Ananda**, *Measurement of Accurate Coordinates: ACMI*,

Gwalior (Classified), CM TR 0303, November 2003

Sridevi Jade, **Malay Mukul**, Souvik Banerjee, **V K Gaur**, Ashok Kumar, Anjan K Bhattacharya, Rivertis Pariong, S C Sahu, S Sailo, R P Tiwari, L Sunil Singh, Arun Kumar, D C Goswami, S Kalita, *Lanusosang and Wangshimenla, Establishment of Continuous Recording in GPS Systems at Fone Sites in North-Eastern India*, TR CM 0401, 2004

V K Gaur, **Sridevi Jade**, John Paul, **Malay Mukul**, **M B Ananda**, **P Dileep Kumar**, G S Satyal, B C Bhat and S S Gupta, *Determination of Crustal Deformation of South Indian Peninsula - A Search for Seismogenic Zones (Anomalous Strain Accumulation) - and Modelling of its Deformation Mechanism*, TR CM 0402, March 2004

Imtiyaz A Parvez and Praveen Gaddam, *The Bayesian Probabilistic Earthquake Hazard Assessment in the North East Indian Peninsula*, RR CM 0301, January 2003

P Goswami, **A Mandal**, H C Upadhyaya and Frederic Hourdin, *Advance Forecasting of Tropical cyclone with a GCM: Track Hindcasting*, RR CM 0302, February 2003,

M K Sharada, **K S Yajnik** and **P S Swathi**, *Evaluation of Six Relations of Kinetics of Uptake by Phyto-plankton in Multi-Nutrient Environment using JGOFS Experimental Results*, RR CM 0303, May 2003

Somenath Mukherjee, **P Jafarali** and **Gangan Prathap**, *A Variational Basis for Error Analysis in Finite Element Elastodynamic Problems*, RR CM 0304, June 2003

K Sangeeta, S Mukherjee and **Gangan Prathap**, *Generalization of the Projection Theorem for Finite Element Analysis*, RR CM 0305, June 2003

R Muralikrishna and **Gangan Prathap**, *Studies on the Variational Correctness of Finite Element Elastodynamics of Some Plate Elements*, RR CM 0306, August 2003

Vibhor Bhatt and **G K Patra**, *Analysis on Implementation and its Further Improvements of AKS Class Algorithms*, RR CM 0307, August 2003

P Goswami and **A Mandal**, *Long-range, High-resolution Forecast of Monsoon Rainfall*, RR CM 0308, August 2003

P Jafarali, S Mukherjee and **Gangan Prathap**, *Variational Correctness and Timoshenko Beam Finite Element Elastodynamics*, RR CM 0309, November 2003

Imtiyaz A Parvez, *Seismic Microzonation : Methodology and Approach*, RR CM 0310, November 2003

M K Sharada, **P S Swathi** and **K S Yajnik**, *Mathematical Modelling of Biogeochemical Cycles in the Indian Ocean*, RR CM 0401, March 2004

P S Swathi and **C Kalyani Devasena**, *Simulation of Upper Ocean Thermal Structure at the WHOI Arabian Sea Mooring Site*, RR CM 0402, March 2004

A Stella Margaret, *Knowledge Creation and Dissemination During 2002*, PD CM 0301, January 2003

Souvik Banerjee, Surender Singh Manral, **Imtiyaz A Parvez**, **M B Ananda** and **Malay Mukul**, *GPS Measurements around Bhuj, Gujarat, India*, March 2003, PD CM 0302, July 2003

Kali Wallace, **Malay Mukul**, Frederic Blume¹, Vineet Galahaut, **V K Gaur**, Manoj Jaiswal, *Remeasurements of the Great Trigonometrical Survey (GTS) Points in Gujarat for the Study of Active Tectonics in the Narmada Rift*, PD CM 0303, August 2003

Anand Kumar, *A Simulation of Dendritic Solidification using an Isotropic Numerical Scheme* PD CM 0304, August 2003

Anand Kumar, *Isotropic Finite Differences*, PD CM 0305, September 2003

Sridevi Jade, M Radhakrishna, **P Dileep**

Kumar, M S M Vijayan, Nilof S Pasha and Venkateswan, *GPS Measurements in the West Southern Peninsular Shield of India* (April – May 2003), PD CM 0306, November 2003

Souvik Banerjee and **Sridevi Jade** and Anil Earnest, *GPS Field Measurements in the Andaman and Nicobar Islands*, August – September 2003, PD CM 0307, November 2003,

Anand Kumar, *A Simulation of Magnetic Reconnection*, PD CM 0401, February 2004

Imtiyaz A Parvez and **Sridevi Jade**, *Strong Motion Instrumentation and Site Specific Ground Motion Modelling of Bangalore City*, PP CM 0301, August 2003

Imtiyaz A Parvez and **Sridevi Jade**, *Site Effects in Ahmedabad based on Array Observations of Microtremors*, PP CM 0302, September 2003

5.5 Participation in Conference/Symposia/Workshop/Seminar

Anand Kumar

Conference on “Desalinization & Membrane Technology: Present & Future”, CSMCRI, Bhavnagar on 19-20 June 2003

Anil Kumar

Workshop on “Self-Organizing Policy Handling for future Internet Service Environment”, jointly organized by NTT-Data, Japan and Fraunhofer FOKUS, Germany at FOKUS on June 18, 2003.

Imtiyaz A Parvez

Seventh workshop on “Non-Linear Dynamics and Earthquake Prediction” at Abdus Salam International Centre for Theoretical Physics (AS-ICTP), Trieste, Italy during September 29 - October 11, 2003.

The International Union of Geodesy And Geophysics (IUGG2003) meeting held at Sapporo, Japan during June 29 - July 11, 2003.

C Kalyani Devsena

WMO course on “Analysis and Interpretation of

ECMWF Wind Products for Various Ocean and Weather Studies” at ECMWF, Univ. Reading, U.K during October 2003 for one week

“UGC-Indian Academy of Sciences Refresher Course on Physics of Oceans and Atmosphere” at CAOS, IISC during December 1-12 2003.

P Jafarali

Workshop on “Finite Element Analysis and Design of Structures (FEADS-03)”, Structural Engineering Research Centre, Chennai, 10-11 December 2003

V Senthil Kumar

Workshop on “Finite Element Analysis and Design of Structures (FEADS’ 03)” Structural Engineering Research Center, Chennai, on 11-12 December 2003

K Sangeeta

Workshop on “Finite Element Analysis and Design of Structures (FEADS-03)”, Structural Engineering Research Centre, Chennai, 10-11 December 2003

Suchanda Ray

Training Programme on “The Cybrary: A Platform for Information Management and Networking”, Organized by MANAGE, Hyderabad, 23-27 February 2004

5.6 Invited Talks

Anand Kumar

Dendritic Solidification: An Isotropic Finite-difference Simulation, RRI Colloquium Bangalore, 3 July 2003

Gangan Prathap

India 2020, National Seminar on Frontier Technologies for India 2020, R V College of Engineering, Bangalore, 6 June 2003

Computer Aided Design, Analysis and Product Development: Theory and Practice, Inaugural Lecture, R V College of Engineering, Bangalore, 19 December 2003

P Jafarali

Analysis of one-dimensional finite elements using the Function Space Approach, National Institute of Technology, Calicut, India, 25 August 2003

Sridevi Jade

Estimation of Precipitable Water Vapor from GPS Data, MST Radar Facility, Tirupathi, April 2003

5.7 Workshops/Conferences/Scientific Meetings

Discussion Meeting on Development of a Multi-Scale Forecast Platform for the Monsoon Region (A Multi-institutional Project Proposal), C-MMACS, 05 May 2003

The primary objective of the meeting was to assess and improve a proposal for developing a comprehensive and efficient forecast platform through incorporation of latest developments in modelling, computational algorithm, assimilation techniques and forecast methodology.

Indo-US Workshop on “Peer Reviewed Online k-12 (10+2) Science Education (PROKSE): A Feasibility Study (held at NEERI, Nagpur), Organised by C-MMACS, July 17-20, 2003

To involve the knowledge base, experience and expertise of a diverse and distinguished group of highly experienced scholars, primarily from the US and India. In addition, efforts were made to include established researchers with commitment to outreach aspects of Science education from the neighboring countries to India although no Forum funds were being requested for this component of this workshop., they mainly forced on Internet connectivity in rural areas, the structure, depth and breadth of ‘Science curricula in K-12 in India and in neighboring nations..

International Conference on Scale Interacting and Variability of Monsoon (SiVoM) Munnar, Kerala, 6 – 10 October 2003

An event organised as an activity under the Indo-French Centre for Environment and Climate (IFCEC) with a broad scheme of sharing of responsibilities between C-MMACS and CUSAT. It was initiated to develop and promote

multi-lateral collaborative research in the areas of Weather, Environment and Climate and also had indepth discussion on new developments, outstanding problems and future directions in observations, simulation and forecasting of the complex dynamics of the monsoon system.

National Workshop on Science and Technology for Regional Development the Case for the North-East India, February 3 - 6, 2004, Guwahati, Assam

Application of science and technology and generation of knowledge often need to be done with a regional focus, as each region has special environmental and geographical characteristics that dictate suitability, adaptability and criticality of applied science and technology for that region. This is particularly true for the North-East India with its unique geo-climatic features. The proposed workshop is being planned to work out a Vision Statement, a detail Action Plan and an Implementation Strategy.

Discussion Meeting on Development of an Integrated Cloud Modification Technology 26th March 2004 at NAL, Bangalore

Responding to the societal distress caused by growing water stress in many parts of the country, and taking cognizance of scientific advances in the last couple of decades in a number of critical areas, CSIR has entrusted C-MMACS to develop a comprehensive programme for developing a cutting edge cloud modification technology that will provide the country leadership in this vital area. As a follow up action, C-MMACS has organized two Discussion Meetings involving potential participants, experts and potential users, under the chairmanship of Dr D R Sikka to discuss the draft proposal. A comprehensive multi-institutional project proposal for development of an integrated cloud modification technology has resulted from the meeting.

5.8 Guest Lectures

Anupama Venkataraman, *Using Seismic Energy to Understand the Physics of Earthquakes*, Post Doctoral Scholar, Dept. of Geophysics, *Stanford University*, 06 February 2003

Mahasweta Choudhury *Scientific Realism*, Dept. of Philosophy, *Calcutta University* 17 February 2003

George John, *Minneapolis Changing to a Direct-to-Store-Delivery Channel in a Competitive Market: Mathematical Modelling of the Sports Drink Market in the USA Pillsbury-Gerot Chair in Marketing*, *Carlson School of Management, University of Minnesota*, 19 March 2003

Gerard Megie, *Towards a Scientific Observational System of the Global Environment*, *President, CNRS, France* 20 March 2003

R Muralikrishna, *Numerical Studies on Elastodynamics of Plates & Beams*, *EACOE & Ph D Scholar* 30 May 2003

V B Kaujalg, *Performance and Evaluation of R & D Institutes*, *Indian Institute of Management, Bangalore, C-MMACS Foundation Day Lecture*, 15 July 2003

Bipin Kumar, *Parallel Iterative Solves for Solving Huge Systems of Linear Equations*, *IIT, Kanpur* 29 July 2003

N C Suresh, *Cellular Manufacturing: Resolution of a Long-standing Paradox through Analytical and Simulation Models*, *School of Management, State University of New York, New York*, 22 August 2003

Gian Luigi Liberti, *Contribution of Satellite Observations to Atmospheric and Oceanographic Studies*, *Institute for Atmospheric and Climatic Studies (ISAC), Italian National Research Council (CNR), Rome, Italy* 15 October 2003

Krishna Achuta Rao, *Ocean Warming Signals from Climate Models, Program for Climate Model Diagnosis and Intercomparison*, *Lawrence Livermore National Laboratory, USA*, 22 October 2003

R Muralikrishna, *Finite Element Error Analysis of Axisymmetric Shells*, EACOE and Ph D Scholar, C-MMACS, 16 December 2003

Prof Bruce Alan bolt, *Seismic Strong Ground Motion Simulation*, Civil and Environmental engineering, University of California, USA , 9 February 2004

V Balaji, *Climate Modelling with FMS/MOM 4*, GFDL Princeton University, 25 February 2004

D Jagadeesha, *Inter-seasonal and Inter-annual Climate Variability over Southern Africa*, Dept of Environment and Geographical Sc, University of Cape Town, SA, 4 March 2004

Jean-Luc Chatelain, *Use of Ambient Noise Recording for Site Effect and Building Studies after the May 21, 2003 Zemmouri (Algeria) Earthquake: Preliminary Results*, Laboratoire de Geophysique Interne et Tectonophysique, France 19 March 2004

5.9 In-House Seminars

P S Swathi : *A Demonstration of GFDL's Flexible Modelling System*, 07 February 2003

M K Sharada: *Evaluation of Six Relations of Kinetics of Uptake by Phytoplankton in Multi-Nutrient Environment using JGOFS Experimental Results*, 09 May 2003

P Goswami: *Multi-method Experimental Forecast of MONSOON 2003*, 13 May 2003

P Jafarali: *A Variational Basis for Error Analysis in Finite Element Elastodynamic Problems*, 3 July 2003

K Sangeeta : *Generalization of Projection Theorem for Finite Element Analysis*, 9 July 2003

Anand Kumar: *A Simulation of Dendritic Solidification using an Isotropic Scheme*, 05 September 2003

P Goswami: *Temporal Scale Interaction and Monsoon Variability*, 16 September 2003

G K Patra: *Organization of Dynamics and Monsoon Variability*, 16 September 2003

A Mandal : *Evolution of Bay of Bengal Cyclones in a GCM*, 16 September 2003

P Rajeevan: *The Puzzle of EL-Nino Monsoon Association*, 17 September 2003

S Himesh : *Impact of Vegetation on Soil Moisture Variability*, 25 September 2003

C Kalyani Devasena : *Upper Ocean Response to Monsoon of Indian Ocean in an OGCM*, 25 September 2003

P Rajeevan: *Relationship between Surface Wind, SST and Simulated Sub-Surface Temperature in the Tropics*, 25 September 2003

Jafarali P: *Variational Correctness and Timoshenko Beam Finite Element Elastodynamics*, 22 December 2003

5.10 Visitors To C-MMACS

K V Ramesh
Research Scholar, Indian Institute of Tropical Meteorology, Pune
03-20 January 2003

Bertil Walden
Sweden & Norway
09 January 2003

Kristin Bingen
Sweden & Norway
09 January 2003

P Ravi Kumar
NGRI, Hyderabad - 500 007
21 – 24 January 2003

N Purnachandra Rao
NGRI, Hyderabad - 500 007
21 – 24 January 2003

Gautam Mitra
Dept of Earth & Environmental Sciences, Univ. of Rochester, NY, USA
29 Jan – 5 February 2003

P V S Raju
IIT, Delhi
03 – 09 March 2003

Nava K Hazarika
Dept. of Physics, Tezpur University, Tezpur
10 – 23 March 2003

S S Rai
NGRI, Hyderabad
11 – 12 March 2003

George John
Univ. of Minnesota, USA
19 March 2003

Gerard Megie
France
20 March 2003

Samuel Elmaleh
France
20 March 2003

Dr P P Dyani
Wadia Instt. Of Himalayan Geology, Almora
20 – 22 March 2003

Onkar S Chauhan
National Instt. Of Oceanography, Goa
27 – 28 March 2003

Karthikeyan M
Tamilnadu Agricultural Univ., Madurai
9 – 11 April 2003

Anjan Kumar Bhattacharya
Tezpur University, Assam
22 – 28 April 2003

Dennis Belgrado
Trimble Navigation Ltd, Dubai
20-22 May 2003

Prof P Bhattacharya
Tezpur University, Assam
25 – 28 May 2003

Elmaleh S
Attache for Sc & Tech.
Allance Francaise, Bangalore
28 May 2003

Venkiteswaran
Cochin Univ. of Sc & Tech., Cochin
25 – 27 June 2003

Niloff
Cochin Univ. of Sc & Tech., Cochin
25 – 27 June 2003

Bulendra Gogoi
Tezpur University, Assam
25 – 31 July 2003

Dhiraj Sarma
Tezpur University, Assam
25 – 31 July 2003

Somy Kuriakose
CMFRI, Cochin
9 – 10 July 2003

Rupam Barman
Tezpur University, Assam
14 July – 14 August 2003

Munindra Borah
Tezpur University, Assam
14 July – 14 August 2003

David K Kahaner
Director, Asia Technology Information Program,
Japan
17 July 2003

Bijoy Thompson
ndian Instt. Of Tropical Meteorology, Pune
20 – 22 July 2003

Bipin Kumar
IIT, Kanpur
27 July – 2 August 2003

N Kiran Kumar
National MST Radar Facility, Tirupati
27 July – 09 August 2003

Narendra Babu
National MST Radar Facility, Tirupati
27 July – 09 August 2003

P V Joseph
Cochin University, Cochin
01 – 02 August 2003

P V S Raju
CAS, IIT, Delhi
05 – 12 August 2003

J K Sharma
Dept. of Physics, Tezpur University, Assam
16 – 23 August 2003

G A Ahmed
Dept. of Physics, Tezpur University, Assam
16 – 23 August 2003

Nallan C Suresh
Professor, Univ of New York, USA
22 August 2003

Antoine Schoen
Attache for Sc & Tech, Alliance Francaise,
Vasanthnagar, Bangalore
03 September 2003

Samuel Elmaleh
Attache for Sc & Tech, Alliance Francaise,
Vasanthnagar, Bangalore
03 September 2003

Prof Mohan Kumar
Dept. of Atmospheric Sciences, Cochin Univ of
Sci & Tech, Cochin
23 – 24 September 2003

P V S Raju
IIT, Delhi
01 – 05 October 2003

Dr G L Liberti
Istituto di Scienze Atmosfera e del Clima, Italy
11 – 18 October 2003

Dr O. Talagrand
Ecole Normale Superieure, France
11 – 25 October 2003

Hourdrin Frederic
LMD, Paris, France
11-13 October 2003

Dr G Liberit
Istituto di Scienze Atmosfera, Vergata, Italy
11 – 18 October 2003

L Sunil Singh
Dept of Earth Sciences, Manipur University
12 – 19 October 2003

S Y Quraishi
Department of Ocean Development, Delhi
17 October 2003

Dr R Subhasini
University of Madras, Chennai
18 – 20 October 2003

Dr Padmini
University of Madras, Chennai
18 – 20 October 2003

Dr Krishna Achuta Rao
Lawrence Livermore National Lab, USA
22 October 2003

Jean Claude Tribolet
Cultural Councillor, Embassy of France, France
29 October 2003

S Elmaleh
Attache for Sc & Tech, Alliance Francaise,
Bangalore
29 October 2003

Dr Sijji Kumar
Cochin Univ. of Sc. & Tech, Cochin
6 – 7 November 2003

Suresh Prabhu
Former Union Cabinet Minister for Power
10 November 2003

Prof U C Mohanty
CAS, IIT Delhi
13 – 14 November 2003

Prof P Bhattacharyaa
Tezpur University, Assam
16 – 19 November 2003

Subash Chandra
NGRI, Hyderabad
18 – 24 November 2003

Bill La Rosa
Mountain View, USA
21 November 2003

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S K Gupta
DST, New Delhi
1 – 7 December 2003

Jerome Vialard
France
3 December 2003

David P Scott
Intel Tech Asia Pvt Ltd, 51 Cubbege Road,
Singapore 229469
16 December 2003

Narendra Babu
Dept of Physics, S V University, Tirupathi
17 – 24 December 2003

H Upadhyaya
CAS, IIT, Delhi
22 – 28 December 2003

Prof Bruce Alan bolt
Civil and Enironemntal engg
Univ of California, USA
9 February 2004

Dr V Balaji
GFDL Princeton Univ
25 February 2004

D Jagadeesha
Dept of Env. and Geographical Sc,USA
4 March 2004

Jean-Luc Chatelain
Laboratoire de geophysique Interne et
Tectonophysique Grenoble, France
19 March 2004

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