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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.

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6.1 Publications in Journals

Panza G F, Alvarez L, Aoudia A, Ayadi A, Benhallou H, Benouar D, Bus Z, Chen Y T, Cioflan C, Ding Z, El-Sayed A, Garcia J, Garofalo B, Gorshkov A, Gribovszki K, Harbi A, Hatzidimitriou P, Herak M, Kouteva M, Kuznetsov, **IA Parvez**, Lokmer I, Maouche S, Marmureanu G, Matova M, Natale M, Nunziata C, Paskaleva I, Pico R, Radulian M, Romanelli F, Soloviev A, Suhadolc P, Szeidovitz G, Triantafyllidis P and Vaccari F, 2002, Realistic Modeling of Seismic Input for Megacities and Large Urban Areas, **The UNESCO/IUGS/IGCP Project 414, Episodes**, 25(3), 160-184

Radhakrishnan K, Ramamohan T R and **Thangavelu R P**, 2002, *Simulation of Semi Dilute Suspensions of Slender Rods: A Test Case*, *J. of Chemical Engineering of Japan*, **35(8)**, 744-752

Raja S, **Prathap G** and Sinha P K, 2002, Active Vibration Control of Composite Sandwich Beams with Piezoelectric Extension bending and Shear Actuators, *Smart Mater. Struct.*, **11**, 63-71

Raja S, Sinha P K and **Prathap G**, Bhattacharya P, 2002 Influence of One and Two Dimensional Piezoelectric, Actuation on Active Vibration Control of Smart Panels *J. of Aerospace Science & Technology*, **6**, 209-216

Somenath Mukherjee and **Prathap G**, 2002, Analysis of Delayed Convergence in the Three Noded Timoshenko Beam Element Using the Function Space Approach, *SADHANA*, **27(5)**, 507-526

6.2 Publications in Books/Proceedings

Mukul M, Jaiswal M and Singhvi A. K., 2002, Neotectonic Taper Building in the Frontal Darjeeling-Sikkim-Tibet (DaSiT) Himalayan Wedge: Constraints provided by Luminescence Dating: Abstracts, *Fourth South Asia Geological Congress, GEOSAS IV*, November 2002 14-16, 76-77

Mukul M, Jaiswal M and Singhvi A. K., 2003, Neotectonic Activity in the Frontal Darjeeling-Sikkim-Tibet (DaSiT) Himalayan Wedge: Abstracts, *National Seminar on Himalayan Orogen-Foreland Interaction*, January 29-30, 2003, p. 43

Parvez IA, 2002, Microzonation in Delhi: Developing site-specific design spectra *EQ News*, **Vol. 3**, *Biannual News letter*, DST June 2002

Patra G K and Mishra R K, 2002, Simple approximation for Characteristic Impedance of Asymmetrically Coupled Microstrip Line, *Proceedings of APSYM-2002*, Kachi, 9-11, December 2002

Sridevi Jade, 2002, GPS Derived Velocity and Deformation in the Indian Subcontinent, *GPS in Crustal Deformation Studies, Proc. of Asian GPS Conference 2002*, 1-4, October

Sridevi Jade, 2002, Contribution of C-MMACS in National Programme on GPS for Earthquake Hazard Assessment *Brochure, Seismology Division, DST*, 13-14, July

6.3 Presentations at Conferences/ Symposia/Workshop

Achintya Mandal and Goswami P, Simulation of Tropical Cyclones using a Global Circulation Model, *ISMMACS Conference 2002*, November, 14-15, C-MMACS, Bangalore, 2002

Gangan Prathap, Research Activities at C-MMACS, One-day Symposium on Aerospace Technologies and NAL: *Reflections and Perspectives*, NAL, Bangalore, 29 May 2002

Gangan Prathap, Extra-Variational Simplifications in Finite Element Formulations of Non-linear, Vibration Problems Re-visited *ISMMACS Conference 2002*, C-MMACS, Bangalore, November, 14-15, 2002

Gangan Prathap, Verification and Validation in Computational Modelling: A Case Study from FE Dynamics Valedictory Lecture, *Workshop on MATLAB for Scientists and Engineers MSE 2002*, Bangalore University 24 August 2002

Gangan Prathap, Finite Element Analysis – Patterns and Perspectives *ISMMACS Conference 2002*, C-MMACS, Bangalore November, 14-15, 2002

P Goswami and G K Patra, Association of Large-Scale Convergence Field with Tropical Cyclones, *ISMMACS Conference 2002*, C-MMACS, Bangalore November, 14-15, 2002

P Goswami and S Himesh, Modelling and Simulation of Soil Moisture Variability, *ISMMACS Conference 2002*, C-MMACS, Bangalore November, 14-15, 2002

P Jafarali and S Mukherjee, Analysis of One Dimensional Finite Elements using the Function Space Approach *ISMMACS Conference 2002*, C-MMACS, Bangalore, November, 14-15, 2002

C Kalyani Devasena and **P S Swathi**, Thermal Structure Variation Studies of the Indian Ocean using Ocean General Circulation Model (OGCM) Simulations *ISMMACS Conference 2002*, C-MMACS, Bangalore, November, 14-15, 2002

Rajeevan P and **P Goswami**, Results from a Coupled General Circulation Model, *ISMMACS Conference 2002*, C-MMACS, Bangalore, 14-15 November 2002

S Raja, **G Prathap** and P K Sinha, Modelling, Simulation and Validation for Active Vibration Control of Smart Sandwich Beam with Piezoelectric Actuation, *ISMMACS Conference 2002*, C-MMACS, Bangalore, 14-15 November 2002

MK Sharada and **KS Yajnik**, Effect of Different Formulations for the Ammonium Inhibition of Nitrate Uptake on the Behaviour of a Marine Ecosystem Model, *ISMMACS Conference 2002*, C-MMACS, Bangalore, 14-15 November 2002

M K Sharada, **K S Yajnik** and **P S Swathi**, Evaluation of six relations of kinetics of uptake by phytoplankton in multi-nutrient environment using JGOFS experimental results, *International Workshop on "Biogeochemical Processes in the Northern Indian Ocean"*, NIO, Goa, February 2003

KS Yajnik, A Mathematical Model for Cataract Blindness and Simulation for Seven Indian States *ISMMACS Conference 2002*, C-MMACS, Bangalore, 14-15 November 2002

6.4 Internal Reports

Kirit S Yajnik and **M K Sharada**, February 2002, *Ammonium Inhibition of Nitrate Uptake : Implications of Recent Experiments on Modelling*, RR CM 0201

Anand Kumar, March 2002, *Isotropic Averaging for Cell Dynamical System Simulation of Spinodal Decomposition*, RR CM 0202

I A Parvez, Franco Vaccari and G F Panza, April 2002, *Site-Specific Microzonation Study in Delhi Metropolitan City by 2-D Modelling of SH and P-SV Waves*, RR CM 0203

Somenath Mukherjee, **Gangan Prathap**, May 2002,

Variational Correctness in Finite Element Solutions through Reduced Integration, RR CM 0204

T R Krishna Mohan and **K S Yajnik**, July 2002, *Growth Patterns of Roads Vehicle Populations in India*, RR CM 0205

T R Krishna Mohan, July 2002, *Contact Areas Distributions between Two Rough Surfaces*, RR CM 0206

P Jafarali and S Mukherjee, November 2002, *Analysis of one-dimensional Finite Elements using the Function Space Approach*, RR CM 0207

Sridevi Jade, December 2002, *GPS Derived Velocity and Deformation in the Indian Sub-continent*, RR CM 0208

Sridevi Jade, B C Bhat, **M B Ananda**, **P Dileep Kumar**, and **V K Gaur**, December 2002, *Style of Deformation and Convergence Rates across the Western Himalaya in Ladakh*, RR CM 0209

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

K S Yajnik and **M K Sharada**, January 2003, *Hyperbolic least square method of estimation of nutrient kinetic parameters in marine biology*, TR CM 0301

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

A Stella Margaret, January 2002, *Knowledge Creation and Dissemination During 2001*, PD CM 0202

Gangan Prathap and **S Sita**, March 2002, *Project Proposals for 10th Five Year Plan Period*, PD CM 0203

Malay Mukul, A Bhattacharya, Rivertis Pariong, **V K Gaur**, S C Sahu, Ashok Kumar and Nava Hazarika, April 2002, *The 2002 GPS Measurements in Arunachal Pradesh and Meghalaya, North Eastern India*, PD CM 0204

Malay Mukul, June 2002, *The Kinematics of Quaternary Neotectonics in the Darjiling-Sikkim-Tibet (DaSiT) Himalayan Wedge*, PD CM 0205

C Kalyani Devasena and Jerome Vialard, September

2002, *Preliminary Study of the Simulation of Intraseasonal SST Variability Using the LODYC OGCM*, PD CM 0206

C Kalyani Devasena and **P S Swathi**, October 2002, *Analysis of Model Simulations of the Indian Ocean Using NCEP and SSM/I Wind Forcing and Comparison of Topex/Poseidon Altimeter Data*, PD CM 0207

I A Parvez and **Gangan Prathap**, December 2002, *C-MMACS Research Performance 1992 – 2002*, PD CM 0208

Anand Kumar, *Hole Counting*, December 2002, PD CM 0209

Sridevi Jade, **V K Gaur** and **Malay Mukul**, May 2002, *Dynamics of Continental Collision process and Rheology of Lower Crust Based on GPS Studies in Indian Sub-continent*, PP CM 0203

Malay Mukul and **Sridevi Jade**, December 2002, *Active Tectonics of the Shillong Plateau Using Global Positioning System (GPS) based Geodesy*, PP CM 0204,

6.5 Participation in Conferences/Symposia/ Workshops/Seminar

Anand Kumar

MMT-2002, College of Judea and Samaria, Israel, Sept.-4 Oct. 2002, ISMMACS, C-MMACS, Bangalore, Nov. 14-15 2002

Conference on Liquid Crystal and Soft Materials, RRI, Bangalore, Dec. 18-20, 2002,

Aero India 2003 International Seminar, February 5-8, 2003

Malay Mukul

Seminar on GPS-GTS Technology and Application, organised by Institutions of Electrical Engineers (UK), Bangalore Branch during Sept. 9-10, 2002

Parvez I A

International Conference on *Disaster Management and Insurance* organised by National Centre for Disaster Management, Govt. of India and Munich Re, Germany held during February 1-2, 2002 in New Delhi

Seminar on *GPS-GTS Technology and Application*, organised by Institutions of Electrical Engineers (UK), Bangalore Branch during Sept. 9-10, 2002

Workshop on *Tethysides Structure and Evolution* at AS-ICTP, Trieste, Italy during October 12-15, 2002.

Workshop on *Three-Dimensional Modelling of Seismic Waves Generation, Propagation and their Inversion* at AS-ICTP, Trieste, Italy during September 30 – October 11, 2002

Patra G K

National Conference on Open Source Software: A New Direction for India. Organized by MAIT, Bangalore, Feb. 26, 2003

DST Sponsered Brainstroming Session on Monsoon 2002, CAOS, Indian Institute of Science, Bangalore, November 19, 2002

Thangavelu R P

ISMMACS Conference on Mathematical Modelling and Computer Simulation, Bangalore, 14-15 November 2002

Chautauqua on Popper and Philosophical Perspectives for Reliable Scientific Knowledge, Bangalore, 27 November 2002

National Conference on *Open Source Software: A New Direction for India*. Organized by MAIT, Bangalore, 26 February 2003

6.6 Invited Talks

Anand Kumar

Isotropic Numerical Scheme for Microstructural Simulations, *TIFR, Bangalore*, Sept. 19, 2002

Isotropic Numerical Scheme for Microstructural Simulations Invited Lecture, *Second Intl. Cong. On Mathematical Modelling and Computer Simulation of Metal Technologies*, 30 Sept. – 4 Oct., Ariel, Israel, 2002

Gangan Prathap

Popper and a Proper FEA, Karl Popper 2002, *Centenary Congress*, Vienna, Austria, July, 3-7, 2002

Modelling from Mountains to Monsoons, *Indo-South African Workshop on Advanced Computing*, Pretoria, South Africa, 29 October 2002

Computational Modelling and Logic of Discovery, Prof J N Kapur Endowment Lecture, *17th Annual Conference of the Ramanujam Mathematical Society*, 13 June 2002, BHU, Varanasi.

Computational Dynamics of Lumped Mass Systems, *Seminar on Structural Dynamics in Civil Engineering: Some Recent Developments*, 18 & 19 July 2002, IISc, Bangalore.

Verification and Validation in Computational Modelling: A Case Study from FE Dynamics, *Valedictory Lecture, Workshop on MATLAB for Scientists and Engineers MSE* 24 August 2002, Bangalore University.

Towards a priori Error Analysis for Finite Element Elastodynamics, *Mechanical Engineering Seminar*, 13 September 2002, IISc, Bangalore.

Modelling from Mountains to Monsoons, *Indo-South African Workshop on Advanced Computing*, 28-29 October 2002, Pretoria, South Africa.

Research Activities at C-MMACS, One-day Symposium on Aerospace Technologies and NAL: Reflections and Perspectives, 29 May 2002, NAL, Bangalore

Goswami P

Intra Seasonal Oscillations and Emergence of Inter-annual Variability, LMD, Paris, 28 November 2002

At C-MMACS

6.7 Workshops/Conferences/Scientific Meetings

ISMACS Conference on Mathematical Modelling and Computer Simulation
Organised by ISMACS & C-MMACS
14-15 November 2002

Chautauqua on Popper and Philosophical Perspectives for Reliable Scientific Knowledge
Organized by C-MMACS, 27 November 2002

6.8 Guest Lectures

R Muralikrishna, *Optimal Mesh Stress Computations using BFS and ACM Classical Plate Bending Elements*, EACOE & Ph.D Scholar, C-MMACS, 17 January 2002

Pradeep Talwani, *Seismogenic Permeability*, University of South Carolina, USA, 05 February 2002

Ch. Sivaji, *Seismic Wave Propagation through Heterogeneous Media using Laboratory Experiments*, ESS Division, DST, New Delhi, 25 February 2002

O S Chauhan, *Palaeomonsoon Variabilities*, National Institute of Oceanography, Goa, 16 April 2002

R Muralikrishna, *A Locking Free Plate Bending Element* EACOE & Ph.D Scholar, C-MMACS, 28 May 2002

Prabhakar G Vaidya, *Separating Signals from Noise*, NIAS, Bangalore, 06 June 2002

Somenath Mukherjee, *Variational Correctness in Finite Element Solutions through Reduced Integration*, Structures Division, NAL, Bangalore, 07 June 2002

P V S Raju, *Sub-Seasonal Oscillations and Interannual Variabilities* CAS, IIT, Delhi, 14 August 2002

Peter Molnar, *Mantle Dynamics and the Indian Monsoon*, University of Boulder, Boulder, Colorado, USA, 31 October 2002

6.9 In-House Seminars

Anand Kumar, *Averagings for Spinodal Decomposition*, 18 January 2002

Gangan Prathap, Patterns, Perspectives, Prediction, Proof and Popper :An Exercise in Computational Positivism Chautauqua on Popper and Philosophical Perspectives for Reliable Scientific Knowledge, 27 November 2002

Malay Mukul, Bootstrapped Spatial Statistics – A More Robust Approach to the Analysis of Spatial Data, 28 January 2002

K S Yajnik, Honorary Fellow, C-MMACS Modelling of Epidemiology of Cataract, 06 February 2002

M K Sharada, Ammonium Inhibition of Nitrate Uptake : Implications of Recent Experiments on Modelling, 15 February 2002

Malay Mukul, The Kinematics of Quaternary Neotectonics in the Darjiling-Sikkim-Tibet (DaSiT) Himalayan, 04 July 2002

T R Krishna Mohan, Growth Patterns of Road Vehicle Populations in India, 13 August 2002

Achintya Mandal, Case Studies on Tropical Cyclone Simulation with a GCM, 27 August 2002

Anand Kumar, Hole Counting, 20 December 2002

C Kalyani Devasena, Intra Seasonal SST Variability Studies of the Indian Ocean Using LODYC Ocean General Circulation Model Simulations, 2 May 2002

6.10 Visitors

Siji Kumar
Dept. Of Atmospheric Science, Cochin University of Science and Technology (CUSAT), Cochin
18 – 24 January 2002

P V S Raju
CAS, Indian Institute of Science, Delhi
11 February – 12 March, 2002

Prof D D Misra
Director, CMRI, Dhanbad
12 – 16 March 2002

Prof D P Singh
Chairman, RC of CMRI, Banaras Hindu University, Varanasi
12 – 16 March 2002

K V Ramesh
Research Scholar, Indian Instt. of Tropical Meteorology, Pune
03 – 19 March 2002

Dr B Jagannadh
Indian Instt. of Chemical Technology, Hyderabad
11 – 16 March 2002

B R Subramanian
Director, Dept. Of Ocean Development, New Delhi
05 – 07 April 2002

Prof T C Panda
Dept of Mathematics, Berhampur University, Orissa
07 – 12 May 2002

Dr Onkar Singh Chauhan
NIO, Gao
07 – 20 April 2002

Prof T C Panda
Dept. Of Mathematics, Berhampur University, Orissa
05 – 11 May 2002

Prof P Bhattacharya
Vice Chancellor, Tezpur University, Tezpur

25 – 27 April 2002

K V Ramesh
Research Scholar, Indian Instt. of Tropical Meteorology, Pune
05 – 11 May 2002
Dr Ashutosh Sharma
Professor, Dept. Of Chemical Engineering, IIT, Kanpur
28 May – 01 June 2002

Prof C P Rajendran
CFSS, Trivandrum
11 – 12 May 2002

Prof I V Radhakrishnana Murthy
Geophysics Dept, Andhra University, Visakapatnam
15 – 16 May 2002

Prof O Talagrand
LMD, 24 Rue Lohmond, Paris, France
06 June – 01 August 2002

Dr R N Singh
Director, NEERI, Nagpur
28 – 30 July 2002

Dr K K Mohanty
Earth Science & Hydrology Division, SAC, ISRO, Ahmedabd
09 – 11 July 2002

Dr W K Mohanty
Dept. Of Civil Engg., IIT, New Delhi
21 – 26 July 2002

P V S Raju
CAS, IIT, Delhi
29 July – 12 August 2002

Prof T K Sengupta
Dept of Aerospace Engg.
Indian Instt. of Technology, Kanpur
09 – 11 August 2002

Nagaratna
Dept. Of Meteorology, Andhra University
15 – 30 September 2002

K V Ramesh
Research Scholar, Indian Instt. of Tropical Meteorology, Pune
25 – 29 October 2002

K V Ramesh
Research Scholar, Indian Instt. of Tropical Meteorology,
Pune
06–07 November 2002

MR Radhakrishna
Reader, Cochin University, Cochin
11–13 November 2002

Dr R N Singh
Director, NEERI, Nagpur
05–07 November 2002

Surender Singh Manral
Wadia Institute, Dehradun
01–03 December 2002

Ruhi Verma
Chemical Engg. Dept, IIT, Kanpur
08–23 December 2002

Sandeep Tayade
NEERI, Mumbai
11–15 December 2002