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C-MMACS Academic Programme

In keeping with its objective of developing skill and expertise in Mathematical Modelling and Computer Simulation in the country, C-MMACS maintains an active academic programme. The activities span the entire spectram from Ph D guidence to undergraguate/postgraduate student projects to specialized courses. Students and professionals from a wide spectrum of organizations including industries across the country have been benefiting from our various academic programmes over the years.

Highlights:

The year 2005-06 has been an active year in terms of various academic activities at C-MMACS. A number of training and exposure courses were organized for participants cutting across universities, research organizations and industries across the country. The year had also seen, as usual, a large number of students and trainees from various universities and institutions.

Inside

Ph.D Programme

S Raja (Guide: G Prathap, Co-Guide: P K Sinha)

R Muralikrishna (Guide: G Prathap)

P Jafarali (G Prathap, Co-guide: Mohammed Ameen)

K. Asokan (Guide: T R Ramamohan)

K Radhakrishnan (Guide: T R Ramamohan)

S Himash (Guide: P Goswami, Co-guide: S V Goud)

K C Gouda (P Goswami)

Suovik Banerjee (Guide: Malay Mukul)

M S M Vijayan (Guide: Sridevi Jade)

Saigeetha Jagganathan (Guide: Sridevi Jade)

Seminars by Project Trainees (M Tech Thesis/ B E, MCA Project)

V Anil Kumar
Simulation Study on Throughput Variation of TCP under Different Queue Management Schemes, Jayalakshmy P S Noorul Islam College of Engineering, Kumaracoil, 06 June 2005.

Behaviour Analysis of TCP in Context of Acknowledgement Spoofing, A Pradeep, Vellore Institute of Technology, 21 June 2005.

V Anil Kumar & R P Thangavelu
GUI for Bandwidth Utilization of Internet Access Link, B G Ashwini, Kuvempu University, Shimoga, 13 May 2005.

Transport Layer Packet Transfer Visualization System, C G Shubha, S Shilpa Hejmadi, P Sunil, R Sridhar, Dr Ambedkar Institute of Technology, 01 June 2005

P Goswami
Estimation of Sustainable Urbanization : Analysis with a Simulation Model, Ancymol K Thomas & Veena C Jose, Cochin University of Science & Technology, Kochi, 25 August 2005.

Reverse Engineering and Modification of a Meteorological Code using Pseudocode and Parser; Designing, Testing and Analysis, Manna Day, Jyotideep Bhuyan, Jorhat Engineering College, Jorhat, 26 October 2005.

P Goswami & Achintya Mandal
Finding Cyclone Center from Surface Pressure Plot using Image Processing Techniques, Rama Kanta Sinha, Tezpur University, 01 June 2005

P Goswami & V Anil Kumar
A Neural Network Based Rainfall Forecasting System from Multi-model Inputs, T S Aravind, M A L Soumen, S K Ajay Kumar, Dos Bosco Institute of Technology, 24 May 2005

P Goswami & S Himesh
Development of Unix/Linux Compatible Graphic Tool Functions Scientific Data Visualization and Analysis, M G Srinivas Bakkappa, Gulbarga University, 20 April 2005.

River Water Quality Modelling - A Case Study : Tungabhadra River System, G N Anjana, Y G Chaithanya Kumar, Chaitra Seshadri, B S Shalini, Civil Engineering Dept, BMSCE, 27 May 2005.

Imtiyaz A Parvez
One Dimensional Ground Response Analysis, K R Avinash, C Risheej Rajan, S Rohan Kamble, BMS College of Engineering, 14 June 2005

Imtiyaz A Parvez & G K Patra
Prediction of Peak Horizontal Acceleration of Earthquakes Using Artificial Neural Network, P Hari Krishnan, Sathyabama Deemed University, Chennai, 19 April 2005.

G K Patra & Imtiyaz A Parvez
A Neural Network Based System for Assessing Earthquake Peak Horizontal Acceleration with Hypocentral Distance, A K Mohanty, G K Mohanta, Berhampur University, 29 July 2005

Studies on Epoch-Based Artificial Neural Network (Back Propagation Algorithm) for Early Warning of Earthquakes, Sonali Biswal, KIMS Utkal University, Orissa, & Subrat Kumar Nayak, Berhampur University, Orissa, 29 July 2005.

Prediction of Peak Horizontal Acceleration of Earth quakes Using artificial Neural Networks, P Hari Krishna, MCA, Satyabhama Deemed University, Chennai, June 2005.

G K Patra & R P Thangavelu
Cryptanalysis of a Public-Key Encryption Scheme

based on the Polynomial Reconstruction Problem, D Sasikumar & T Suganthi, Gandhigram Deemed University, Dindigul, 19 April 2005.

Hierarchical Authentication System using Proxy Cryptography, N Chithra, S Kshama, Sindhu Madhusudhan, Vemana Institute of Technology, Bangalore, 05 May 2005.

N Prabhu & R P Thangavelu
Development of a Web based Secure & Automatic Online Submission Utilities, C Jayalakshmi, Bharati Institute of Higher Ed. & Research, Chennai, 24 March 2006.

M K Sharada & P S Swathi
Effect of Five Relations for Ammonium Inhibition on Nitrate Uptake on the Dynamics of 1-D Marine Ecosystem Model, Suma, Sumana, Swetha & Sushma, APS College of Engineering, 26 May 2005.

V Senthilkumar & G Prathap
Immunity to Mesh Distortions of Quadratic Plane Triangular Element, Jonathan Redon, Matmeca, France.

Courses at C-MMACS

C-MMACS Course on Mathematical Modelling and Computer Simulation, C-MMACS, Bangalore, 06 - 10 June 2005, Co-ordinator: M K Sharada

The main objective of the course is to impart theoretical knowledge in the principles of Mathematical Modelling, Application of Mathematical Modelling Techniques in Physical, Chemical and Biological Systems. Numerical Techniques for Solving Differential Equations, Software Tools for Solution of Equations and Analysis of the Model Results.

Mesoscale Simulation Training School, C-MMACS, Bangalore, 15 March 2006, Co-ordinator: Dr K V Ramesh

Faculty Participation

C-MMACS Course on Mathematical Modelling and Computer Simulation, C-MMACS, Bangalore, 06-10 June 2005

G Prathap, Inaugural Lecture

K S Yajnik, Introduction to Model Building

V K Gaur, Introduction to Inverse Methods

T R Krishna Mohan, Nonlinear Dynamics

P S Swathi, Numerical Methods

N K Indira, Statistics - Introduction to Methods & Tools

T R Ramamohan, Introduction to Bifurcation Theory

M K Sharada, Modelling of Marine Ecosystem

K Sangeeta, Software Tools used in Mathematical Modelling

C Kalyani Devasena, Software Tools for Data Analysis & Visualization

R P Thangavelu, Scientific Computing at C-MMACS : An Overview

Malay Mukul, Applications of Mathematical Modelling in Geology

Course on Mathematical Modelling and High Performance Computing, Tezpur University, Tezpur, October 30 - November 1, 2005

G K Patra

Introduction to MM5 Modelling System

Message Passing Interface : What, Why and How

Refresher Course on Earth System Science, Indian Academy of Sciences, Bangalore. June 28, 2005

Malay Mukul

Plate Tectonics

First Order Features Resulting from Plate Tectonics

Mesoscale Simulation Training School, C-MMACS, Bangalore, 15 March 2006.

Anil Kumar, Introduction to High Performance Computing

K V Ramesh, Data Analysis and Plotting Techniques

S Himesh, Introduction to MM5 Modelling Systems

G K Patra, Installation and Running of MM5 Modelling system