

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 spectrum from Ph.D. guidance to undergraduate/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. The year 2001-02 also had a vibrant academic programme:

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Ph. D Programme

Although as a CSIR laboratory C-MMACS does not award doctoral degrees, it encourages its young, talented scientists to pursue higher academic degrees. C-MMACS is recognized by Bangalore University for Ph.D guidance. A number of scientists from C-MMACS are also recognized a number of universities for doctoral guidance.

Student: P V S Raju

Guide: Dr. P Goswami

Co-Guide: Prof. U C Mohanty, C A S IIT-Delhi

Graduate/Diploma Trainees

Alakapathy
Veena C
Anjali
Menaka P
Abdul Salem K
Anitha N
Anurag Gupta
Chandrashekar Katri
Debjani Roy
Ganesh Madhuranath
Geeta Bagga
Jalaja S
Janmejaya Patnaik
Jayakrishnan P S
Jyoti Ranjan Nayak
Khan Atiya Faiz
Madhusmita Sahu
Manoj Kumar Acharya
Mohit Mathur
Nandini T Reddy
Nikhil S Javali
Nishanth S
Parthasarthy G
Praveen Chavannavar
Preethi T R
Rahul Prathap
Rajesh R S
Rajeshwari
Ram Reddy N
Ravi Khatri S
Resin Kuriakose A
Sai Ram Reddy N
Satwesh Keshari Jena
Shakti Prasad
Shibasis Satpathy
Sindhu Lakshmi T
Sreedeeep R

Sreeja S
Sridhar M R
Subrata Chakrabarty
Sudeep Shyamsunder
Sunil Kumar M
Tanuj Singh
Vanitha R

Seminars by Project Students

As a part of its value-added training, each project student at C-MMACS has to present his/her work at an open seminar.

13 July 2001
Anurag Gupta
BE 3rd Year (Civil), University of Roorkee, Roorkee
Error Analysis of Finite Beam Elements

19 July 2001
Manoj Kumar Acharya, Satwesh Keshari Jena
MCA Final Year, Khallikote College, Berhampur, Orissa
Design and Development of GPS Homepage for C-MMACS

19 July 2001
R Vanitha & G Parthasarathy
MCA Final Year, K S Rangasamy College of Technology,
Tiruchengode
Measurement of Bandwidth Utilization of Internet Access
Link

26 July 2001
Shibasis Satpathy & Debjani Roy
MCA Final Year, Khallikote College, Berhampur, Orissa
Bootstrapped Spatial Statistics : A More Robust
Approach to the
Analysis of Spatial Data

26 July 2001
Shakthi Prasad Sen & Madhusmitha Sahu, MCA Final
Year, Khallikote College, Berhampur, Orissa
Design and Development of an Interactive Interface for a
Modelling Platform

02 August 2001
M R Sridhar & Jyoti Ranjan Nayak
MCA Final Year, Khallikote College, Berhampur, Orissa
Scientific Data Formats and Role of NetCDF Utilities in
Ocean Data Conversion

02 August 2001
M Rajeshwari, MCA Final Year, BIET, Davangere

Bandwidth Analysis of Internet Access Link

03 August 2001

R Sreedeeep, M.Tech IIIrd Semester, MIT, Manipal
Finite Element Analysis and Optimization of Stiffened
Pressure Vessels

09 August 2001

S Jalaja, M.Sc Final Year, Rayalaseema Institute of
Information and Management Sciences, S V University,
Tirupati
Online Resume Registration

10 August 2001

Ganesh Maduranath, S Nishanth, Nikhil S Javalli & Mohit
Mathur, B.E. Final Year, PESIT, Bangalore
Finite Element Modelling and Analysis of Aileron with NISA

16 August 2001

K Anjali, Diploma Trainee, C-MMACS, Bangalore
Ocean Data Modelling

13 September 2001

N Sairam Reddy, MCA Final Year, D V N P G College,
Anakapalle
Development of Random Key Distribution Algorithm for
Symmetric Key Encryption

13 September 2001

K Chandrasekar, MCA Final Year, D V N P G College,
Anakapalle
Implementation of BB84 Quantum Cryptography Protocol for
Error Correction and Detection of Unauthorised Intrusion

Courses at C-MMACS

Specially designed courses provide an efficient way of developing quality man-power in critical and specific areas. These courses help C-MMACS to fulfil its mandate of propagating mathematical modelling and computer simulation in the country.

26 November - 01 December 2001

Coordinator : Dr Malay Mukul
Contemporary Concepts and Tools in Fold-and-Thrust
Belt Deformation

Fold-and-thrust belts are an important part of compressive mountain chains like the Himalayas and understanding the deformation in them is vital for estimation of earthquake and landslide hazards as well as exploration and exploitation of economic resources from them. This requires state-of-the-

art knowledge of the formation of fold-and-thrust belts, its deformation kinematics the physiochemical processes operative in them using qualitative and quantitative modelling techniques. This course aims at providing interested earth-scientists an integrated introduction to fold-and-thrust belt deformation and also to point out the latest developments in this field so that their research benefits from the infusion of these concepts and tools.

21 January - 26 January 2001

Coordinator : Dr. Sridevi Jade
Intensive Training Programme in GPS Theory, Data
Processing and Analysis

The Course, sponsored by Department of Science and Technology, Govt. of India, was aimed to impart theoretical knowledge and practical capability in GPS data handling, processing and analysis. Though the course was mainly focussed on GPS geodesy and its application to crustal deformation studies, other applications notably aircraft navigation, estimation of predictable water vapour were also covered. There was an overwhelming response for the course with 60 applications from all over the country.

Racer

Faculty participation

The commitment of C-MMACS to empower the country with high-quality man-power in mathematical modelling and computer simulation is also reflected in the participation of its scientists in various training programmes.

M Mukul

DST Sponsored Contact Course on Contemporary Concepts and Tools in Fold-and-Thrust Belt Deformation, held at C-MMACS, Bangalore, 01 December 2001

GPS Data Pre-Processing

Retrodeformable Balanced Cross Section

Strain Measurements - Microscopic

Application of deformation microstructures in fold-and-thrust belts

Material Properties of Rocks and Deformation Microstructures

Mechanics of Fold-and-Thrust Belts

Transport Parallel Geometry of Fold-and-Thrust Belts

Bernese GPS software Theory

Introduction and Map View Geometry of Fold-and-Thrust Belts

Bernese Positioning Engine Theory

Retrodeformable Balanced Cross-Sections and Strain Analysis

P Goswami

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

Diagnostic Applications of 4-Dimensional Variational Assimilation.

Introduction to Balanced Cross Sections

Transport Parallel Geometry of Fold-and-Thrust Belts: North Eastern Hill Universities, Shillong

Map View Geometry of Fold-and-Thrust Belts: North Eastern Hill Universities, Shillong

M Mukul

DST Sponsored Intensive Training Programme on GPS Theory, Data Analysis and Processing. January 24, 2002, C-MMACS, Bangalore,

GPS Data Collection

Anand Kumar

Numerical Methods : Introduction

DST Sponsored Contact Course on Contemporary Concepts and Tools in Fold-and-Thrust Belt Deformation, held at C-MMACS, Bangalore, 30 November 2001

G Prathap

DST Sponsored Contact Course on Contemporary Concepts and Tools in Fold-and-Thrust Belt Deformation, held at C-MMACS, Bangalore, 01 December 2001

Introduction to Finite Element Methods

Basic Laws of Continuum Mechanics: Conservative, Constitutive

Sridevi Jade

Intensive Training Programme in GPS theory, Data Processing and Analysis, 21 - 26 January 2002, C-MMACS, Bangalore

Global Positioning System Overview

Positioning Using GPS Observables

GPS Errors and Corrections

Crustal Deformation Studies and GPS