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C-MMACS Academic Programme

In keeping with its objective of developing skill and expertise in Mathematical Modelling and Computer Simuation 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 2003-04 also had a vibrant academic programme

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- Ph.D Programme
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- Graduate/Diploma Trainees
- Seminars by Project Students
- Courses at C-MMACS
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Ph.D Programme

Ph. D Scholars

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

R Muralikrishna (Guide: G Prathap)

P V S Raju (Guide: P Goswami, Co-Guide: Dr U C Mohanty)

Manoj Jaiswal: (Guide: Malay Mukul , Dr A. K. Singhvi)

Souvik Bannerjee:(Guide: Malay Mukul)

SEMINARS BY PROJECT TRAINEES (M.TECH Thesis/ BE/ MCA Projects)

A Mandal / P Goswami

Linux Base GUI for AGCM Deepak R, RVS College, Coimbatore 9 Mar 2004

Visualization Tool for Cyclone Tracks A Abirami & K Mary Antony, Avinashilingam Deemed University 17 April 2003

Visualization of Cyclone Tracks Ranadeep Bhuyan, Rosy Das, Sauravjyoti Sarmah, Nibedita Nath, Jorhat Engineering College, Assam 17 November 2003

Development of a Graphical User Interface for a Modelling Platform Hemanta Nath*,* Assam Engineering College, Guwahati 06 November 2003

G K Patra

Secret Key Exchange Protocol using Neural Networks and Chaotic Maps (BE) Anupama Dutta, Poornima N S, Manasa Devi N V, M S Ramaiah Institute of Technology 21 May 2003

Implementation of Random Key Generation Algorithm (BE) Manjunath G, Madhvesh N B, Dayananda Sagar College of Engineering, Bangalore 29 May 2003

Implementation of a Parallelization Algorithm for a Complex Simulation Code (BE) Divya C Mouli, Laveena S Shetty, Sheela N A, Shubashri C G, Malnad College of Engineering Divya Jyothi, Vidya

Vikas Institute of Engineering Sheeba P, Shruthi T, Sony G, MVJ College of Engineering 04 June 2003

Security Enhancement for Communication over Network Using Random Key Generation Algorithm (BE) Sachit Singh Jamwal, Birla Institute of Technology, Pilani 12 June 2003

Implementation and Analysis of Deterministic Polynomial Time Primality Test (BE) Vibhor Bhatt Punjab Engineering College, Chandigarh 23 July 2003

A Hierarchical Authentication Protocol for Electronic Data Communication (MCA) Manas Mukul, S.I.T., Tumkur; Sapna Nagraj, P.E.S.I.T., Bangalore 23 July 2003

Multi-Party Key Exchange Protocol using Neural Cryptography (M Sc) Thahir Ali P, Riju Ravindran, Kannur University 10 December 2003

G K Patra Imtiyaz A Parvez

Application of Artificial Neural Networks in Earthquake Hazard Assessment (MCA) Suryakant Patra, Khallikote Autonous College, Orissa Girish N S, Jawaharlal Nehru Natl. College of Engg., Shimoga Rajesh Sahu, Instt. of Advanced Computer & Res., Prajukti Vihar, Rayagada, Orissa 11 July 2003

Application of Artificial Neural Networks in Earthquake Hazard Assessment (BE) Sheetal Prakash, M S Ramaiah Institute of Technology, Bangalore 11 June 2003

G K Patra R P Thangavelu

Authentication Method Using Symmetric-key Cryptography (MCA) K Pennarasi, Arulmigu Palaniandavar College of Arts & Culture, Palani 07 May 2003

P Goswami

Development and Implementation of Algorithms for Genetic Sequence Analysis Sidharta S, Raghavendra B K, Nirman R Shetty, Varun Vasudev, R V C E College 11 June 2003

Parallelization of the GCM Abhishek Bujor Barua, Adhiyamaan College of Engineering 8 Jan 2004

Imtiyaz A Parvez

Receiver Function Analysis of Boradband Seismic Data (MCA), Deepak Roy, National Institute of Engineering, Mysore, 27 June 2003

N K Indira

Prediction of Cumulative Inbreeding Rate in Future Generations of Hatchery Bred Indian Major Carps, Deepak P K, Central Institute of Fisheries Education, Mumbai, 09 June 2003

S Himesh

Personal Call System, Brinda G S, Meghana K Swamy, Sathya Priya Sreedhar, Suma S, Sri Jagadguru Chandrashekaranatha Swamiji Institute of Technology (BE), 2 June 2003

C Kalyani Devasena

GUI Interface for Visualization and Analysis of Oceanographic Data in NETCDF Formats Using IDLK, Suresh, Government College, Anantapur, 04 December 2003

Malay Mukul

Grain Size and Shape Quantification and Analysis from Thin-section of Deformed Rocks (MCA), Veena B R, Kuvempu University, Shankaraghatta, 11 July 2003

M K Sharada

Modelling of Marine Ecosystem, Krishna Bhushan K, Manjunath N, Praveen A N, Praveen R, Dr Ambedkar Institute of Technology, 11 June 2003

Sridevi Jade

Three Dimension Position Accuracy using GPS Data, Deelesh Mandloi, Birla Institute of Technology, Pilani, 12 June 2003

R P Thangavelu and G K Patra

Analysis of a New Activation Function for Artificial Neural Networks, G Sridharan Reddy, S Shridevi Rao, G H Raisoni Institute of Information Technology, Nagpur, 24 December 2003

Study on Possible Authentication Methods for Random Key Generation Algorithm, S Bhuvaneswari, Janakiammal College of Arts & Science, 09 April 2003

Real Random Hill Cipher for Symmetric Encryption, C Unnamalai, Sacred Heart College, 09 April 2003

GUI for CPU Usage, K Packiaraj, Gobi Arts & Science College, 17 April 2003

Courses at C-MMACS

Training Course on the use of GPS Technology in Hazard Assessment and GPS Data Processing for participants from SAARC Countries, Sponsored by Ministry of External Affairs, SAARC Division, August 25 – September 5, 2003

The main objective of the course was to impart theoretical knowledge and practical capability in GPS data handling, processing and analysis. Though the course was mainly focused on GPS hazard assessment, it also aimed at giving a wide range of knowledge on GPS and its applications. The course was specially designed for the participants from SAARC countries.

Training Course on Fluid Physics in Geological Environments, Jointly Organized by C-MMACS and JNCASR, Bangalore, 19-23 January 2004

The proposed course was aimed at not only imparting training, but also to provide a platform and assistance in exchange of information and interfacing of existing technologies to synthesize new technologies/knowledge to meet specific requirements for solving flow and transport problems in geological environments especially hard rock regions. Since hard-rock regions are not only sources of water but also preferred for developing nuclear waste repositories, development of indigenous expertise to deal with fluid flow and transport problems in complex geological formations assumes greater significance.

Faculty Participation

CSIR Orientation Training Programme, SERC, Chennai, 30 July 2003

Gangan Prathap, The Method of Science

Training Course on the use of GPS Technology in Hazard Assessment and GPS Data Processing for participants from SAARC Countries, Sponsored by Ministry of External Affairs, SAARC Division, C-MMACS, Bangalore, August-September 2003

Malay Mukul
GPS Data Collection
Pre-Processing of GPS Data
Ionosphere Effects on GPS Signals
Sources of Surface Deformation.

Training Course on Fluid Physics in Geological Environments Jointly Organized by C-MMACS and JNCASR, Bangalore 19-23 January 2004

Prof. V K Gaur, Inaugural Lecture

Prof. V K Gaur, Debris Flow

Dr. P Goswami, Physics of Atmospheric Circulation

Dr. G K Patra, Artificial Neural Networks a Step Towards Simplicity

Dr. K Sangeeta,
Finite Element Analysis - Session-I
Finite Element Analysis - Session-II
Finite Element Analysis - Session-III

Dr. T R Ramamohan, Introduction to Chaos Theory

S Himesh,
Subsurface Flow
Darcy's Law to Cubic Law
Fracture Network and Fluid Flow

R P Thangavelu, High Performance Computing

DST Sponsored Winter School on Sedimentary Facies and Basin Ananlysis. IIT Bombay November 21, 2003.

Malay Mukul
Quantitative Dynamic Stratigraphy (QDS) Approach to Depositional Modelling.
Stratigraphic Model of Foreland Basin Development
An Overview of Strata: Freeware For Stratigraphic Modelling