

MESSAGE FROM SCIENTIST-IN-CHARGE



PROF. P SESHU

SCIENTIST-IN-CHARGE
CSIR CENTRE FOR MATHEMATICAL MODELLING AND
COMPUTER SIMULATION (C-MMACS)

CLUSTER DIRECTOR
CSIR INFORMATION SCIENCES CLUSTER

It is a proud and happy moment for all of us at CSIR C-MMACS as we enter into our Silver Jubilee Year.

CSIR C-MMACS is the quintessential institute for mathematical modelling and simulation (third paradigm of science). While vigorously pursuing modelling of several complex systems, CSIR C-MMACS has won accolades for its research in earth system science. High Performance Computing facility has always been a hall mark of CSIR C-MMACS.

Recently we launched our academic program (Ph. D) under the aegis of AcSIR. We have also launched our student programme SPARK, to attract bright students from premier institutes to our research programmes.

It is with a great sense of satisfaction and pride that we reflect on our achievements. It is with a greater sense of purpose that we rededicate ourselves to the pursuit of highest levels of accomplishment in emerging frontiers of computational and data intensive science (fourth paradigm), empowered by massively parallel supercomputers.

A number of events have been planned during this Silver Jubilee Year. We invite you to join us and share our joy and happiness in our year of celebration.

(P Seshu)

MESSAGE FROM DIRECTOR GENERAL



PROF. SAMIR K BRAHMACHARI

DIRECTOR GENERAL
COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

SECRETARY
DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH
GOVERNMENT OF INDIA

I am pleased to know that CSIR-CMMACS is celebrating its Silver Jubilee during 2012-13.

Recognizing the vast potential of "computational science", CSIR established CSIR-CMMACS at Bangalore in 1988. Over the years, CSIR-CMMACS grew from its seeds to become a modestly sized laboratory and has contributed extensively to the spread of computational science within CSIR and in the country at large.

CSIR-CMMACS in its illustrious journey, has carried out outstanding, socially relevant and application oriented research and development activities. The centre has nurtured niche areas such as climate and environment modelling, GPS based geodesy, ocean carbon cycle modelling and study of complex fluid flows, and has made pioneering contributions. Mathematical modelling and simulation of such complex natural and engineering phenomena has been made feasible by the high performance computing (HPC) facility at CSIR-CMMACS. I am delighted to know that the present HPC facility at CSIR-CMMACS is rated the fastest in the country and 58th in the world.

With its strong foundations in modelling and simulation (third paradigm of science), CSIR-CMMACS is well poised to embark on a journey of data intensive scientific discovery (fourth paradigm).

I take this opportunity to congratulate all members of CSIR-CMMACS and wish each one of them greater glory and achievement in their endeavours.

(Samir K Brahmachari)



CENTRE FOR MATHEMATICAL MODELLING AND COMPUTER SIMULATION (CSIR C-MMACS)



CALENDAR OF EVENTS

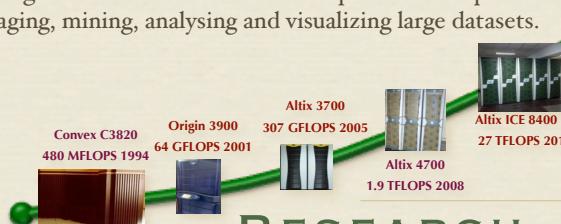
SILVER JUBILEE



ABOUT C-MMACS

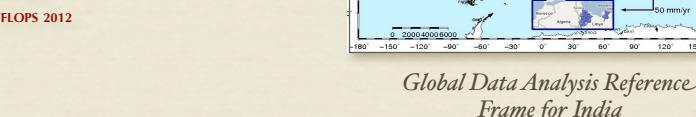
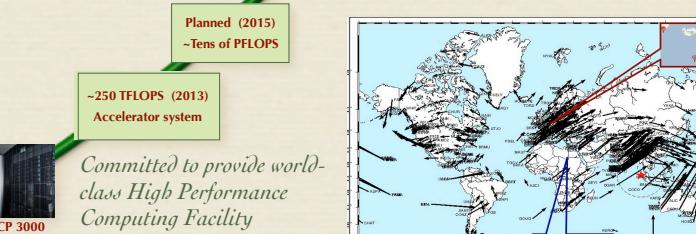
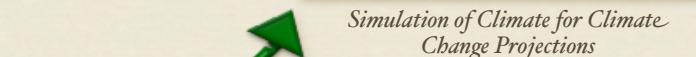
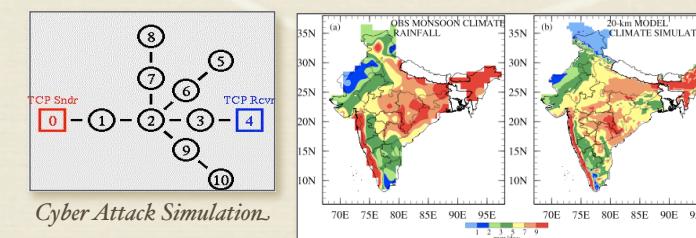
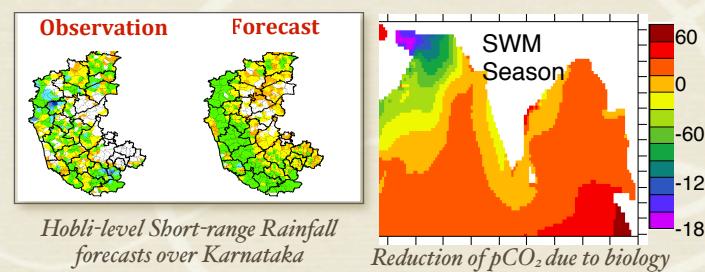
CSIR established the Centre for Mathematical Modelling and Computer Simulation (CSIR C-MMACS) at Bangalore in 1988 to tap the vast potential of modelling leading to simulation of complex natural and engineering phenomena. It is a happy coincidence that we are celebrating our Silver Jubilee this year, which has been declared as the National year of Mathematics.

CSIR C-MMACS contributed extensively to the spread of computational science as the third paradigm of science in addition to the classic two paradigms of observation and theory. High Performance Computing (HPC) empowers scientific progress through ultra-high fidelity simulations on massively parallel supercomputers. Vast inexpensive wireless sensor network has revolutionized our ability to observe the world around us. Hence, in recent years, contemporary science is moving from "compute centric" to "data centric" and data intensive scientific research/discovery which combines observation, theory and computation, is emerging as the fourth paradigm of science. CSIR C-MMACS plans to be at the forefront of this newly emerging paradigm of science. The main aim of Silver Jubilee Year celebration is to bring together experts working on scientific problems using vast amounts of observational and simulated data, along with experts working on mathematical and computational aspects of managing, mining, analysing and visualizing large datasets.



RESEARCH

- ◆ OPTIMIZATION AND VISUALIZATION
- ◆ PARALLEL PROGRAMMING
- ◆ MULTIPHASE FLOW SIMULATION
- ◆ CYBER SECURITY & CRYPTOGRAPHY
- ◆ MULTISCALE MODELLING & SIMULATION
- ◆ FINITE ELEMENT MODELLING
- ◆ EARTHQUAKE HAZARD ASSESSMENT



FOCI

- ◆ GPS BASED MODELLING & SIMULATION IN INDIAN SUBCONTINENT
- ◆ CARBON CYCLE MODELLING
- ◆ MODELLING OF OCEAN BIOGEOCHEMICAL CYCLES
- ◆ MODELLING OF CLIMATE & CLIMATE CHANGE
- ◆ WEATHER INFORMATICS & OUTREACH
- ◆ FORECASTING OF MONSOON & SEVERE WEATHER



CSIR C-MMACS in its Silver Jubilee Year plans to organize year-long scientific activities, national/international conferences, training workshops and student competitions, in pursuit of computational and data intensive science in futuristic areas.

CALENDAR OF EVENTS

EVENT	SCHEDULE
Workshop on Parallel Programming	August 2012
CSIR C-MMACS Open Day	September 2012
Student Competition in Computers, Computing and Parallel Programming	November 2012
National Conference on Cyber Security and Cryptography	February 2013
Workshop on Data Assimilation/ Inverse Modelling	April 2013
National Conference on Data Intensive Research in Earth System Sciences	May 2013
International Conference on Computational and Data Intensive Research (4 th Paradigm of Research)	July 2013

FOR FURTHER INFORMATION:

Prof. P Seshu Chairman, Organising Committee Tel: 080-25051921 E-mail: sjceleb@cmmacs.ernet.in	Dr. K Rajendran Convener, Organising Committee Tel: 080-25051939 URL: http://www.cmmacs.ernet.in Emergency Contact: +91-9980116572/9449806623/9449077435
---	---