# **COLLABORATIVE PROGRAMME & PROJECTS**

Multi-institutional, national and international collaborative research programmes have been the core of C-MMACS overall research. C-MMACS to-day has active collaboration with a number of national and international institutions.

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### Sponsored Projects

Inertial Effects on Forced Particles in Unsteady Flows at Low Reynolds Numbers, DST - Ramamohan T R

Impact of GCM Generated Dynamical Boundary Fields on Meso-Scale Simulation, DOS -Goswami P

Atmosphere-Hydrosphere-Biosphere Inter-actions, C-MMACS-ISRO - P Goswami

Development of a High-resolution Analysis through Observation and Simulation for Validation of the CSIR Fog Forecasting Platform, CSIR - **Goswami P** 

Multi-Scale Simulation and Quantification of Sustainability and Vulnerability under Climate Variability and Climate Stress and other Natural Hazard - Suprainstitutional project of CSIR -**Goswami P** (Nodal Officer)

CSIR Network Project on Engineering of Structures against Natural and other Disaster - **Goswami P** 

High Precision CO2 Concentration Measurements at Pondicherry and its Inversion to improve Quantitative Estimates of Global Sources and Sinks of Carbon, DST – Indira N K

Estimation of Carbon Fluxes in the Indian Ocean, Ministry of Earth Sciences - **Swathi P S** 

Carbon Sources and Sinks in Asia and the Indian Ocean, FCO, British High Commission - Swathi P S

Atmosphere Carbon Dioxide Sequestration through Fertilization of a High-nutrients-low Chlorophyll Oceanic Region with Iron, Network Project with NIO, CSIR - **Sharada M K** 

GPS Re-measurements to Quantify Deformation in Uttaranchal and Ladakh Himalayas, Ministry of Earth Sciences - **Sridevi Jade** 

Procurement of four Campaign Mode GPS Systems, Ministry of Earth Sciences - **Sridevi Jade** 

A Kinematic Study of Suspected Major Active Shear/ Fault Zones in the West Southern peninsular Shield of India: Implications on Seismogenesis, Ministry of Earth Sciences - **Sridevi Jade** 

Monitoring of Post Seismic Deformation using GPS in Andaman Nicobar Region, Ministry of Earth

#### Sciences - Sridevi Jade

Active Tectonics of the Darjeeling-Sikkim Himalayas using Global Positioning System (GPS) based Geodesy with GBPHIED, Gangtok, Sikkim -Sridevi Jade

GPS Monitoring Of The Area Southeast Of 2005 Muzaffarabad Rupture Zone Around Jammu, With Department of Geology, Jammu University -- Sridevi Jade

Tropospheric Precipitable Water Vapour estimation in Northeastern India using GPS network, Department of Physics, Tezpur University -- Sridevi Jade

Finite Element Modeling of Thermomechanical Behavior and Microstructural Evolution in Steel during Hot Deformation Processes, DST- **Surendra Kumar** 

Establishment of Continuously running GPS Station at Durgapur, West Bengal, DST - Malay Mukul

Analysis and Detection of a New Class of Denial-of-Service Attack on the Internet, Ministry of Information Technology - **Anil Kumar V** 

Megha-Tropiques Mission of ISRO Project on Impact of physical assimilation of vertical profiles of latent Heating and moisture on short-range weather forecasting, ISRO –**Rajendran K** 

Advanced Mathematical Modelling and Artificial Intelligence System in the Analysis of Geophysical Time Series (Earth, Ocean and Atmosphere), DST -Rameshan Kallummal

Indo-Italian Bilateral project on Realistic Site-Specific Hazard Assessment for Mega-Cities utilizing Modelling Techniques, DST - **Imtiyaz A Parvez** 

Site Effects in Ahmedabad based on Array Observations of Microtremors, DST - Imtiyaz A Parvez

International Network Project Seismic Hazard in Asia, AS-ICTP, Trieste, Italy – **Imtiyaz A Parvez** 

Thermal Structure and Mixed Layer Variations of the Indian Ocean in an Ocean General Circulation Model (OGCM), DST - Kalyani Devasena

Analysis and Detection of New Class of Denial-of-Service Attacks on the Internet, Ministry of Communication and Information Technology, Government of India - V Anil Kumar

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# **Collaborative Projects**

Carbon Fluxes in India and Central Asia, Indo-French Collaborative Project with IIA - Indira N K

Variations in deformation and kinematics along and across the Himalayan arc through time: Insights from the Darjeeling-Sikkim-Tibet transect, National Science Foundation, USA - **Malay Mukul** 

River dynamics and hazard assessment in the Himalayan foreland, UK-India Education and Research Initiative (UKIERI) 2007 Standard Research Awards programme - Malay Mukul

Aqua-planet Experiment Project (APE), Collaborative Project under WCRP/WGNE -Rajendran K

Towards Further understanding of MJO from TRMM data and Japan Meteorological Agency forecast data, under JAXA, Collaborative Project with Japan - Rajendran K

Impact of Regional Aerosol Radiative Forcing on

Indian Summer Monsoon, Indo-French Collaborative Project - **Sajani S** 

Modeling Aerosol Radiative Forcing and Air Quality over Tropical Monsoonal Regions: Impact of Aerosols, Tropospheric Chemistry and Source Attribution, Collaborative Project with Germany -Sajani S

### In-house project

Network Secuirty in an Inter-networked environment - Thagavelu R P

Empirical modelling and relationship of the primary productivity with other ocean parameters in the Indian ocean - Indira N K

Monitoring of Continuously operating C-MMACS GPS station located in the IISc Campus - **Sridevi** Jade

Site-specific ground motion modeling and microzonation studies in Indian megacities - Imtiyaz A Parvez

