

## PROJECTS & COLLABORATIVE PROGRAMMES

*Multi-institutional, national and international collaborative research programmes have been the core of CSIR-4PI research. CSIR-4PI today has active collaboration with a number of national and international institutions.*

### ***Inside***

- *CSIR 12<sup>th</sup> Five Year Plan Network Projects*
- *Grant-in-aid Projects*
- *Collaborative Projects*
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## CSIR 12<sup>th</sup> Five Year Network Projects

### **Advanced Research in Engineering & Earth Sciences (ARiEES): Data Intensive Modelling and Crowd Sourcing Approach - Nodal officer: Sridevi Jade,**

Nodal Lab: CSIR-4PI

#### **Participating Labs:**

CSIR National Aerospace Laboratories (NAL)

CSIR National Institute of Oceanography (NIO)

CSIR National Geophysical Research Institute (NGRI)

CSIR Central Building Research Institute (CRR)

CSIR North East Institute of Science and Technology (NEIST)

### **Indian Aquatic Ecosystems: Impact of Deoxygenation, Eutrophication and Acidification (Indias Ideas) Physical Sciences Cluster: Modelling and Simulation of Subsurface Oxygen Distribution in the North Indian Ocean, PI: Sharada M K, Co-PI: Swathi P S**

Nodal Lab: CSIR National Institute of Oceanography (NIO)

#### **Participating Lab:**

CSIR-4PI

CSIR Centre for Cellular and Molecular Biology (CCMB)

CSIR National Geophysical Research Institute (NGRI)

### **Probing the Changing Atmosphere and its Impacts in Indo-Gangetic Plains and Himalayan Regions (Aim-IGPHim), PI : Swathi P S, Co-PI: Indira N K**

Nodal Lab; CSIR National Physical Laboratory (NPL)

#### **Participating Lab:**

CSIR-4PI

CSIR Central Road Research Institute (CRR)

CSIR Institute of Himalayan Bioresource Technology (IHBT)

CSIR Institute of Minerals and Materials Technology (IMMT)

CSIR National Botanical Research Institute (NBRI)

CSIR National Environmental Engineering Research Institute (NEERI)

CSIR North East Institute of Science and Technology (NEIST)

### **Engineering of Disaster Mitigation and Health Monitoring for Safe and Smart Built Environment (EDMISSIBLE): GPS based Integrated Landslide Modelling for Realistic Hazard Assessment, PI: Sridevi Jade**

Nodal Lab: CSIR CBRI

#### **Participating Lab:**

CSIR-4PI

CSIR Central Road Research Institute (CRR)

CSIR Central Scientific Instruments Organisation (CSIO)

CSIR National Environmental Engineering Research Institute (NEERI)

CSIR North East Institute of Science and Technology (NEIST)

CSIR Central Glass & Ceramic Research Institute (CGCRI)

CSIR Electronics Engineering Research Institute, (CEERI)

CSIR Central Mechanical Engineering Research Institute (CMERI)

**Genomics and Informatics Solutions for Integrating Biology (GENESIS), *PI: Thangavelu R P***

Nodal Lab: CSIR IMTECH

**Participating Lab:**

CSIR Centre for Cellular and Molecular Biology (CCMB)

CSIR Central Drug Research Institute (CDRI)

CSIR-4PI

CSIR Central Leather Research Institute (CLRI)

CSIR Central Institute of Medicinal and Aromatic Plants (CIMAP)

CSIR-Institute of Genomics & Integrative Biology (IGIB)

CSIR Institute of Himalayan Bioresource Technology (IHBT)

CSIR Indian Institute of Chemical Biology (IICB)

CSIR Indian Institute of Chemical Technology (IICT)

CSIR Indian Institute of Toxicology Research (IITR)

CSIR National Chemical Laboratory (NCL)

CSIR National Botanical Research Institute (NBRI)

CSIR Institute for Interdisciplinary Science and Technology (NIIST)

CSIR Head Quarters

**Development of suitable design methodology for extraction of coal at greater depths (>300 m) for Indian geomining conditions (Deep Coal), *PI: Patra G K***

Nodal Lab: CSIR CIMFR

**Participating Lab:**

CSIR Central Mechanical Engineering Research Institute (CMERI)

CSIR-4PI

CSIR National Geophysical Research Institute (NGRI)

**Vulnerability assessment and development of adaptation strategies for climate change impact with special references to costs and island ecosystems of India (VACCIN), *PI: Rajendran K / Sajani Surendran***

Nodal Lab: CSIR-NISCAIR

**Participating Lab:**

CSIR-National Institute of Science Communication And Information Resources

CSIR-Institute of Genomics & Integrative Biology (IGIB)

CSIR Central Road Research Institute (CRRRI)

CSIR National Environmental Engineering Research Institute (NEERI)

CSIR- Central Salt & Marine Chemicals Research Institute

CSIR-4PI

CSIR National Institute of Oceanography (NIO)

CSIR Institute for Interdisciplinary Science and Technology (NIIST)

CSIR National Geophysical Research Institute (NGRI)

IIT Kharagpur

Kolkata University

Fishery Survey of India

## Grant-in-aid Projects

**Modelling of marine biogeochemical cycles in the Indian Ocean, MOES – PI: Sharada M**

**Plate kinematics geodynamics and earthquake occurrence processes in the Andaman Nicobar region using real time geodetic and seismological observations and earthquake awareness centre at Port Blair, MoES, PI: Sridevi Jade**

**Indo-Norwegian Network Project: Earthquake hazard and risk reduction on the Indian Subcontinent (RRISC), Norwegian Embassy in India – PI: Parvez I A**

**Investigation of mega city effects on the genesis and intensity of extreme rainfall events and their impact, DST - PI: S Himesh, Co-PI: Goswami P**

**Role of background error statistics in mesoscale data assimilation, DST - PI: Rakesh V, Co-PI: Goswami P**

**Extreme weather and climate Events in the 21<sup>st</sup> century projections from different climate scenario, DST - PI: Ramesh K V, Co-PI: Goswami P**

**Diagnosis of Increased seismic hazard in Himalayas and adjacent territories, DST, Government of India, DST-Russian Federation of Basic Research - PI: Imtiyaz.A.Parvez**

**Mathematical modeling of capsule rot disease of small cardamom, mathematical modeling of capsule rot disease of small cardamom, ICRI - PI: Goswami P, Ramesh K V**

**Investigation of relative roles of local and large-scale circulation in the dynamics of cloudburst using simulation with a non-hydrostatic model, DST - PI: Gouda K C**

**Carbon cycle studies of the Indian Ocean using ocean biogeochemical model simulation and observations, DST, Women Scientist Scheme A - PI: Chikka Kalyani Devasena, Swathi PS**

**Volcanic deformation studies using dmsar techniques, under dmsp r&d: earthquake precursors, Department of Space, GOI - PI: Anil Ernest, Co-PI: Tejpal Singh**

**National carbonaceous aerosols programme (ncap): working group iii-carbonaceous aerosols emissions, source appointment and climate effects, Ministry of Environment, Forest and Climate Change (MoEFCC) GOI - PI: Sajani Surendran**

**Geological characterization of the Kashmir valley with the objective of quantifying probabilistic hazard and risk in the high risk areas of the valley using a logically integrated set of GEO- Scientific Investigation, Department of Earth Science, GOI - PI: Imtiyaz.A. Parvez**

**Mathematical modeling of some nano fluid flows, National Board of Higher Mathematics, PI: S Srinivas Co-PI: Ramamohan T R.**

### **Collaborating Institutions**

Vellore Institute of Technology

## **Collaborative Projects**

**Climate change and variability: modeling, analysis and downscaling in the context of Indian Monsoon, India – PI: Rajendran K, Co-PI: Sajani Surendran**

**Collaborating Institutions**

Divecha Centre for Climate Change (DCCC)

Indian Institute of Science (IISc), Bangalore

Meteorological Research Institute (MRI/JMA)

**Active tectonics of the Darjeeling-Sikkim Himalayas using Global Positioning System (GPS) based geodesy – PI: Sridevi Jade, Co-PI: Malay Mukul**

**Collaborating Institutions:**

IIT Mumbai

**Operation of permanent and campaign mode GPS stations for quantification of tectonic deformation field in Himalayan terrain – PI: Sridevi Jade and Kireet Kumar**

**Collaborating Institutions:**

GBPHIED, Almora

## **In-House Projects**

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

**Monitoring continuously operating CSIR-4PI gps station located in the iisc campus and real-time operational data hub at CSIR-4PI - PI: Sridevi Jade**

**Site-specific ground motion modelling and microzonation studies in Delhi city - PI: Parvez I A**

**Integrated Disaster Assessment and Modeling (IDAM) - PI: S Himesh**

