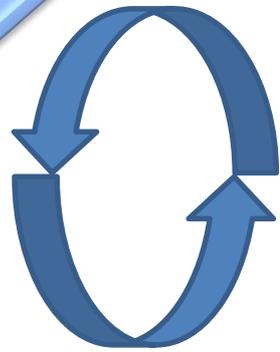


9
**PROJECTS &
COLLABORATIVE
PROGRAMMES**





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 Projects
- Grant-in-aid Projects
- Sponsored Projects
- In-House Projects



CSIR Projects:

CSIR Mission Mode Project: Intelligent Systems (IS) - Intelligent technologies and solutions- *PI: G K Patra*

CSIR Young Scientist Scheme: Assessment and forecasting of extreme weather events over the Indian Region using Mesoscale Model- *PI: Rakesh V*

CSIR Niche Creating High Science Project: Carbon and nitrogen cycling in the earth system (CNCES) -*PI: Sharada M K*

CSIR Major Lab Project: Seed Funding for Technology Assisted Precision Agriculture for Small Indian Farmers (TAPAS) -*PI: Vidyadhar Y Mudkavi*

Grant-in-aid Projects:

National carbonaceous aerosols programme (NCAP): Working Group III - Carbonaceous aerosols emissions, source apportionment 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*

Enhancement of the quality of livelihood opportunities and resilience for the people in the Indian Himalayas, through design of intervention strategies aimed at maximizing resource potential and minimizing risks in urban-rural ecosystem, MoEFCC - *PI: Ramesh K V*

Integrated system dynamical model to design and testing alternative intervention strategies for effective remediation & sustainable water management for two selected river basins of Indian Himalaya, MoEFCC - *PI: Ramesh K V*

Improving the prediction of the extremes of the interannual variation of the Indian Summer Monsoon Rainfall (ISMR) by CFSv2, IITM, Pune and MOES - *PI: Rajendran K*

Hyperspectral Imaging for sharper definitions of Himalayan Ecosystems and its high value plant species under climate uncertainties, BHU and MoEFCC - *PI: Ramesh K V*

Analysis of urban 'heat islands', air pollution dynamics and extreme Heat wave phenomena in India and Russia, DST - *PI: Gouda K C*

Assessment of Regional Hydrology Using Space Borne Gravity Observations: Robust Estimation of Deformation Due to Hydrological Loading in Ne-India And Upper Ganga River Basin, DST - *PI: M. Sithartha Muthu Vijayan*

Developing a Public Health Informatics Platform in India for a systems View of Health and Diseases under Epidemiology Data Analytics (EDA) of Interdisciplinary Cyber Physical Systems (ICPS), DST- *PI: Gouda K C*



A Darknet/Network Telescope Based Cyber Security Monitoring and Inference Framework, Ministry of Electronics and Information Technology, GOI - *PI: V Anil Kumar*

Feasibility Evaluation, Impact Quantification and Mitigation of Low-Rate Cyber Attacks on Multipath Transmission Control Protocol (MPTCP), DST- *PI: V Anil Kumar*

Modeling and Forecasting of High Impact Weather Events in the Beas basin, and Designing a Proto-type Advance Warning System for Mitigating their Adverse Impacts, Ministry of Environment, Forest & Climate Change (MoEFCC), GOI - *PI: Gouda K C*

Design Intervention Strategies for Mitigating the Impacts of heat waves through modified land cover, DST- *PI: C Neethu*

Quantification of past changes and assessment of present status of water bodies distribution over Bangalore, CSIR-National Environmental Engineering Research Institute (NEERI), CSIR - *PI: Ramesh K V*

Sponsored Projects:

Detection and Mitigation of sybil attack in vehicular ad-hoc networks (VANETs) - *PI: G K Patra*

Collaborative Project:

Collaborative Research Project on Climate Change for Patna and its Agglomeration, NEERI, Nagpur - *PI: Gouda K C*

In-House Projects:

Monitoring continuously operating CSIR-4PI GNSS station located in the IISC Campus and real-time operational data hub at CSIR-4PI - *PI: Sridevi Jade*