

ACADEMIC PROGRAMME

In keeping with its objective of developing skill and expertise in Mathematical Modelling and Computer Simulation in the country, CSIR-4PI maintains an active academic programme. The activities span the entire spectrum from Ph D guidance to undergraduate/postgraduate student projects to specialized courses. Recently introduced Student Programme for Advancement of Research Knowledge (SPARK) is intended to provide a unique opportunity to bright and motivated students of reputed Universities to carry out their major project/thesis work and advance their research knowledge in mathematical modelling and simulation of complex systems. 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. CSIR-4PI is very actively engaged with the AcSIR (Academy of Scientific & Innovative Research) PhD program in Mathematical and Information Science, Physical Science and Engineering Science.

Inside

- *Ph D Programme*
- *Thesis/Project by M. Tech/BE/MCA students*
- *Summer Research Fellowship Programme*
- *Faculty Participation*

Ph D Programme

Anil Earnest

Sunilkumar TC, (AcSIR), Geodynamics of Plate-Boundary Zones

Silpa K, (AcSIR), Crustal Deformation and Earthquake Cycles

Goswami P

Kantha Rao, (Mangalore University), Multi-scale Modelling and Analysis of Surface and Soil processes over the Indian Region

Shiv Narayan Nisad, (Mangalore University), Analysis and Modeling of Sustainability over India under Different Scenarios of Climate Change and Socio-Economic Conditions

Sumana Sarkar, (Mangalore University), Multisector Application of Seasonal Forecast: Crop yield, Vector-Borne Diseases and High Impact Weather Events over India

Eswari V, (GSI), Analysis of Impact of Climate Change on Wind Regimes and Implications for Wind Energy potential over the Monsoon Region

Goswami P (Guide), Gouda K C (Co-guide)

Shaktidhar Nayak, (AcSIR), Development and Evaluation of a Model Configuration for Local Climate Projection over India

Gouda K C

Nagaraj Bhat, (VTU), Weather Informatics using Remote Sensing & GIS

Radhika T V, (VTU), Efficient and Large-Scale Climate Simulation Analysis in Cloud Computing Cluster

Payoshni Samantray, (VTU), Study of Extreme Rainfall Events due to Cloud Burst using Observation and Model Simulation

Himesh S (Guide), Gouda K C (Co-guide)

Sanjeeb Kumar Sahoo, (VTU), Impact of Urbanization on High Impact Weather Events & Local Climate

Parvez I A

Ramiz Raja Mir, (AcSIR), Evolution of Crustal and Mantle Structure in Kashmir Himalaya

Patra G K and Sarda N L (IIT Bombay)

Ashapura Marndi, (AcSIR), Scientific Data Analysis and Data Intensive Research

Sangeeta K and **Patra G K (Co-guide)**

Santhana Lakshmi S, Design of Cryptographic Protocols using Computational Intelligence Techniques

Supriya M, Trust Building in Distributed Storage using Cryptography

Rajendran K

Ipsita Putatunda, (AcSIR), Methods of Physical Assimilation for Short Range Numerical Weather Prediction

Jayasankar C B,(AcSIR), Climate Change Modeling Studies

Rajendran K (Co-guide)

Kulkarni Shashikant, (IIT Bombay), Downscaling over Monsoon Region

Ramesh K V

Alfred Johny, Simulation of Indian Summer Monsoon using CMIP5 Climate Simulations

Safeer K B, Evaluation of Upper Ocean Variability Simulated by IPCC Climate Simulations

Edwin Raj E, (UPASI TRF TRI) Climate Impact Assessment on Tea Production over South India

Sajani Surendran

Stella Jes Varghese, (AcSIR), Computational modeling of coupled climate system,

Arya V B, (AcSIR), Analysis of meteorological and aerosol observations

Sajani Surendran (Co-guide)

Nithin Patil, (IIT Bombay), Aerosol Radiative Forcing and Impact on Climate

Sridevi Jade

Shrungeshwara T S,(Kuvempu University), Active deformation and water vapor studies in Indian subcontinent

Chiranjeevi Vivek G, (AcSIR), GNSS studies in Indian subcontinent

Ravi Babu, (VIT) and **Tejpal Singh (Co-guide)**

Nisha, (VIT), Remote sensing/GIS applications in mineral spectra identification

Vijayan M S M

Shimna K,(AcSIR), seismo-ionospheric coupling and upper atmospheric perturbations induced by acoustic gravity waves

Vijayan M S M (Co-Guide)

Jagat Dwipendra Ray, Space based geodetic study on active tectonics and seasonal perturbations in interseismic deformation of North-East India

M. Tech/BE/MCA students' Thesis/Project

Anil Kumar V

Spoorti S Doddamani, (M.Tech), VIT University, Vellore, May 2015, Performance Evaluation of Databases of Big data in Analyzing Dynamic Cyber Threats

Sushma Patil, (M.Tech), Visvesvaraya Technological University, Karnataka, May 2015, Remote Extraction of Malicious Payload for SCTP

Kumar Saras and Kriti Didwania, (B.Tech), Kalinga Institute of Industrial Technology (KIIT) University, Odisha June 2015, Performance Tuning of Apache Cassandra Database

Sujata Patnaik, (MCA), Behrampur University, July 2015, Active TCP Responder

Ashapura Marndi

Kavyashree K R, Vishvesvaraya Technological University, May 2016, Electricity load Forecasting using Deep Learning Technique based on Time Series Data

Gouda K C

Pavithra,(M.Tech),(VTU), Bengaluru, June 2015, Climate Change and Agricultural Sustainability Study using RS and GIS

Shruthi S, (M.Tech), SJB Institute of Technology (VTU), Bengaluru, June 2015, Study of Impacts of Climate Change on Public Health using Modelling and Data Mining

Ajay K P, (M.Tech), Visvesvaraya Institute of Technology (VTU), Mudubidri, June 2015, Multi-source Spatio-Temporal Climate Data Analysis in Cloud Computing Environment

Kavyashree, (M.Tech), V K Institute of Technology (VTU), Bengaluru, June 2015, Study of Climate Change and its Impacts using Spatio-temporal Data mining

Priya P, (M.Tech), V K Institute of Technology (VTU), Bengaluru, June 2015, Crop Modelling System Using High Resolution Multi-Source Data and HPC

Niveditha P V, (M.Tech), V K Institute of Technology (VTU), Bengaluru, June 2015, Regional Climate Study using Numerical Weather Modelling and Remote sensing Data

Bhavya Garewal and Bhavesh Jangid, (B.Tech),(CIT), Abu road, Rajasthan, July 2015, Solar energy assessment over Rajasthan

Shetty Neha Karunakar, Pratheek P Hegde, Srikanth Rao P and Shricharana U, (B.Tech), SVM Institute of Technology, Udupi, July 2015, Weather Informatics

Shetty Shreya Shashidhar, Sankusha D S and Amrisha, (B.Tech), SVM Institute of Technology, Udupi, July 2015, Weather and Climate Data Analysis

Sankerth G S, (B.Tech), Jain University, Bengaluru, June 2015, Weather analytical survey and Visual Effects R&D

Parvez I A

Sneha Adhikari (M.Tech) Department of Civil Engineering, Manipal Institute of Technology (2015-16), Study of Seismic Response of an Elevated Liquid Storage Tank with Different Staging Configurations.

Prajwal T P (M.Tech) Department of Civil Engineering, Manipal Institute of Technology (2015-16), Non Linear Seismic Response Analysis of Irregular Buildings Considering the Direction of the Earthquake Forces

Patra G K

Shreeya G Degaonkar, Sparsha Uday, Varuni R, Sandesh C G, BNM Institute of Technology, Bengaluru, May 2015, Effective Authentication for pervasive Computing using E-MAC.

Medini HK, (M.Tech), JNN College of Engineering, November 2015, Design of Lightweight Hash Function using Tree Parity Machine

Priyanka B R, (M.Tech), JNN College of Engineering, November 2015, Design of Word based Stream Cipher using Tree Parity Machine

Arpitha P, (M.Tech), JNN College of Engineering, November 2015, Design of Lightweight Hash Function using Permutation Parity Machine

Vidya M H, JNN College of Engineering, November 2015, Design of Word based Stream Cipher using Permutation Parity Machine

Sai Rakshit S Harathas, (B.Tech), Department of Electronics and Communication, NIT Goa, July 2015, Study and Analysis of Cryptography, Primality Tests and Factorization Tests

Sasswat Kumar Mishra, (B.Tech), IIIT, Bhubaneswar, July 2015, Cryptography, Primality Testing and Parallel Computing using OpenMP

Mahapatra G N

Swetha M, (M.Tech), SJB Institute of Technology, Bengaluru, Software System For Analyzing Cyclone Data Over North Indian Ocean

Ramesh K V

Aakash V, Abdul Fatah M, Arun Muthuram M, Elaiyatamilan M and Sajimol S (M.Tech), Bharathidasan University, Tiruchirappalli, Assessment of variability and change in environment over Western Ghats: An application of geo and weather informatics.

Senthilkumar V

Shriyans Bagla, Indian Institute of Technology (IIT-Bhu), Varanasi, July 2015, Application of Differential Quadrature Method in Free Vibration and buckling analysis of nanobeams and plates based on Euler-Bernoulli beam theory

Vijayan M S M

John P Pappachen, Cochin University of Science and Technology, Kochi, June 2015, combined effect of 11th April 2012 Mw8.6 & Mw8.2 Wharton Basin strike slip earthquakes: Near and Far field co-seismic deformation

Summer Research Fellowship Programme

Parvez I A

Merlin Joice A, Anna University, Summer Research Fellow of Indian Academy of Sciences, Distribution Of Seismic Hazard And Its Impact To Population.

Taichengmong Rajkumar, Indian School of Mines, Dhanbad, Determination of Focal Mechanism of Earthquakes in Indian Region.

Yash Jain, Indian School of Mines, Dhanbad, Ground Motion Simulation of Nepal Earthquake.

Ramesh K V

Nayana B N, Indira Gandhi First Grade Womans College, Sagar, Understanding the rainfall variability and change over South and North Karnataka for the period 1871 -2010

Swaraj Banerjee, Hansraj College, Delhi University, Understanding the relationship between Sedimentation in the Ganga-Brahmaputra Delta and the Climatic factors

Aman Kumar Jaiswal, Indian School of Mines, Dhanbad, Understanding the relationship between Forest fire and Aerosol optical depth: pollution load on environment.

Faculty Participation

Academy of Scientific and Innovative Research (AcSIR)

Parvez I A, Research Methodology, January-July 2016 semester

Patra G K, High Performance Scientific Computing, January-July 2015 semester

Patra G K, Adjunct faculty, Department of Computer Science, Amrita School of Engineering, Bengaluru

Swathi P S

Ten lectures on parallel programming with MPI, numerical solutions of shallow water and heat equations at the SERB Summer School on Fundamentals on Oceanic Processes and Modelling, 19 May – 11 June, 2015, IIT Delhi