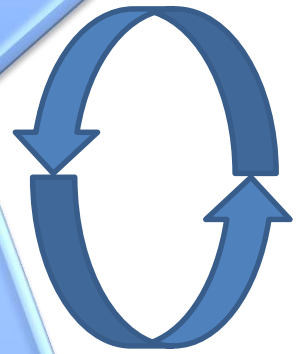


8  
ACADEMIC  
PROGRAMME





**CSIR-4PI** maintains an active academic programme, keeping its objective of developing skill and expertise in mathematical modelling & computer simulation, data intensive research in the country. The activities span the entire spectrum from PhD guidance to undergraduate/postgraduate student projects to specialized courses. 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
- Research Fellowship Programme
- Faculty Participation
- Industrial Visit to HPC

## Ph D Programme

### Anil Earnest

**Sunilkumar T C**, A study on characterization of seismogenesis along the plate-boundary zones of Himalayan and Indo-Burmese arcs, AcSIR Ph. D degree, Awarded

**Silpa K**, (AcSIR), A study on Indian plate seismogenesis using kinematic slip distribution models of selected earthquakes. Ongoing.

### Gouda K C

Shaktidhar Nahak, PhD awarded in Aug 2019

Nagaraj Bhat, PhD awarded in Feb 2020

Radhika TV, (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

### Rani Devi (AcSIR)

Smrutishree Lenka (VTU)

**Himesh S** (Guide), **Rakesh V** (Co-guide)

Ajilesh P (VTU), Charecterstics of Urban Extreme Rainfall Events over the Indian Cities: An Observational and Modelling Study

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

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

**Kantha Rao Bhimala** (Guide) and **G K Patra** (Co-guide)

**Prasad Babu Kanike** (AcSIR), Data Analytics to Identify the Relationship between the Land Surface Meteorological Parameters and Indian Summer Monsoon Rainfall

**Mohapatra G N** (Guide), **Rakesh V** (Co-guide)

**Smrati Purwar** (AcSIR), Modelling of spatio-temporal variation in urban extreme rainfall events with special focus on localised versus large-scale impacts

### Parvez I A

**Ramiz Raja Mir** (AcSIR), The study of crustal evolution and earthquake hazard in Kashmir Himalayas

S Vishal Gupta (ISM Dhanbad), Site specific seismic hazard study in Kashmir Valley, NW Himalayas

## **Patra G K**

**Ashapura Marndi** (AcSIR), Time Series Analysis with Deep Learning: Applications to Environmental Data.

Iraganeni Rajasekhar Reddy (AcSIR), Block chain for sensitive data storage.

## **Rajendran K**

**Jayasankar C B**, (AcSIR), Reliable Climate Change Projections over India through dynamical downscaling using very high-resolution regional climate model. Awarded.

**Ipsita Putatunda**, (AcSIR), Satellite Data Analysis in the context of Short Range Numerical Weather Prediction.

## **Rakesh V**

**Ajay Bankar** (AcSIR) Impact of data assimilation in mesoscale models

Praveen S (VTU), Role of background error statistics in mesoscale data assimilation

## **Ramesh KV**

**Alfred Johny** (AcSIR), Simulation of Indian Summer Monsoon using CMIP5 Climate Simulations  
Edwin Raj E, (UPASI TRF TRI), Climate Impact Assessment on Tea Production over South India

**Neethu C V** (VTU), Modelling the role of land-atmosphere interaction during heatwaves

## **Sajani Surendran**

**Arya V B**, (AcSIR), The impact of regional and remote aerosols on Indian summer monsoon variability, Ongoing.

## **Sajani Surendran (Guide), Rajendran K (Co-guide)**

**Stella Jes Varghese**, (AcSIR), Impact of resolution and deep convection parameterization on simulation and projection of Indian summer monsoon and variability. Ongoing.

## **Sridevi Jade**

**Chiranjeevi Vivek G**, (AcSIR), GNSS signal processing and analysis to study impact on position estimates.

## **Vidyadhar Mudkavi**

Kanaka Muthu, CSIR-NAL, (NIT), Experimental and computational investigation of diffuser augmented small wind turbine.

Rinku A, CSIR-NAL, (IISc, Bangalore), Modular design of ribs in aircraft wings using topology and size optimization and non-dimensional analysis

## **Vijayan M S M**

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

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

### **Gouda KC**

Sushma C K, (M.Tech) (Geo-informatics), Karnataka Remote Sensing Application Centre (VTU), Bengaluru, Land surface temperature analysis using remote sensing data

Nikita Yadav, (B.Tech) APJ Kalam internship by AcSIR. Rainfall data analysis and prediction approach using neural network

Swadha, NIT, (B.Tech) Rourkela, Summer 2019, Climate data analysis using python, Preetam S, Dayananda Sagar Institute of Technology, Bangalore, Machine learning approach for rainfall analysis

Sneha V., Tejaswini V M, Vidya J L, Thanusha K M, (B.Tech) Dayananda Sagar Institute of Technology, Bangalore, NDVI analysis using Satellite data

Pooja, Jayalakshmi, Harshitha D N, Archana H, SMV Institute of Technology, Udupi, Karnataka.

### **Kantha Rao B**

Mrinal (M.Tech), Manipal Institute of Technology, Evaluation of WRF skill in simulation of urban rainfall events with high density rain-gauge network over Bangalore region.

### **Marndi Ashapura**

Madhuri Angel Baxla, (M Tech), NIT Rourkella, Detection of Different LULC Categories Using Convolution Neural Network.

Padma Manjunath Srivari, (B Tech Internship), Karunya Institute of Technology and Sciences. Estimation of Power Consumption using Machine Learning Approach.

### **Mohapatra G N**

Ms Apoorva DL (M.Tech), Manipal Institute of Technology, Manipal- 576104, Karnataka, Strategic Framework for Integrated Flood Disaster Management And Modelling Over Bengaluru

### **Patra G K**

Isaac Johnson, Asrupadai Veeu Institute of Technology, Tamilnadu, Mar 2020, Light weight cryptography and Docker

Rudraroop Ray, Indaprashta Institute of Information Technology, July 2019, Anomaly Detection in VANETs

Anvesha, PES Institute of Technology South Campus, July 2019, Reinforcement Learning

Nithesh Raghavan R, REVA University, May 2019, Reinforcement Learning

## **Rakesh V**

Adithya Samanth (M.Tech), Manipal Institute of Technology, Manipal, Karnataka, Crop Variability Over Karnataka: Integration of Crop Weather Model Outputs Using Arc-GIS.

## **Ramesh K V**

Sumeet Kumar Rai, IIT (BHU) Varanasi, Non-Linear Time Series Analysis Using Machine Learning and Deep Learning

Vivek Damodaran, MIT Manipal, System Dynamic Modelling of Forest Ecosystem and Identification of Implementable Intervention Strategies to Sustain the Forest Cover over South Western Ghats

K K Vasumathi, Indian Academy of Sciences, Modelling of net carbon dioxide absorption rate by forest in Tamilnadu and Kerala

P V Asha Nambiar, Central University of Tamil Nadu, Thiruvarur, Understanding the relationship between tiger population and environmental conditions in India.

## **Faculty Participation**

### **Mohapatra G N**

Applications and Importance of Mathematics in Engineering” and Delivered a talk on Faculty Development program on 7<sup>th</sup> January 2020, MVJ College of Engineering, Whitefield Bangalore

### **Gouda KC**

Training Programme on “Data and Modeling” held at Dayananda Sagar College of Engineering on 25<sup>th</sup> April 2019.

Chief Guest, Faculty Development Programme on “Mathematical Modeling with Engineering Applications “ held at MVJ College of Engineering, 7<sup>th</sup> Jan 2020.

### **Chiranjeevi Vivek G**

Delivered lecture on “Global Navigation Satellite System” in BGS world school, Bangalore as a part of Jigyasa programme, implemented by CSIR to connect school students and scientists, 21 Jan, 2020

### **Ashish**

Delivered lecture on Earthquake Seismology in BGS world school, Bangalore as a part of Jigyasa programme, implemented by CSIR to connect school students and scientists, 21 Jan, 2020

## Industrial Visit to HPC at CSIR-4PI

### Coordination and Presentation: Prabhu N

- CMR Institute of Technology, Bangalore on 8th May, 2019, around 40 students and 2 faculties.
- MVJ College of Engineering, Dept. CSE, near ITPB, Bangalore, on 28<sup>th</sup> August 2019, around 54 students and 2 faculties.
- Er. Perumal Manimekalai College of Engineering (PMCTech), Dept. of Computer Science & Engineering, Hosur (TN), on 9<sup>th</sup> September 2019 around 55 students and 2 faculties.
- CHRIST (Deemed University), Dept. of Computer Science & Engineering, Kengeri, Bangalore on 19<sup>th</sup> September 2019, around 41 students and 4 faculties.
- BNM Institute of Technology, Dept. of Computer Science & Engineering, Bangalore, on 16<sup>th</sup> October 2019, around 62 students and 2 faculties.
- GSSS Institute of Engineering & Technology, Mysore, on 6<sup>th</sup> November 2019 around 46 students and 2 faculties.
- UGC-HRDC (For refreshers course-Professor & Teachers) organized by Bangalore University Bangalore, on 29<sup>th</sup> November 2019 around 40 students and 2 faculties.
- Er.Perumal Manimekalai College of Engineering (PMCTech), Dept. of Computer Science & Engineering(CSE) and Information Technology(IT), Hosur (TN), on 19<sup>th</sup> December 2019 around 48+32 (80) students and 4 faculties.
- Sri GVG Visalakshi college for women (Autonomous) Dept. Of Mathematics, Udumalpet (TN), on 10<sup>th</sup> January 2020 around 46 students and 2 faculties.
- MVJ College of Engineering, Dept. ISE, near ITPB, Bangalore, on 10<sup>th</sup> February 2020, around 42 students and 2 faculties.
- RSR Rungta College of Engineering and Technology, Bhilai Chhattisgarh, on 25<sup>th</sup> February 2020 around 61 students and 4 faculties.