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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. 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

PhD Programme

Anil Earnest

Sunilkumar T C, (AcSIR), Geodynamics of Plate-Boundary Zones
Silpa K, (AcSIR), Crustal Deformation and Earthquake Cycles

Goswami P

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

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 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

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

Ajilesh P, (VTU), Characteristics 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

Parvez I A

Ramiz Raja Mir, (AcSIR), Evolution of Crustal and Mantle Structure in Kashmir Himalayas
Vishal Gupta, (ISM Dhanbad), Site Specific Seismic Hazard Study in Kashmir Valley, NW Himalayas

Patra G K

Ashapurna Marndi, (AcSIR), Development of Deep Learning Techniques for Multi-Dimensional Time Series Data Analysis
Iraganeni Rajasekhar Reddy, (AcSIR), Block Chain for Sensitive Data Storage

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

Santhanalakshmi S**,** (Amrita School of Engineering), Design of Cryptographic Protocols using Computational Intelligence Techniques

Rajendran K

Ipsita Putatunda, (AcSIR), Satellite Data Analysis in the Context of Short Range Numerical Weather Prediction
Jayasankar C B, (AcSIR), Reliable Climate Change Projections over India through Dynamical Downscaling using very High Resolution Regional Climate Model

Rakesh V

Praveen S, (VTU), Role of Background Error Statistics in Mesoscale Data Assimilation

Ajay Bankar, (AcSIR), Impact of Data Assimilation in Mesoscale Models

Ramesh K V

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

Safeer K B, (AcSIR), 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

Neethu C V, (VTU), Modelling the Role of Land-Atmosphere Interactions during Heat Waves

Sajani Surendran

Arya V B, (AcSIR), The Impact of Regional and Remote Aerosols on Indian Summer Monsoon Variability

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

Sridevi Jade

Chiranjeevi Vivek G, (AcSIR), GNSS Studies in Indian Subcontinent

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 K C

Sindhu M, (M.Tech), ATME College of Engineering, Mysuru, Weather informatics using remote sensing data and micro-controller based monitoring system

Adarsh Kulkarni, (M.Tech), Karnataka Remote Sensing Application Centre (VTU), Bengaluru, Fire risk zoning of Bandipur National park using Remote Sensing and GIS techniques

Gitanjali M, (M.Tech), Karnataka Remote Sensing Application Centre (VTU), Bengaluru, A geospatial technological approach to monitor convection over Arabian Sea

Malini P J, (M.Tech), Karnataka Remote Sensing Application Centre (VTU), Bengaluru, Impact of climate change on agriculture sector using RS and GIS

Patra G K

Nitesh Raghavan, REVA University, Fundamentals of neural networks

Chandini A G, (M.Tech), JNN College of Engineering, Blockchain platform for internet of things: An application oriented approach

Shyamasundar L B, CMRIT, AI based technology developments

Anil Kumar V & Patra G K

Akshita Saxena, Ramaiah Institute of Technology, Real-time control of TCP/IP packets

Rakesh V

NibinGopi, (M.Tech), Cochin University of Science and Technology, Cochin, Customized weather informatics for specific agricultural applications

Ramesh K V

Elsu C Alex, (M.Tech), MIT-Manipal, Sustainable urbanization of a mega city: Case study of Bangalore

Paul Pynadath, (M.Tech), MIT-Manipal, Modelling of hydroelectric power projects: Climate impact assessment

Aravind S, (M.Tech), MIT-Manipal, Identifying and quantifying the sustainable renewable energy potential for the capital city of Amaravathi: A modelling study

Senthilkumar V

Swapnil Burungale, (M.Tech), National Institute of Technology Karnataka, Surathkal, Big data analysis using hadoop framework

Roshan Kumar Singh, (M.Tech), Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal, Mechanical properties analysis of pentagraphene nano wire using molecular dynamics simulation

Research Internship Programme

Gouda K C

Tejaswini and Sushmitha R, M V J Engineering College (VTU), Bangalore, Vector borne disease modelling using climate parameters, March 2018

Summer Research Fellowship Programme of Indian Academy of Science

Parvez I A

Divya Rupali Kachhap, Department of Applied Geophysics, IIT (ISM) Dhanbad, The seismotectonics of the Himalayan region using seismic moment tensor and Bayesian analysis for earthquake hazard assessment

Sanchit Minocha, Department of Earth Sciences, IIT Roorkee, Fractal dimension and b-value from the aftershocks of 2015 Gorkha (Nepal) Earthquake

Saranya Gautam, Dharanidhar Auronomous College, Koenjhar, Seismicity, spatial distribution of b-value and recurrence period of earthquakes in the Indian subcontinent

Ramesh K V

Nandini Suresh, Pondicherry Central University, Puducherry, Economics and climate change: An equilibrium model to estimate GDP in India

Mudragadda Anitha, Andhra Loyola College, Vijayawada, Understanding the role of rainfall on rice and wheat production in India

Uthirakalyani G, P S G College of Technology, Coimbatore, Achieving 100% renewable energy in Tamil Nadu: Wind power an economic feasibility analysis

Faculty Participation

Academy of Scientific and Innovative Research (AcSIR)

Patra G K

Network Security and Cryptography

Parvez I A

Research Methodology

Industrial Visit to HPC at CSIR-4PI
Coordination and Presentation: Prabhu N

1. MVJ college of Engineering, Near ITPB, Bangalore, 5 September 2017
   32 students and 2 faculties
2. GSSS Institute of Information Science and Engineering, Mysuru, 15 September 2017
   56 students and 2 faculties
3. PESIT Institute of Technology (PESIT), MCA department, Bangalore, 25 September 2017
   39 students and 2 faculties
4. Christ University, Bangalore
   60 students and 4 faculties
5. Ambedkar Institute of Technology (M Tech CSE), Bangalore, 01 February 2018
   17 students and 3 faculties
6. MVJ college of Engineering, Department of. CSE, Bangalore, 14 February 2018
   41 students and 2 faculties