PRAVEEN KUMAR, PhD

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S/O Rajendra Prasad, Village - Saidpur, PO & PS – Fatuha, Fatuha, Patna, Bihar, India – 803201

EDUCATIONAL QUALIFICATION

Ph.D. *Environmental Science*

Award in Nov, 2017 (Central University of South Bihar, India)

Ph.D. Title: "Future Projections of Rainfall & Temperature and its Impact on Transmission of Malaria, Japanese Encephalitis and Acute Encephalitis Syndrome"

Subject Studied during course work: Earth System Modeling, Computational Technique, Biometeorology

M.Tech. *Modeling and Simulation*

2011- 2013 University of Pune, India.

(*Major Subject*: Stochastic and Deterministic Modeling, Computer Programming)

B.Tech. *Bioinformatics*

2007-2011, D.Y. Patil Vidyapeeth, Pune, India

(*Major Subject*: Mathematics, Biophysics, Bioinformatics, Computer Programming, Computer Algorithm)

RESEARCH SUMMARY

Research Papers:	[21] (International/National)
Report (Govt.):	[01]
Experience after Ph.D.	[3.75 Years]
ORCID:	https://orcid.org/0000-0003-3548-8715
Google Scholar:	https://scholar.google.co.in/citations?user=mvgcN1FlQBAC&hl=en

WORK EXPERIENCE WITH MODELS AND PACKAGES INSTALLATIONS

- Extended hydrological Prediction in the capacity of operational forecast
  The forecasted rainfall for extended hydrological prediction being provided over particular reservoir or dam are of India. Further, to assess the model's skill in extended and medium range forecast.

- Data Processing and Scientific Visualization Packages
  Analysed large volumes of atmospheric (outputs from model simulations) and reanalysis data products (of CMIP3, CMIP5, CMIP6 and RegCM model simulations). Used advanced meteorological packages and visualization tools such as GrADS, ArcGIS, R.

- Data Formats and Data Extraction
  Used Reanalysis and model (GCM/RCM) simulations data with formats e.g. self-describing files (GRIB1 and 2, HDF4 and 5, NetCDF3 and 4) in the research work.

- Model and Package Installation, upgrade and maintenance
  Installed and upgraded various software packages and utilities on Windows and Unix operating systems to handle various data formats and their visualization. Proficient in mathematical models and graphical packages such as CDO, GrADS, XCONV, HDFView, Panoply and MS-Office.

- Statistical modelling for Climate Driven Vector borne Diseases
  Developed statistical model in association with climate and Vector Borne disease (Japanese Encephalitis and Malaria) for district of Bihar and Orissa in India. The SPSS, R software used for model analysis and evaluation. The Poisson regression model and Bayesian Gaussian time series regression modeling performed.

- Teaching to Master students and assisting M.Sc. and M.Tech. students in their dissertation

RESEARCH AND TEACHING EXPERIENCE

- **Project Scientist-C** May, 2020 – Current, Pay Matrix – 11 of 7th CPC
  India Meteorological Department, New Delhi

- **Research Associate** Sep, 2017 – Jan, 2020
  Department of Environmental Science, Central University of South Bihar, India

- **Scientist C-Project** June-Sep, 2017
  Division of Environmental Epidemiology, ICMR-National Institute of Malaria Research, New Delhi In **Centre of Excellence for Climate and Health** (Grade Pay: 6600)

- **Project Research Fellow** 2016- 2017
  DST-Project, Govt. of India, Central University of South Bihar, India

- **Senior and Junior Research Fellow** 2013-2016
  DST-Project, Govt. of India, Central University of South Bihar, India

- **Invited Lecture** **April, 2013** School of Environment, Biological and Earth Sciences, Central University of South Bihar, India

RESEARCH PUBLICATIONS

1. Sarthi PP, **Kumar P**. (2021). Intraseasonal variability and possible causes of large-scale and convective precipitations over the Gangetic plain of India. *Theoretical and Applied Climatology*.

2. Pattanaik, D. R., Alone, A., **Kumar, P**., Phani, R., Mandal, R., Dey, A. (2021). Extended-range forecast of monsoon at smaller spatial domains over India for application in agriculture. *Theoretical and Applied Climatology*. https://doi.org/10.1007/s00704-021-03827-2

3. **Kumar, P**., Pisudde, P., Sarthi, P. P. (2021). Meteorological linkage of Malaria cases in the eastern state of India. *The Journal of Climate Change and Health*, 5, 100064. https://doi.org/10.1016/j.joclim.2021.100064

4. Kumar, P., Parth Sarthi, P., Bhakuni, B. (2021). Meteorological association for prevalence dynamics of Acute Encephalitis Syndrome: a modeling study. *Modeling Earth Systems and Environment*. https://doi.org/10.1007/s40808-021-01225-1

5. **Kumar P** and Sarthi P.P. (2021) Intraseasonal variability of Indian Summer Monsoon Rainfall in CMIP6 models simulation. Theor Appl Climatol (227).

6. Barat A, Sarthi PP, Kumar S, **Kumar P**; Sinha AK (2021): Surface Urban Heat Island (SUHI) over Riverside Cities along the Gangetic Plain of India. Accepted, Pure and Applied Geophysics (Springer)

7. **Kumar P**, Vatsa R, Sarthi PP, et al (2020) Modeling an association between malaria cases and climate variables for Keonjhar district of Odisha, India: a Bayesian approach. J Parasit Dis. doi: 10.1007/s12639-020-01210-y

8. **Kumar P**., Sarthi P.P., Kumar S, Barat A, and Sinha A.K. (2020): Evaluation of CORDEX-RCMS and their driving GCMS in simulation of Indian Summer Monsoon Rainfall and its future projections. Arab. J. Geosci. https://doi.org/10.1007/s12517-020-5081-x.

9. Barat A, Sarthi PP, Kumar S, and **Kumar P** (2020) Observed and simulated winter temperature over Gurudongmar area , North Sikkim , India. Mausam. 1:115–124

10. **Kumar P**, Sarthi PP (2019) Surface Temperature Evaluation and Future Projections Over India Using CMIP5 Models. Pure Appl Geophys. doi: 10.1007/s00024-019-02203-6

11. **Kumar P.** Sarthi P.P., Kumar S, Barat A, and Sinha A.K. (2019): Evaluation of NASA's NEX-GDDP Simulated Summer Monsoon Rainfall over Homogeneous Monsoon Region of India. Theor Appl Climatol doi: https://doi: 10.1007/s00704-020-03188-2

12. Sarthi PP, Kumar S, Barat A, **Kumar P** et al (2019) Linkage of aerosol optical depth with rainfall and circulation parameters over the Eastern Gangetic Plains of India. J Earth Syst Sci. doi: 10.1007/s12040-019-1204-8

13. Kumar S, **Kumar P**, Barat A, et al (2019) Characteristics of Observed Meteorological Drought and its Linkage with Low-Level Easterly Wind Over India. Pure Appl Geophys. doi: 10.1007/s00024-019-02118-2

14. Deshmukh P, Narang R, Jain J, **Kumar P**, et al (2019) Leptospirosis in Wardha District, Central India—Analysis of hospital based surveillance data. Clin Epidemiol Glob Heal 7:102–106. doi: 10.1016/j.cegh.2018.02.005

15. **Kumar P**, Kshirsagar A, Shil P (2018) Estimation of epidemiological parameters for historical ship outbreaks of influenza. Biomed Res J 5:28. doi: 10.4103/2349-3666.240299

16. Barat A, Kumar S, **Kumar P**, Parth Sarthi P (2018) Characteristics of Surface Urban Heat Island (SUHI) over the Gangetic Plain of Bihar, India. Asia-Pacific J Atmos Sci 54:205–214. doi: 10.1007/s13143-018-0004-4

17. Pisudde PM, **Kumar P***, Sarthi PP, Deshmukh PR (2017) Climatic Determinants of Japanese Encephalitis in Bihar State of India : A Time-Series Poisson Regression Analysis. 49:13–18

18. **Kumar P**, Pisudde PM, Sarthi PP, et al (2017) Acute encephalitis syndrome and Japanese Encephalitis, status and trends in Bihar State, India. Natl Med J INDIA 30:317–320. doi: 10.4103/0970-258X.239070

19. Parth Sarthi P, **Kumar P**, Ghosh S (2016) Possible future rainfall over Gangetic Plains (GP), India, in multi-model simulations of CMIP3 and CMIP5. Theor Appl Climatol 124:691–701. doi: 10.1007/s00704-015-1447-5

20. **Kumar P**, Pisudde PM, Sarthi PP, et al (2016) Acute encephalitis syndrome and Japanese Encephalitis, status and trends in Bihar State, India. Int J Infect Dis 45:306–307. doi: 10.1016/j.ijid.2016.02.671

21. Parth Sarthi P, Ghosh S, **Kumar P** (2015) Possible future projection of Indian Summer Monsoon Rainfall (ISMR) with the evaluation of model performance in Coupled Model Inter-comparison Project Phase 5 (CMIP5). Glob Planet Change 129:92–106. doi: 10.1016/j.gloplacha.2015.03.005

REPORT/BOOK CHAPTER

1. EXTENDED RANGE FORECAST (ERF) DURING SOUTHWEST MONSOON 2020, D.R. Pattanaik, Satendra Kumar, Praveen Kumar, Ashish Alone, Raju Mandal, Avijit Dey, R. Phani, M. Mohapatra, and A. K. Sahai, Published by India Meteorological Department, India, https://imdpune.gov.in/Links/Monsoon%20Report%202020.pdf

MANUSCRIPT WITH JOURNAL

1. "Effect of temperature on gender-specific all-cause mortality: a case study of a city in northern India (Under Review)"

INTERNATIONAL VISIT

Attended the school themed "Integrated Environmental Health Impact Assessment (IEHIA) of Air Pollution and Climate Change in Mediterranean Areas", International Centre for Theoretical Physics (ICTP), Trieste, Italy. 23-27 April, 2018

PROFESSIONAL AFFILIATIONS AND SERVICES

- Reviewer for Spatial and Spatio-temporal Epidemiology (Elsevier)
- Reviewer for International Journal of Climatology (Wiley)
- Reviewer for Journal of Parasitic Disease (Springer)
- HONORARY ROSALIND MEMBER OF LONDON JOURNALS PRESS (ID#GB24652)
- Reviewer for Current Journal of Applied Science and Technology
- Reviewer for PLOSONE (Public Library of Science)
- Reviewer for International Journal of Biometeorology (Springer)
- Reviewer for Biomedical Research Journal (Medknow)
- Executive council Member: India Meteorological Society (IMS, India)-Patna Chapter

REFERENCE

1. **Prof. Pradhan Parth Sarthi [My Ph.D. Supervisor]**
   Room no: 227, Department of Environmental Science
   School of Earth, Biological and Environmental Science
   Central University of South Bihar (CUSB), Gaya (Bihar), INDIA- 824236
   Email: ppsarthi@cub.ac.in, drpps@hotmail.com

2. **Dr. Pratip Shil [Guide during my M. Tech. Internship]**
   Scientist – D, National Institute of Virology (ICMR)
   130/1 Sus Road, Pashan, Pune, INDIA - 411021
   Email: shilpratip@gmail.com

3. **Dr. D. R. Pattanaik**
   Scientist-E, Extended Range Forecast Cell
   Numerical Weather Prediction Division (NWP)
   Office of the Director General of Meteorology
   India Meteorological Department (IMD),
   Email: drpattanaik@gmail.com