

Curriculum Vitae
of
Prof. Pulak Kumar Patra

Name : Prof. Pulak Kumar Patra
Designation : Professor & Head
Address : Department of Environmental Studies, Visva-Bharati, West Bengal - 731235
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Education:

- **B.Sc.** (Geology Hons) 1988, Ravenshaw College, Utkal University
- **M.Sc.** (Applied Geology) 1990, Department of Earth Science, IIT, Bombay
- **M. Tech.** (Applied Geology) 1992, Department of Geology & Geophysics, IIT, Kharagpur
- **PhD** (Earth Science) 1997, Department of Earth Science, IIT, Bombay
- **Post Doctoral** (1997-1999), Centre of studies in Resource Engineering, IIT, Bombay

Teaching (at Dept. of Environmental Studies, Visva-Bharati)

Assistant Professor (February 2002- 2014)

Associate Professor (2014- 2017)

Professor (February 2017 onwards)

Courses teaching:

- Under Graduation (Compulsory Environmental Studies)
- Post-Graduation (M.Sc. in Env. Sc.): (Climatology & Climate Change, Environmental Earth Science, Energy & Environment, Remote Sensing & GIS, Hydrology and Water Mgt.)

Research

- **PhD supervision**
Awarded: 9 (Nine), Continuing: 6 (Six)
Research areas: Watershed Management, Groundwater contamination (Fluoride and Arsenic, Salinity) and impacts, Climate Change and Agriculture, Coastal Pollution
- **M.Sc. dissertation supervision- 75**
- **Patent: 1 (One)**
Sibdas Bandyopadhyay, Indrani Mukherjee, Umesh Kumar Singh, Pulak Kumar Patra

Process for preparation of absorbent material for production of low fluoride drinking water”
(Patent ID 370358 granted on 25-06-2021, Application no. 201711018552 Dated: 26-May-2017)

Sponsored Projects

- UGC Major Research Project (F. 3-24-2004) 2004-2007 (Co- Principal Investigator)
Wetlands and ponds of Santiniketan: impact of pollution on water quality and biodiversity
- UGC Major Research Project (F. 41-1008-2012) 2012-2015 (Principal Investigator)
Hydrogeochemical and Stable isotope investigations on the fluoride enrichment processes of groundwater in parts of Birbhum district, West Bengal, India
- SPARC-MHRD (IIT Kharagpur) International collaborative Project (Project code P1389) 2019- 2023. (Co- Principal Investigator)
Fine particulate matters in the air environment and their cancer risks in human being
- MoE- STARS (IISC, Bangalore) sponsored project (Project ID: MoE-STARS/STARS-2/2023-0906. (Principal Investigator)
Predictive modelling of sea level rise and saltwater intrusion into aquifers along the coastal zone of West Bengal and Odisha

Publications

Books (author/editor) :09

Peer Reviewed Journals: 49

Book Chapters :25

Seminar Presentation: 40

Recent Journal Publications:

1. Ghosh, Buddhadev, Chowdhury, M., Ghosh, S., Rabha, R., Chatterjee, A., Niyogi, S., **Patra, P. K.** and Hecker, M. (2026). Airborne particulate-bound metal exposure, haematological responses, and associated non-carcinogenic and carcinogenic risks in adult male residents of urban and industrial regions of West Bengal, India. *Exposure and Health*, 18, 17, 1-18. <https://doi.org/10.1007/s12403-026-00757-0>.
2. Pinaki Bose, Manabendra Ray, **Pulak Kumar Patra**, and Akbar Hossain, 2025, Different Organic and Inorganic Sources of Plant Nutrients Influence Soil Health, Leading to Improve the Productivity and Profitability of a Fourteen-Year Long-Term Rice–Potato–Groundnut Cropping Pattern, *Applied and Environmental Soil Science*, doi.org/10.1155/aess/9943996.
3. Hossain, M., Wiegand, B., Reza, A., Chaudhuri, H., Mukhopadhyay, A., Yadav, A. and **Patra, P.K.**, 2024, A Machine Learning Approach to Investigate the Impact of Land Use Land Cover (Lulc) Changes on Groundwater Quality, Health Risks and Ecological Risks Through GIS and Response Surface Methodology (Rsm), *Journal of Environmental Management*, 366 (1):121911:10.1016/j.jenvman.2024.121911.
4. Ghosh, B.; Padhy, P.K.; Niyogi, S.; **Patra, P.K.**; Hecker, M. A Comparative Study of Heavy Metal Pollution in Ambient Air and the Health Risks Assessment in Industrial, Urban and Semi-Urban Areas of West Bengal, India: An Evaluation of Carcinogenic, Non-Carcinogenic, and Additional Lifetime Cancer Cases. *Environments* 2023, 10, 190. <https://doi.org/10.3390/Environments10110190>.
5. Biswas P, Hossain M., **Patra, P.K.**, 2023 Arsenic hydrogeochemistry, quality assessment, and associated health risks of groundwater through the novel water pollution index (WPI) and GIS approach. *Groundwater for Sustainable Development* 100944.
6. Suman Samanta, Saon Banerjee, **Pulak Kumar Patra**, Vinay Kumar Sehgal, Abhijit Chowdhury, Balwant Kumar, Asis Mukherjee, 2021 Projection of future daily global horizontal irradiance under four RCP scenarios: An assessment through newly developed temperature and rainfall-based empirical model, *Solar Energy* 227 (2021) 23–43. <https://doi.org/10.1016/j.solener.2021.08.049>
7. Hossain, M. Karmakar, D. Begum, S.N., Syed Y. and **Patra, P.K.**, 2021 Recent trends in the analysis of trace elements in the field of environmental research: A review, *Microchemical Journal*, p.1060-86.
8. Mobarok Hossain. **Pulak Kumar Patra**. Buddhadev Ghosh. Amina Khatun. Sukanta Nayek, 2021 Sensitive assessment of groundwater-associated, multi-exposure health hazards in a fluoride-enriched region of West Bengal, India, *Env. Geochem Health*, 43, 4515–4532 <https://doi.org/10.1007/s10653-021-00942-x>

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