



PROFILE

Dr. Ambika Kumar is working as a Senior Scale Assistant Professor (level 11) in the Department of Chemistry at Bhagalpur National College, Bhagalpur, Bihar, India (a constituent unit of T. M. B. U. Bhagalpur, a state government university). Dr. Kumar earned his Ph.D. in Environmental-Analytical Chemistry from the Indian Institute of Technology Roorkee (IIT Roorkee) in 2017. His research focuses on the detection, degradation, removal, and quantification of environmental contaminants, especially in aquatic environments. Dr. Kumar has extensive experience with advanced techniques such as UV, IR, fluorescence spectroscopy, GC-MS, LC-MS/MS, AAS, ICP-MS, and flame photometry. He has published several peer-reviewed book chapters and articles in reputable international journals, including ACS Analytical Chemistry, RSC Advances, Journal of Mountain Science, Journal of Environmental Chemical Engineering, and Environmental Nanotechnology, Monitoring & Management. He has presented several research papers in national and international seminar/conferences. Currently, Dr. Kumar serves as an editor for a book to be published by Springer Nature. He is also supervising two research scholars who are studying the photocatalytic and antibacterial properties of nanomaterials, as well as the remediation of heavy metal-contaminated water using polymer nanocomposites. He is engaged in collaborative research with leading institutions across the globe. Dr. Kumar is teaching Physical Chemistry at UG/PG level.

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DR. AMBIKA KUMAR

Assistant Professor (Senior Scale 11)

IQAC Coordinator

Bhagalpur National College, Bhagalpur

(A Constituent Unit of T. M. B. U. Bhagalpur, Bihar)

EDUCATION

Ph.D. from IIT Roorkee [UGC-NET-JRF, GATE]

[30.12.2010] – [23.12.2016]

[During my doctoral studies at IIT Roorkee, I specialized in *Nanoscale-Based Material Science for Environmental Remediation*. My research was focused on synthesizing quantum dots and utilizing them as devices for environmental monitoring. Additionally, I published several articles in reputed journals, contributing to advancements in this field.]

Master from L. N. M. U. Darbhanga with a specialization in Physical Chemistry in 2005

WORK EXPERIENCE

Bhagalpur National College, Bhagalpur, Bihar-812007 (INDIA)

(NAAC accredited, A Constituent Unit of T. M. B. U. Bhagalpur)

Institutional Website: <https://bncollegebqp.ac.in/>

From 06.12.2017 till date

Doon University Dehradun [Assistant Professor]

06.02.2017–10.11.2017

LIST OF TOP 10 INTERNATIONAL PUBLICATIONS (SCOPUS INDEXED):

- Multifunctional RE-MOFs in water decontamination: From detection to degradation [**Inorganic Chemistry Communications, 2025, Elsevier, IF 5.4**]
- Green ZnO nanoparticle synthesis using Tamarindus indica and application as a potent antibacterial and anticancer agent (**Sustainable Chemistry for Climate Action, 2025, Elsevier IF 5.4**)
- Integration of cadmium sulfide quantum dots with calcium alginate microbeads for dual-functional mercury (II) ion sensing and removal (**Journal of Environmental Chemical Engineering, 2024, Elsevier IF 7.2**)
- Highly sensitive and selective method for detecting ultratrace levels of aqueous uranyl ions by strongly photoluminescent-responsive amine-modified cadmium sulfide quantum dots (**Analytical Chemistry, 2017, ACS; IF 7.4**)
- CdS quantum dots immobilized on calcium alginate microbeads for rapid and selective detection of Hg²⁺ ions (**RSC Advances, RSC; 2015, IF 4.6**)
- Monitoring water quality of River Ganga using multivariate techniques and WQI (Water Quality Index) in Western Himalayan region of Uttarakhand, India (**Environmental Nanotechnology, Monitoring & Management, 2021, Elsevier; IF 8.87**)
- Sulfur-doped zinc oxide nanoparticles for enhanced degradation of 2, 4-DCP under natural sunlight (**Journal of Nanoparticle Research, 2025, Springer; IF 2.6**)
- Spatio-temporal variation of trace elements distributed over surface water of Upper Ganga River Basin in Western Himalayan Region (**Journal of Mountain Science, 2023, Springer IF 2.5**)
- Iron sulfide nanoparticles: synthesis, characterization, and molecular docking studies of its interaction with bovine serum albumin and human serum albumin (**BioNanoScience, 2024, Springer; IF 3.2**)
- Rapid Photoluminescence Quenching Based Detection of Cu²⁺ in Aqueous Medium by CdS Quantum Dots Surface Passivated by Thiourea [**Analytical Sciences, 2017, Springer; IF 2.0**]