Brief Bio-Data

A. **Name**: **DR. KALYAN ADHIKARI**

B. **Date of Birth**: 03.01.1967

C. **Affiliation**: **Professor, Department of Earth and Environmental Studies, and Dean (Student Welfare), National Institute of Technology Durgapur, M.G. Avenue, Durgapur - 713209**

TELEPHONE NUMBER
0343-2754429 (O)
(M) +91-9434788091(O)
(M) +91-9434388099

E– MAIL ADDRESS
kalyanadhikari99@gmail.com
kadhikari.ees@nitdgp.ac.in

D. **Academic/professional career**:

Academic Career:

Degrees/ Examinations	**Board / University**	**Year of Passing**	**Division/ Class**
M.Sc. (Geology)	University of Burdwan	1991	1st Class (Ranked Second)
Ph. D.	University of Burdwan	2003	Awarded

Professional Career:

(I) Industry:

2^+ years(1991-1994) work experience in Informatics Computer Systems, Delhi

13^+ years (1994 – 2007) work experience in Durgapur Steel Plant (SAIL).

(II) Academics: National Institute of Technology Durgapur, India

18^+ years (2007 – till date)

Research Interest : Groundwater pollution and remediation, Contaminant transport in the subsurface, Modelling of groundwater flow and solute transport, Effect of mining on groundwater, Groundwater recharge, Application of RS& GIS in Groundwater Exploration and assessment, Application of RS& GIS in Environmental problems, Solid waste management.

Researches leading to Ph.D :

Completed – 11

Submitted - 01

Ongoing - 02

P.G. Project : Completed – 52

Carried out consultancy projects of ESSAR Oil and Gas Exploration Pvt. Ltd, Asansol Durgapur Development Authority, Eastern Coalfield Ltd on Land subsidence monitoring study, Potential of revival of Integrated solid waste processing plant, ADDA etc.

Administrative Assignment :

Dean (Student Welfare) : Since April, 2025 till date

Head, Department of Earth and Environmental Studies : 13 years

Served as Chairman of several important functional committees of the Institute

Some of the completed and ongoing Research Projects :

1. Abatement of Fluoride from Ground Water to Supply Safe Drinking Water to Rural People of West Bengal
2. Assessment of groundwater potential with special emphasis on impact of industries and mining activities in and around Durgapur, West Bengal, India
3. Geo-environmental impact of open cast coal mining on soil and groundwater of Raniganj Coalfield, West Bengal, India.
4. Detection of subtle and obscure structures in Bengal basin, India using integrated Remote sensing studies with special reference to Hydrocarbon exploration in the basin.
5. Abatement of Fluoride from Groundwater and Waste water.
6. Reappraisal of depositional setting of Upper Barakar coal bearing strata from Raniganj basin, India – a sedimentological, ichnological and coal petrographic approach.
7. GIS based land resource evaluation and management for agricultural sustainability in an affected area of coal fired thermal power plant.
8. Analysis of potential impact of open cast coal mine on hydrogeological dynamics in Barjora area, West Bengal, India
9. Assessment of the impact of municipal solid waste landfill leachate on soil and groundwater quality.
10. Use of compacted clay liner for the attenuation of landfill leachate migration from a MSW site in Durgapur, West Bengal
11. Characterization and treatability studies at coal bed methane produced water.
12. Assessment of migratory behavior of Zn and Cu through laterite soil using HYDRUS-1D.
13. Optimization of sustainable integrated Municipal Solid Waste Management system through case studies.
14. Hydrgeochemical and mineralogical evaluation of shallow(<80m) arsenic affected aquifers of Murshidabad district of West Bengal, Eastern India

15. Efficacy evaluation of Azadiracta Indica (Neem) and Moringaoliefera (Drum stick) seed shell blended clay soil as liner material in Cr(6) laden waste containment structure.
16. Development of quantitative tool for assessment of regional sustainability of coal mining area.
17. Arsenic removal from As rich soil and groundwater using electrokinetics mechanism
18. Assessment of Pestcide transport in soil and groundwater through field study, experiment and modelling
19. Intensive hydrogeologic intervention to augment cultivable lands in a hardrock alluvium mixed terrain of northern part of Bankura district, India
20. Hydrogeological evaluation of a growing urban conglomerate of West Bengal, India with special emphasis on microplastic contamination and groundwater security

Notable Outreach :

1. Member of Accreditation Committee, Groundwater Consultant Organisation, NABET, Quality Council of India, New Delhi, Since 2020
2. Member of Expert Committee of Assessment (Earth Science) of UGC Faculty Recharge Programme, Ministry of Education, GOI, 2022
3. Served as External member of Board of Studies of few Universities

Fellow/ Membership of Professional Societies or Bodies

Sl. No.	Name of the Professional Body	Membership No. With Validity
1.	Geological Society of India	L.M No. 1720; Life member and Fellow
2.	The Mining, Geological and Metallurgical Institute of India	10563; Life member
3.	Indian Society of Remote Sensing	L-3322; Life member
4.	Indian Association of Hydrologists	LM-1804; Life member

Publications :

SCI/ SCOPUS International Journals : Apprx. 40
Reputed National and International Conferences : Apprx. 40

Some Recent Publications in SCI / SCOPUS International Journals :

Sl. No.	Name of the Journal	Title of the paper with Vol. No. & year	Author (s) Name
1	Earth System Science	Pesticide contamination in lower Gangetic alluvial aquifers of the western Bengal basin: Assessment through hydrogeochemistry and laboratory-scale experiment	Nilesh Kumar Meshram, Rhitwik Chatterjee , Sameer Shab Ganie and Kalyan Adhikari

		(2025) 134:242 https://doi.org/10.1007/s12040-025-02692-1	
2	Earth System Science	Arsenic contamination in groundwater of moribund delta of Bengal basin: Quantitative assessment through adsorption kinetics and contaminant transport modelling Volume: Issue No2024(133)86 https://doi.org/10.1007/s12040-024-02275-6 Year:2024 Month:Apr (online)	Rhitwik Chatterjee, Kalyan Adhikari Rupal Sinha Shraddha Bharti, Ujjal Mal
3	Process Integration and Optimization for Sustainability	Multi-Attribute Decision-Making Model for Selecting Centralized or Decentralized Municipal Solid Waste Management Facilities: a Study from the Indian Perspective https://doi.org/10.1007/s41660-023-00329-8 April, 2023	Arpan Chattopadhyay · Supriya Pal · Gautam Bandyopadhyay · **Kalyan Adhikari1**
4	Acque Sotterranee	Assessment of Metalaxyl migration through vadose zone of alluvial sandy soil using column experiment and HYDRUS numerical modelling DOI 10.7343/as-2023-634 May,2023	**Nilesh Kumar Meshram[a], Kalyan Adhikari[a] , Rhitwik Chatterjee**
5	Operations Research Forum	An Integrated Framework for Prioritizing Sustainability Indicators for the Mining Sector with a Multicriteria Decision-Making Technique (2023) 4:5 https://doi.org/10.1007/s43069-022-00188-y	Vineeta Prasad, · Gautam Bandyopadhyay, · Kalyan Adhikari, · Sayan Gupta
6	Journal of water process Engineering, Elsevier	Assessment of subsurface migration and simultaneous removal of Carbendazim in simulated constructed wetland through physical and numerical modeling 50 (2022) 103272	Avishek Adhikary, Debasmita Datta, Supriya Pal, Kalyan Adhikari, Sudipta Ghosh
7	Journal of Earth System Science, Springer	Steel Plant Slag dumps: A potential source of Groundwater contamination (2022) 131 45 https://doi.org/10.1007/s12040-021-01776-y	Ujjal Mal, Kalyan Adhikari, Anurag Tripathi
8	Journal of Earth System Science	Groundwater quality and hydrological stress induced by	Ujjal Mal and Kalyan Adhikari

		Lower Gondwana open cast coal mines (2021)13032 https://doi.org/10.1007/s12040-020-01486-x	
9	Environmental Earth Sciences	Evaluation of contamination of manganese in groundwater from overburden dumps of Lower Gondwana coal mines (2021) 80:23 https://doi.org/10.1007/s12665-020-09293-9	Kalyan Adhikari, Ujjal Mal
10	Journal of Indian Chemical Society	Assessment of migratory behaviour of contaminant originating from tannery waste water through amended clay liner using HYDRUS 3D solute transport model Vol. 97, No. 12b, December 2020, pp. 2791-2799	C. Bhadra, S. Pal and K. Adhikari
11	Environmental Earth Sciences, Springer	Application of multivariate statistics in the analysis of groundwater geochemistry in and around the open cast coal mines of Barjora block, Bankura district, West Bengal, India; 78, 2019,pp 72. DOI: 10.1007/s12665-019-8071-0	Adhikari K and Mal U
12	CURRENT SCIENCE	Delineation of subtle and obscure structures in West Bengal Shelf: a remote sensing and GIS-based parallel approach VOL. 115, NO. 5, 10 SEPTEMBER 2018	Subhobroto Mazumder, Kalyan Adhikari , Durga Shanker Mitra , Samiran Mahapatra and Krishan Kumar Singh Pangtey
13	Journal of Environmental Biology	GIS based evaluation of crop suitability for agricultural sustainability around Kolaghat thermal power plant; Vol. 37; Sept,2016	Subhas Adak**, Kalyan Adhikari**, Kaushik Brahmachari
14	Journal Geological Society of India, Springer	A Neotectonic based Geomorphic Analysis using Remote Sensing data to delineate potential areas of hydrocarbon exploration: Cachar area, Assam ; Vol. 88, July, 2016	Subhobroto Mazumder, **Kalyan Adhikari**, Durga Shanker Mitra, Samiran Mahapatra, Krishan Kumar Singh Pangtey
15	Environmental Science and Pollution Research	A Comparative Study of Removal of Fluoride from Contaminated Water using Shale collected from different Coalmines in India; Vol.	Gargi Biswas, Manjari Kumari, Susmita Dutta, **Kalyan Adhikari**

		23 (10) , 2016	
16	Applied Water Science	Application of Response Surface Methodology for Optimization of Biosorption of Fluoride from Groundwater using *Shorea robusta* Flower Petal ; DOI: 10.1007/s13201-017-0630-5 , 2017	Gargi Biswas, Manjari Kumari, Susmita Dutta, **Kalyan Adhikari**
17	ECOTOXICOLOGY AND ENVIRONMENTAL SAFETY	Evaluation of fluoride bioremediation and production of biomolecules by living cyanobacteria under fluoride stress condition; Vol. 148, 2018	Gargi Biswas**,** Sohini Guha Thakurta, Jitamanyu Chakrabarty, **Kalyan Adhikari**, Susmita Dutta

Prof. Kalyan Adhikari