CURRICULUM VITAE

Prof. Vipin Kumar, Ph.D., FGSI, MNASc.

Professor
Department of Environmental Science and Engineering
IIT (ISM) Dhanbad
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E-mail	**:**	vipinmicro1@iitism.ac.in
Date of birth	**:**	January 7th, 1980
Sex	**:**	Male
Marital Status	**:**	Married

Area of Interest:

Microbial remediation of various persistent pollutants, Resource recovery from waste, Microbial electrochemical system, Solid Waste Management, Restoration Ecology, Biological wastewater treatment.

Educational Qualification:

- **Ph.D. Environmental Science**

  Ph.D. Thesis: "Impact studies of Fly-ash as a carrier in Bio-formulations, Shelf life, Bio-efficacy and Genetic variation".
- **M.Sc. Microbiology** with CGPA 9.13/10
  M.Sc. Thesis: "Incidence of Beta-lactamase producing Gram-negative Clinical isolates and their Antibiotic susceptibility pattern".

Professional Experience:

Employer	Position held	Date of Joining	Date of Leaving
IIT (ISM), Dhanbad	Professor	12-07-2024	Till date
IIT (ISM), Dhanbad	Associate Professor	06-06-2019	11-07-2024
IIT (ISM), Dhanbad	Assistant Professor	10-03-2010	05-06-2019
SHIATS, Allahabad	Research Associate	01-11-2009	09-03-2010
SHIATS, Allahabad	SRF	01-11-2007	31-10-2009

Major achievements:

No. of Ph. D Supervised as: Guide: **15;** Co-Guide: **03**
No. of Ph. D Supervising as Guide/Co-Guide: Guide: **05**
No. of M. Tech Dissertation Guided: **30**
No. of project (Research & consultancy) as PI/CI/Co-CI: **22**
No. of short term Course conducted as CI/Co-CI: **10**
No. of patent published: **02**
No. of research publication published in reputed Journals: **81**
No. of Book/Book chapters Authored: **10**

Teaching record:

I am teaching following undergraduate and postgraduate courses:

Sl. No.	Subjects
i.	Earth System Science
ii.	Environmental Microbiology
iii.	Solid Waste Management
iv.	Pollution Control & Environment Management
v.	Hazardous and Biomedical Waste Management
vi.	Ecology and Environmental Microbiology
vii.	Municipal Solid waste Management

Institutional Administrative Assignment:

- Associate Dean – Academic (Oct 2024 to till date)
- Associate Dean – Faculty (Sep 2021 to Oct 2023)
  Coordinator (Environment): Centre for Earth, Energy and Environmental Research (July 2021 to till date)
- Coordinator: PhD Admission (Jan 2024 to Dec 2024)
- Chief Warden (July 2021 to June 2022)
- Warden (July 2019 – June 2021)
- Co-coordinator, ENVIS Centre, IIT (ISM), Dhanbad (June 2017 – June 2021)
- Member, Ant-ranging Core Committee (July 2023 to till date)
- Member, DUGC (2019 – 2022)
- Faculty In-charge Laboratory of Applied Microbiology
- Faculty Coordinator B. Tech programs (2nd year)
- Secretary, DAC (2013-2019)
- Faculty In-charge, Time Table Committee (June 2011 - June 2016)
- Faculty In-charge, Tech Fest (Concetto), IIT (ISM) – 2013 - 2014
- Member, IIT-JEE Admission Committee (2014 - 2015)
- Member, IIT (ISM)/JRF Admission Committee (2015 - 2018)
- Member, Institutional Solid Waste Management
- Member, Institutional Dog protection Committee
- Member, Anti-ranging scouts
- Member, Tabulation Committee (2011 - 2017)
- Member, Departmental Faculty Selection Committee

Ph.D Thesis Guided/Guiding

Sl. No.	Student's name & Reg. No.	Date of Joining	Topic	Status	Role
Full Time					
1	Tripti (2010 DR0029)	September, 2010	Study on Pesticide Tolerant Bacteria and Their Phosphate Solubilization Activity: An Approach towards Bio-fertilizer Preparation.	**Awarded**	Guide
2	Shrabani Sen (2010DR0046)	December, 2010	A Comparative Study of Different Manures And Fly-Ash to Find Out Their Optimum Combination for Efficient Re-Vegetation of Overburden Dumps in Jharia Coal-Field.	**Awarded**	Guide

3	Ashwani Kumar (2012DR0086)	July, 2012	Analysis of contaminant transfer from coal-fired thermal power plant in soil, surface water and ground water	**Awarded**	Co-guide
4	S. K. Mritunjay (2013DR0034)	January, 2013	Microbiological Safety Evaluation and Recommendation of Raw Eaten Salad Vegetables	**Awarded**	Guide
5	Zeba Usmani (2013DR0245)	July, 2013	Study on heavy metals accumulation from coal fly-ash through Vermicomposting using Indigenous earthworm species	**Awarded**	Guide
6	Arti Hansda (2013DR0263)	July, 2013	Isolation and characterization of Cu (II) remediating *Pseudomonas* sp. and their plant growth promoting activity	**Awarded**	Guide
7	Gauri Gupta (2014DR0001)	January, 2014	Effectiveness of degradation potential of polycyclic aromatic hydrocarbons by bacterial consortium	**Awarded**	Guide
8	Mamta Besra, (2014DR0058)	January, 2014	Studying the antimicrobial activities of herbal plants extract with special emphasis on dental caries	**Awarded**	Guide
9	Rupa Rani (2014DR0138)	July, 2014	Biodegradation of organochlorine pesticides by plant growth promoting rhizobacteria (PGPR)	**Awarded**	Guide
10	Aaditya Chaturvedi (2014DR1126)	July, 2014	Geo-Environmental Study of Groundwater Resources of Subarnarekha River Basin with Special Reference to Pesticides and Heavy Metal Distribution	**Awarded**	Guide
11	Vikas Pandey 2014DR1174	July 2014	An investigation into the influence of koradi Thermal power plant's ash pond leachate on Groundwater in the surrounding areas	**Awarded**	Guide
12	Shruti Mishra (2015DR1167)	July, 2014	"Dynamics of Soil CO_2 sequestration in Tropical Deciduous Forest Ecosystem of Northern India"	**Awarded**	Co-Guide
13	NEHA (2015DR0037)	Jan, 2015	Biodegradation of Pharmaceutical byproducts in Soils through Solid State Fermentation	**Awarded**	Co-Guide
14	Pratishtha Gupta (2015DR0184)	July, 2015	Microbial-assisted Phytoremediation and assay of chromate reductase enzyme in effective remediation of hexavalent chromium from contaminated agricultural soils	**Awarded**	Guide
15	Geshu Khare (16DP000139)	July, 2016	An Investigation into the effects of microbially induced calcite precipitation on the mechanical stability of soils from Rohtang, Himachal Pradesh, India	**Awarded**	Guide
16	Madhurya Ray (17DR000517)	July, 2017	Enhancement of bio-surfactant production by co-culture of oil degrading bacteria for efficient oil pollution remediation	**Awarded**	Guide
17	Shalini Singh (17DR000547)	July, 2017	Enhanced mercury bio-sorption and assay the mercuric reductase by bacterial strains: An innovative approach to effective mercury(II) bio-removal	**Awarded**	Guide
18	Ankur Singh (18DR0034)	July, 2018	Development of cost-effective fungi-based biosensor for electrochemical detection of heavy metals in water	**Awarded**	Guide
19	Saumya Anand (19DR0136)	July, 2019	Studies on toxicity and mechanisms of bacterial enzymes mediated cadmium removal	Submitted	Guide
20	Dixita Phukan (20DR0042)	July, 2020	Design and development of an integrated Microbial Electrochemical System with Micro-algal biomass for the treatment of wastewater rendering zero discharge of carbon dioxide	Ongoing	Guide
21	Nishant Pandey (22DR0143)	July, 2022	Development of bacterial cellulose-based selective membrane for application in Bioelectrochemical metal recovery	Ongoing	Guide
22	Manish Sharma (23DR0074)	July, 2023	Conversion of hazardous waste to energy	Ongoing	Guide
23	Indrani Das (23DR0247)	January, 2024	Recovery of precious metals using microbial electrochemical systems	Ongoing	Guide

Details of the Project Assignment Ongoing:

Sl. No.	Title	Funding agency	Role	Amounts (Lacs)	Status
1.	Developing portable potentiometric biosensors for in-situ detection of trace metal pollutants (Cd, Pb, Hg and Cu) (SRDP 1146 G)	DBT (GoI)	PI	41.9256	Ongoing
2.	Flora-fauna and socio-economic study for baseline data generation of Cluster X of BCCL Dhanbad	BCCL	PI	23.60	Ongoing
3.	Studies on ecosystem services in Tamnar block in district Raigarh, Chhattisgarh (ADANI/2023-2024/1097/ESE)	Adani	PI	25.514	Ongoing

Details of the Project Assignment Undertaken:

Sl. No.	Title	Funding agency	Role	Amounts (Lacs)	Status
1	Recovery of copper from water bodies nearby copper mines using microbial electrochemical systems. (MoM/2020-2021/773/ESE)	Ministry of Mines	PI	25.00	Completed
2	Studies on Tellurium, Selenium and Indium concentration in copper beneficiation plants for estimating recovery potential. (HCL/2023-2024/1037/ESE)	HCL	PI	05.90	Completed
3	A Scientific Study on the Assessment of Impact of Mine Blasting Operations on Environmental Pollution and Important Structures of Chittorgarh Fort for Suggesting Suitable Remedial Measures. (CONS/7214/2023-2024)	Birla Corporation Ltd., Kolkata	Co-PI	206.50	Completed
4	Land use Land cover study for Jharia group of collieries and washeries, Tata Steel. (TataSteel/2020-2021/719/ESE)	Tata Steel	Co-PI	23.60	Completed
5	Cumulative Impact Assessment Study, Carrying Capacity Study and Ecosystem Services Study as per condition of terms of References (ToR) for Expansion of Nigahi Opencast Mining Project from 21 Mtpa to 25 Mtpa with increase in leasehold area from 3018.40 ha to 3582.732 ha. (CONS/6096/2021-2022)	NCL, CIL	Co-PI	110.70	Completed
6	Effect on Ecosystem Services available in proposed mining area and assessment of carrying capacity of the extent ecology of coal mines (Project No: CONS/6056/2021-22)	SECL, CIL	PI	25.96	Completed
7	Developing low-cost portable electrochemical biosensors for metal detection. (IIT(ISM)/2022-23/952/Institute)	MoE	PI	04.55	Completed
8	Environmental Audit of JSW Odisha Mines (CONS/6076/2021-2022)	JSW Steel Ltd	Co-PI	20.00	Completed
9	Health, Safety and Environmental study of Iron Ore Mines (Vedanta/2018-2019/598/ESE)	Vedanta	PI	8.85	Completed
10	Environmental Impact Studies of Chotia Coal Mines (Cons/3367/16-17)	BALCO	PI	16.10	Completed
11	Assessment of soil fertility through the application of Fly-ash based Bio-fertilizer in combination with Bio-compost. (FRS (23)/2010-2011/ ESE).	MHRD	PI	5.64	Completed
12	Soil and fly-ash characteristics for mine backfilling of Chotia Mines, Chhattisgarh. (Cons/3252/16-17)	BALCO	CI	1.64	Completed
13	Utilization of Fly-ash as carrier in Bio-fertilizer and Bio-pesticide formulation. (2010/MRP/ESE/08/ Acad.)	MHRD	PI	0.95	Completed
14	Biodegradation of polycyclic aromatic hydrocarbons by efficient bacterial consortium	TEQIP – II	PI	1.50	Completed
15	Regional Environmental Impact Assessment study	MoEF	Co-PI	202.22	Completed

	of Goa region MoEF(13)/2011-12/294/ESE				
16	Microbiological quality of drinking water. (CONS/2849/15-16)	Sky Lark, Dhanbad	CI	0.11	Completed
17	Biodiversity study at Rolep Hydro project, Sikkim (CONS/2731/15-16)	Velanakani Energy Pvt. Ltd.	Co-CI	11.90	Completed
18	Water quality of drinking water. (CONS/3495/17-18)	Sky Lark, Dhanbad	CI	0.11	Completed
19	Monitoring of Environmental parameters in respect of ambient air, stack monitoring, noise level and effluent discharge at BTPS B (O&M) CONS/1440/11-12	BTPS	Expert Member	5.23	Completed
20	Study on Compliance of Forestry Clearance condition in respect of Ghanoodih and Bera Projects of Bastacolla Area, BCCL, Dhanbad.	BCCL	Expert Member	12.68	Completed
21	Preparation of EIA of Patherdih Coal Washery, BCCL, Dhanbad	BCCL	Expert Member	17.00	Completed
22	Preparation of EIA of Dugda Coal Washery, BCCL, Dhanbad	BCCL	Expert Member	17.00	Completed
23	EIA Studies in the impact of leaching due to storage of fly-ash on the surface and mined voids on dumping area of Rajrappa site. (CONS/2296/2013-14)	Hindalco Muri	Expert Member	15.16	Completed
24	Waste water management and control of water pollution from plant and mines of BIOM, Bacheli complex, Dantewada, Chhattisgarh.	NMDC, Limited	Expert Member	14.25	Completed
25	Road transport impact study (Cons/3821/18-19)	RKM TPP, Raigarh	Expert Member	4.425	Completed
26	Source sustainability study of water requirement (Cons/3766/17-18)	RKM TPP Raigarh	Expert Member	7.75	Completed
27	Hydrological Source sustainability study of water requirement (Cons/3748/17-18)	DB TPP Raigarh	Expert Member	12.25	Completed
28	Development of EPRI of coal mines. (Cons/3812/18-19)	CIL	Expert Member	11.80	On going

Details of the Short term course/Training program/Workshop organized:

Sl. No.	Title	Duration	Role	Amounts (Lacs)	Status
1.	Sustainable waste management practices. (CONS/3097/15-16)	17-19 Feb, 2016	Course Coordinator	2.85	Completed
2.	Recent Trends in waste management practices. (CONS/3221/16-17)	02-04 June, 2016	Course Coordinator	3.09	Completed
3.	Ambient air quality assessment, prediction and control. (Cons/3236/16-17)	11-15 July, 2016	Course Co-coordinator	2.40	Completed
4.	Advanced Treatment of solid and Hazardous Waste. (Cons/3329/16-17)	18-22 Oct, 2016	Course Coordinator	1.855	Completed
5.	Env. Clearance Procedures and Impact assessment of Mining project. (Cons/3520/17-18)	7-11 June, 2017	Course Co-coordinator	2.75	Completed
6.	Air and Noise Quality Assessment, Prediction and Control for Industrial Areas	May, 15-18, 2018	Course Co-coordinator	3.60	Completed
7.	Certificate Course on Green Skill Development on Pollution Monitor: Air and Water	Aug 13 to Oct 12, 2018	Training In-charge	15.04	Completed
8.	Certificate Course on Green Skill Development on Pollution Monitor: Air and Water	June – Aug, 2019	Training In-charge	15.19	Completed

9.	Certificate Course on Green Skill Development on Waste Management	Jan – March 2020	Training In-charge	16.55	Completed
10.	Technological Advances In Waste To Energy Conversion (EDP/7021/2022-2023)	July 27-30, 2022	Course Coordinator	07.08	Completed

Details of the Conference/Seminar/Symposia organized:

Sl. No.	Title	Duration	Role	Type	Status
1.	National Conference on Technological advancement in waste management: Challenges and opportunity	December 04-05, 2023	Convener	Conference	Completed
2.	National Webinar on Mining Environment	December, 14-15, 2020	Convener	Webinar	Completed
3.	International Conference on Environmental Changes and Emerging Contaminants	July 14, 2021	Convener	Conference	Completed

M. Tech Dissertation Guided/Guiding

Sl. No.	Student's Name	Year	Topic	Role	Status
1.	Seema Kumari	2011	Comparative Study of Soil Quality And Carbon Flux of Different Land Use Type at Dugdha Coal washery area of Jharia Coalfield	Guide	Completed
2.	Arabinda Bahera	2012	Impact studies of Coal Mine Leachate on Different Water Bodies	Guide	Completed
3.	Gourav Jatav	2012	Effects of Mine waste Contamination at Multiple Levels of Soil	Guide	Completed
4.	Ritika Mukharji	2013	Remediation of Halogenated Pesticides by Nano Zero-Valent Iron (nZVI) Particles Extracted from Steel Industry Waste	Co-Guide	Completed
5.	Vikash Pandey	2013	Characterization and Impact of coal mine leachate on water regime and its management	Guide	Completed
6.	Amartanshu Srivastava	2014	Planning of Mine closure with demarcation of ESZ in Goa region	Guide	Completed
7.	Madhukar Kumar	2014	Estimation of calorific value of biomass Briquettes prepared from sawdust and paper waste	Guide	Completed
8.	Amrita Pandit	2015	Biodegradation of Polycyclic Aromatic Hydrocarbons	Guide	Completed
9.	Kumar Partha S. Das	2015	Electricity generation from wastewater using a microbial fuel cell on a lab scale	Guide	Completed
10.	Aakankshya Das	2016	Endosulfan degradation by using Plant Growth Promoting Rhizobacteria (PGPR)	Guide	Completed
11.	Pankaj Kumar	2016	Bacterial degradation of Anthracene	Guide	Completed
12.	Brij Nandan Kumar	2017	Isolation of calcifying bacteria and its utilization in fly ash bricks	Guide	Completed
13.	Madhurya Ray	2017	Microbial diversity in mining and non-mining area with emphasis on plant growth promoting rhizobacteria	Guide	Completed
14.	Uma A	2017	Role of *Sporosarcina pasteurii* in performance enhancement of concrete	Guide	Completed
15.	Dhiraj Kumar	2018	Microbiological removal of Phosphorous from Linz-Donawitz Slag	Guide	Completed
16.	Mohd Faraz Khan	2018	Removal of Multiple Metals From Tannery Industries Contaminated Soil by Beneficial Plants-Microbes Interaction	Guide	Completed
17.	Saurabh Suman	2018	Enhancing degradation of Institutional bio-degradable solid waste using a natural source of essential microorganisms	Guide	Completed
18.	Om Shakar	2019	Electroremediation of mercury from contaminated soil	Guide	Completed

19.	Bhanu P. Singh	2019	Recovery of Cu from mill tailings	Guide	Completed
20.	Anand	2019	Development of value added bacterial concrete	Guide	Completed
21.	Shailendra Kumar 18MT0377	2020	Potential use of plant growth promoting bacterial strains in phytoremediation of arsenic contaminated soils	Guide	Completed
22.	Himanshu Tiwari 18MT0225	2020	Reduction of cadmium metal from contaminated soil using bacterial strain	Guide	Completed
23.	Vipin Kumar 18MT0022	2020	Reduction of hexavalent chromium by bacterial strain	Guide	Completed
24.	Sandeep kumar 19MT0336	2021	Feasibility study of bioethanol production from algal biomass	Guide	Completed
25.	Arjun Patel 20MT0081	2022	Solar Desalination Technologies-Performance Analysis of Single Slope Solar Still	Guide	Completed
26.	Ramashankar Kumar 20MT0318	2022	Treatment of mercury contaminated water using microbial fuel cell	Guide	Completed
27.	Manish Kumar Sharma 21MT0216	2023	Treatment of pharmaceutical wastewater using bio-adsorbent with emphasis on heavy metals	Guide	Completed
28.	Ankit Raj 21MT0058	2023	Optimization of The Recovery of Nitrogen & Power from Nitrogenous Waste Water Using Bio-electrochemical System	Guide	Completed
29.	Soumya P. Sahoo (22MT0389)	2024	Development of chitosan composite based bio-sensor for on-site detection of some heavy metals	Guide	Ongoing
30.	Bedanta Saikia 22MT0099	2024	Development of Hydrophobic Bioplastic from Bacterial Cellulose	Guide	Ongoing

Special Honor

- 2023: Selected as member of National Academic of Sciences (MNASc.)
- 2023: Received The Inder Mohan Thapar Foundation (IMFT) Research award for Publication in recognition of excellence in Research.
- 2023: Nominated as External Examiner to evaluate the PhD Thesis of BHU, Varanasi.
- 2021: Received The Inder Mohan Thapar Foundation (IMFT) Research award for Publication in recognition of excellence in Research.
- 2021: Nominated as External Examiner to evaluate the International PhD Thesis of Monas University (Sunway campus), Malaysia
- 2020: Nominated as External Examiner to evaluate the PhD Thesis of BIT Meshra, Ranchi.
- 2016-20: External Expert of Selection Committee for the selection of project staffs at CSIR-CIMFR Dhanbad
- 2014-2015: External Expert in the Board of Studies in Department of Zoology, Vinoba Bhave University, Hazaribag, Jharkhand.

Foreign Nations Visited for Academic purpose:

- USA in 2011
- Singapore in 2013
- Dubai in 2016

Membership of Association/ Societies:

i. Member, National Academic of Sciences (MNASc.)
ii. Fellow of Geological Society of India. (F. No. 3325)
iii. Life member of The Association of Microbiologist of India (AMI). (LM No. 4861-2019)

iv. Life member of Geological Society of India. (LM No. 1733)
v. Life member of The Mining, Geological & Metallurgical Institute of India (MGMI), Kolkata (LM No. 10126)
vi. Life member of Indian Water Works Association (IWWA) Mumbai. (LM No. 7266)
vii. Life member of The Indian Science Congress Association, Kolkata (LM No. L 20805)

Patents

Published = 2

1. **Vipin Kumar** and Ankur Singh "An electrode assembly for electrochemical biosensing of heavy metals and a process for the preparation thereof" Indian Patent Application No. 202231076821 dated 29.12.2022 in the name of IIT (ISM) Dhanbad.
2. **Vipin Kumar**, Nishant Pandey, and Ankur Singh "An electrochemical reactor for cathodic recovery of copper from wastewater" Indian Patent application No. Indian Patent Application No.202331080987 dated 29.11.2023 in the name of IIT (ISM) Dhanbad.

List of Research Publications in Refereed International and National Journals:

**Corresponding author*

SCI/SCIE

1. Phukan, D., Kumar, V., Kandulna, W., Singh, A., Anand, S., & Pandey, N. 2024. Harnessing artificial neural networks to model caffeine degradation by High-Yield biodiesel algae *Desmodesmus pannonicus*. Bioresource Technology. 131935. (**IF = 11.889**) [Q1]. https://doi.org/10.1016/j.biortech.2024.131935.

2. Anand S., **Kumar V***., Singh A., Phukan D. and Pandey N. 2024. Statistical modelling, optimization, and mechanistic exploration of novel ureolytic Enterobacter hormaechei IITISM-SA3 in cadmium immobilization under microbial inclusive and cell-free conditions through microbially induced calcite precipitation. *Environmental Pollution*. 348: 123880. (**IF = 8.9**). [Q1]. https://doi.org/10.1016/j.envpol.2024.123880

3. Singh A, **Kumar V***., Anand S., Phukan D. and Pandey N. 2024. Mixed organic and inorganic nitrogen sources enhances chitosan production novel isolates for *Penicillium*". *International Journal of Biological Macromolecules*. 256 (1) 128115 (**IF = 8.20**) [Q1]. https://doi.org/10.1016/j.ijbiomac.2023.128115.

4. Singh A., **Kumar V***., Singh S. and Ray M. 2023. Electrochemical detection of copper(II) in environmental samples using *Penicillium* sp. IITISM_ANK1 based biosensor. *Chemosphere*. 313: 137294. (**IF = 8.943**). [Q1]. https://doi.org/10.1016/j.chemosphere.2022.137294.

5. Phukan D and **Kumar V***. 2023. Tracking drugged waters from various sources to drinking water—its persistence, environmental risk assessment, and removal techniques. *Environmental Science and Pollution Research.* (**IF = 5.80**) [Q1]. DOI : 10.1007/s11356-023-28421-z.

6. Anand S., **Kumar V***. and Singh A. 2023. Recent advancements in cadmium-microbe interactive relations and their application for environmental remediation: a mechanistic overview. *Environmental Science and Pollution Research.* 30 (17009–17038). (**IF = 5.80**) [Q1]. https://doi.org/10.1007/s11356-022-25065-3

7. Singh S., **Kumar V***., Gupta P. and Ray M. 2022. Conjoint application of novel bacterial isolates on dynamic changes in oxidative stress responses of axenic *Brassica juncea* L. in Hg-stress soils. *Journal of Hazardous Materials*. 434(2022): 128854. https://doi.org/10.1016/j.jhazmat.2022.128854. (**IF = 14.224**) [Q1].

8. Singh S., **Kumar V***., Gupta P. and Ray M. 2022. The trafficking of HgII by alleviating its toxicity via *Citrobacter* sp. IIITISM25 in Batch and Pilot Scale Investigation. *Journal of Hazardous Materials*. 433(2022): 128711. https://dx.doi.org/10.2139/ssrn.4001140 (**IF = 14.224**) [Q1]

9. Ray M., Kumar V*. and Banerjee C. 2022. Kinetic modelling, production optimization, functional characterization and phyto-toxicity evaluation of biosurfactant derived from crude oil biodegrading *Pseudomonas* sp. IITISM 19. *Journal of Environmental Chemical Engineering*. 10(2), 2022, 107190, ISSN 2213-3437. https://doi.org/10.1016/j.jece.2022.107190. (**IF = 7.968**) [Q1]

10. Singh S., **Kumar V***., Gupta P., Ray M. and Kumar A. 2021. The synergy of mercury biosorption through Brevundimonas sp. IITISM22: Kinetics, isotherm, and thermodynamic modeling. *Journal of Hazardous Materials*. 415(2021):125653. https://doi.org/10.1016/j.jhazmat.2021.125653 (**IF = 14.224**) [Q1]

11. Singh A. and **Kumar V***. 2021. Recent developments in monitoring devise for anaerobic digesters: A focus on bio-electrochemical systems. *Bioresource Technology*. 326 (2021) 124937. https://doi.org/10.1016/j.biortech.2021.124937 (**IF = 11.889**) [Q1]

12. Rani R., **Kumar V***., Gupta P., and Chandra A. 2021. Potential use of Solanum lycopersicum and plant growth promoting rhizobacterial (PGPR) strains for the phytoremediation of endosulfan stressed soil. *Chemosphere* .279 (2021) 1305892 https://doi.org/10.1016/j.chemosphere. 2021.130589. (**IF = 8.943**). [Q1]

13. Ray M., **Kumar V***., Banerjee C., Gupta P., Singh S., Singh A. 2021. Investigation of biosurfactants produced by three indigenous bacterial strains, their growth kinetics and their anthracene and fluorene tolerance. *Ecotoxicology and Environmental Safety* 208(2021): 111621 . https://doi.org/10.1016/j.ecoenv.2020.111621 (**IF = 7.129**) [Q1]

14. Singh A. and **Kumar V***. 2021. Recent advances in synthetic biology–enabled and natural whole-cell optical biosensing of heavy metals. Analytical and Bioanalytical Chemistry. 413:73–82. https://doi.org/10.1007/s00216-020-02953-6. (**IF = 4.478**) [Q2]

15. Singh S., **Kumar V***., Gupta P., Ray M. and Singh A. 2021. An implication of biotransformation in detoxification of mercury contamination by *Morganella* sp. strain IITISM23. *Environmental Science and Pollution Research. 28(27):35661-35677. doi: 10.1007/s11356-021-13176-2.* (**IF = 5.80**) [Q1]

16. Gupta P., **Kumar V***., Usmani Z., Rani R., Chandra A., Gupta V.K. 2020. Implications of plant growth promoting *Klebsiella* sp. CPSB4 and *Enterobacter* sp. CPSB49 in luxuriant growth of tomato plant under chromium stress. *Chemosphere* 240: 124944. doi: 10.1016/j.chemosphere.2019.124944 (**IF = 8.943**) [Q1]

17. Singh S. and **Kumar V***. 2020. Mercury detoxification by absorption, mercuric ion reductase, and exopolysaccharides: A Comprehensive study. *Environmental Science and Pollution Research* 27: 27181-27201. DOI: 10.1007/s11356-019-04974-w (**IF = 5.80**) [Q1]

18. Pandey V, Ray M, **Kumar V***. 2020. Assessment of water-quality parameters of groundwater contaminated by fly ash leachate near Koradi Thermal Power Plant, Nagpur. *Environmental Science Pollution Research*. 27: 27422–27434 doi:10.1007/s11356-019-06167-x. **(IF = 5.80)** [Q1]

19. Neha., Tarafdar, A., Sinha, A*. and **Kumar, V**. (2020). Effect of glucose co-metabolism on biodegradation of Gabapentin (an anticonvulsant drug) by gram-positive bacteria *Micrococcus luteus* N.ISM.1". *Applied Biochemistry and Microbiology.* 56(4):433-440 (**IF 1.065**) [Q4].

20. Gupta P., **Kumar V***., Usmani Z., Rani R., Chandra A., and Gupta V.K. 2019. A comparative evaluation towards the potential of *Klebsiella* sp. and *Enterobacter* sp. in plant growth promotion, oxidative stress tolerance and chromium uptake in *Helianthus annuus* (L.). *Journal of Hazardous Materials* 377:391-398. DOI:10.1016/j.jhazmat.2019.05.054 (**IF = 14.224**) [Q1]

21. Usmani Z., **Kumar V*.,** Gupta G., Gupta P., Rani R., Chandra V. 2019. Efficacy of vermicomposted fly ash with enhanced plant growth promoting and microbial enzymatic activities on soil fertility, plant growth and yield of vegetable plants. *Nature Scientific Reports*, 9, 10455. https://doi.org/10.1038/s41598-019-46821-5. **(IF = 5.516)** [Q1]

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