Curriculum Vitae

Personal Details:

Name: Dr. Rupshikha Patowary Hazarika
Address: Qtr No 6, BSNL Qtr Complex, Dharapur,Guwahati-17
Email(s) and contact number(s): ruprin_03@yahoo.co.in
Contact No.: +91-9401659899
Date of Birth: 03/02/1989

Educational Qualification
Schooling: Shrimanta Shankar Academy (2005)
Higher Secondary: Kendriya Vidyalaya (2007)
Graduation: Biotechnology at St. Anthonys' College (2010)
Post Graduation: Molecular Biology and Biotechnology, Tezpur University (2012)
Doctorate of Philosophy (P.hD): Biotechnology from Institute of Advance Study in Science &Technology (IASST)
Area of Research: Microbial Biotechnology, Environmental remediation especially mitigation of Petroleum Hydrocarbon by involving microbial metabolites, Pesticide biodegradation, Development of cheap Media from agro-Industrial wastes, The role of Biochar in environmental remediation.

Work Experience:
1. Worked at Research Associate (RA) at Indian Institute of Technology (IITG) for a Department of Biotechnology (DBT) sponsored Project.
2. Institutional Post Doctoral Fellow (IPDF) at Indian Institute of Technology (IITG).
3. Institutional Post Doctoral Fellow (IPDF) at Institute of Advance Study in Science &Technology (IASST).

Other relevant work-experiences:
Under took several administrative tasks during post doctoral tenure and served as managing person for helding several national and interaction conferences.

Recognition/Awards:

1. 2nd Rank in the University at B.Sc and M.Sc.
2. SLET and GATE Qualified.
3. Achieved CSIR-SRF Fellowship.
4. Achieved **Patent**, Govt. of India, for development of method for rhamnolipid.
5. Young Researcher award by the Institute of Scholars.

Research Publications:

1. Utilization of Paneer Whey Waste for Cost- Effective Production of Rhamnolipid Biosurfactant, *Applied Biochemistry and Biotechnology (Springer),* **I.F:** 3.1.
2. Uptake of Total Petroleum Hydrocarbon (TPH) and Polycyclic Aromatic Hydrocarbons (PAHs) by Oryza sativa L. Grown in Soil Contaminated with Crude Oil, *Bulletin of Environmental Contamination and Toxicology,* **I.F:** 2.9.
3. Development of an efficient bacterial consortium for the potential remediation of hydrocarbon contaminated sites, *Frontiers in Microbiology*, I.F: 6.1.
4. . Characterization of biosurfactant produced during degradation of hydrocarbons using crude oil as sole source of carbon. *Frontiers in microbiology*, I.F: 6.1
5. Application of biosurfactant for enhancement of bioremediation process of crude oil contaminated soil. International Biodeterioration & Biodegradation. I.F. 5.0
6. Recycling of bakery waste as an alternative carbon source for rhamnolipid biosurfactant production. Journal of Surfactants and Detergents, I.F: 1.98
7. Microplastics in marine and aquatic habitats: sources, impact, and sustainable remediation approaches. Environmental Sustainability.
8. Biodegradation of hazardous naphthalene and cleaner production of rhamnolipids—Green approaches of pollution mitigation. Environmental Research. I.F.: 8.4
9. Green production of noncytotoxic rhamnolipids from jackfruit waste: process and prospects. Biomass Conversion and Biorefinery. I.F: 5.0

10. Soil treatment using a biosurfactant producing bacterial consortium in rice fields contaminated with oily sludge—a sustainable approach. Environmental Research.I.F: 8.4
11. Advanced bioremediation by an amalgamation of nanotechnology and modern artificial intelligence for efficient restoration of crude petroleum oil-contaminated sites: a prospective study. Environmental Science and Pollution Research. I.F: 5.8
12. Congenial remediation treatment of petroleum hydrocarbon contaminated formation water: Mechanisms and consequences for degradation and adsorption, Water Resources and Industry, I.F: 5.3
13. Baseline study of water, soil, and identification of potential native phytoremediators of total petroleum hydrocarbon from oil-contaminated areas in the vicinity of Geleky oilfield of Assam. Environmental Monitoring and Assessment. I.F.: 3.2
14. Enhancing secondary metabolites and alleviating environmental stress in crops with mycogenic nanoparticles: A comprehensive review. Biocatalysis and Agricultural Biotechnology. I.F: 4.0

Book Chapter:

1. Role of Biosurfactant Producing Micro-organism in sustainable Agriculture.Purbayan Publishers
2. *Paenibacillus*, Elsevier.
3. Biosurfactants: An efficient tool for bioremediation of polycyclic aromatic hydrocarbons (PAHs) from oil contaminated sites. EBH Publisher
4. Biosurfactant-assisted phytoremediation for a sustainable future, Elsevier.
5. Potential application of biochar for efficient restoration restoration of crude oil contaminated sites, Springer.

Workshops and Conferences:

Attended several National and International Conferences to deliver research work presentations. Availed DST Grant Fellowship (complete fellowship) for participating in an International Conference held at Kyoto, Japan.

Membership:

Life time Member of Assam Science Society.

12. Publications *(List of papers published in SCI Journals, in year wise ascending order).*

Sl No	Authors	Title	Name of Journal	Year	Volume	Page	ISSN	I.F
1	**Rupshikha Patowary**, Kaustuvmani Patowary, Mohan Chandra Kalita, Suresh Deka.	"Utilization of Paneer Whey Waste for Cost- Effective Production of Rhamnolipid Biosurfactant''	Applied Biochemistry and Biotechnolog y (Springer).	2016	183(3)	383-399	1559-0291	3.094
2	Kaustuvmani Patowary, **Rupshikha Patowary**, Mohan Chandra Kalita, Suresh Deka	"Development of an efficient bacterial consortium for the potential remediation of hydrocarbons from contaminated sites''	Frontiers in microbiology	2016	7(1092)	1-14	1664-302x	6.064
3	**Rupshikha Patowary,** Kaustuvmani Patowary, Mohan Chandra Kalita, Arudhuti Devi, Suresh Deka.	"Uptake of Total Petroleum Hydrocarbon (TPH) and Polycyclic Aromatic Hydrocarbons (PAHs) by Oryza sativa L. Grown in Soil Contaminated with Crude Oil".	Bulletin of Environmental Contamination and Toxicology (Springer).	2017	98(1)	120-126	1432-0800	2.807
4	Kaustuvmani Patowary, **Rupshikha Patowary**, Mohan Chandra Kalita, Suresh Deka	"Characterization of biosurfactant produced during degradation of hydrocarbons using crude oil as sole source of carbon"	Frontiers in microbiology	2017	8(279)	1-14	1664-302x	6.064
5	**Rupshikha Patowary**, Kaustuvmani Patowary, Mohan Chandra Kalita, Suresh Deka	"Application of Bio-surfactant for enhancement of bioremediation process of crude oil Contaminated soil"	International Biodeterioration & Biodegradation (Elsevier).	2018	129	50-60	0964-8305	4.907
6	Kaustuvmani Patowary, Moonjit Das,**Rupshikha**	"Recycling of Bakery Waste as an Alternative Carbon Source	Journal of Surfactant and Detergents, (Wiley)	2019	22(2)	373-384	1558-9293	1.97

	Patowary, Mohan Chandra Kalita, Suresh Deka	for Rhamnolipid Biosurfactant Production"						
7	**Rupshikha Patowary**, Hemen Sarma, Vivek Kumer, Arpita Roy, Soumya Pandit,Ram Prasad	Microplastics: Sources, impact,and sustainable remediation approaches	Environmental Sustainability	2021	1	1-11	2666-0490	
8	**Rupshikha Patowary** , Kaustuvmani Patowary , Mohan Chandra Kalita, Suresh Deka , Jayanta Madhab Borah , Sanket J. Joshi , Ming Zhang , Wanxi Peng , Gaurav Sharma, Jorg ¨ Rinklebe , Hemen Sarma	Biodegradation of hazardous naphthalene and cleaner production of rhamnolipids — Green approaches of pollution mitigation	Environmental Research	2022	209	112875	0013-9351	8.431
9	**Rupshikha Patowary** Kaustuvmani Patowary· Mohan Chandra Kalita· Suresh Deka · Su Shiung Lam Hemen Sarma	Green production of noncytotoxic rhamnolipids from jackfruit waste: process and prospects	Biomass Conversion and Biorefinery	2022	1	1-14	2190-6815	4.987
10.	Kaustuvamni Patowary, Tamanna Bhuyan, **Rupshikha Patowary**,……..,Hemen Sarma	Soil treatment using a biosurfactant producing bacterial consortium in rice fields contaminated with oily sludge— a sustainable approach	Environmental Research	2023	-	-	0013-9351	8.43
11.	**Rupshikha Patowary**, Bhagyalakhmi Rajbongshi, Arundhuti Devi , Manisha Goswami	Concurrent degradation of petroleum sludge and simultaneous rhamnolipid biosurfactant production: An	Biodegradation (**Under Review**)					

		aesthetic bioremediation approach						
12.	**Rupshikha Patowary,** Arundhuti Devi, Ashis K. Mukherjee	Advanced bioremediation by an amalgamation of nanotechnology and modern artificial intelligence for efficient restoration of crude petroleum oil-contaminated sites: a prospective study	Environmental Science and Pollution Research (Published)	2023				5.8
13.	Nimisha Sarma, Manisha Goswami, **Rupshikha Patowary,**……, Arundhuti Devu	Baseline study of water, soil, and identification of potential native phytoremediators of total petroleum hydrocarbon from oil-contaminated areas in the vicinity of Geleky oilfield of Assam	Environmental Monitoring and Assessment (Accepted)					3.1
14.	Manisha Goswami, **Rupshikha**	Congenial remediation treatment of petroleum	Water Resources and Industry (Accepted)					5.2

	Patowary,……, Arundhuti Devi	hydrocarbon contaminated formation water: Mechanisms and consequences for degradation and adsorption						

13. Books Chapters

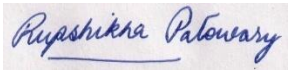
Sl no	Title	Author's Name	Publisher	ISBN	Year of Publications
1	Role of Biosurfactant Producing Micro-organism in sustainable Agriculture	**Rupshikha Patowary**, Kaustuvmani Patowary, Mohan Chandra Kalita, Suresh Deka	Purbayan	978-81-92955-55-1	2017
2	Paenibacillus	**Rupshikha Patowary,** Hemen Deka	Elsevier	978-0-12-823414-3	2020
3	Biosurfactants:An efficient tool for bioremediation of polycyclic aromatic hydrocarbons (PAHs) from oil contaminated sites	**Rupshikha Patowary**	EBH Publishers	978-93-90434-47-3	2021
4	Biosurfactant-assisted phytoremediation for a sustainable future	N F Islam,**Rupshikha Patowary** ,Hemen Sharma	Elsevier	978-01-28228-93-7	2021
5.	Potential application of biochar for efficient restoration restoration of crude oil contaminated sites	Rupshikha Patowary, Arundhuti Devi, Ashis Mukherjee	Elsevier (Accepted and is under publication house)		

14. List of Conferences attended

S.No.	Conference name	Paper	Type of presentation	Venue
1	National seminar on Bioprospects on Gene Pool	Cost effective strategy for production of biosurfactant by newly isolated bacterial strain SR17 utilizing dairy wastewater as the sole medium	Oral	D.K. College, Mirza, Assam.
	International conference on Emerging trends in biotechnology (NHBT-2015)	Uptake of Poly Aromatic Hydrocarbons by rice (*Oriza sativa*) crops grown near Lakowa Oil fields of Upper Assam	Poster	NIIST, Trivandrum
3	Recent Advancements in Environmental Research (RAER) 2016	Biosurfactant Mediated Biodegradation of Petroleum Crude Oil	Poster	IIT, Guwahati
4	Association of Microbiologists of India (AMI), 2016	Biodegradation of napthalene by *Pseudomonas aeruginosa* SR17 and simultaneous production of biosurfactant	Poster	Gauhati University
5	International conference on Environment Pollution and Prevention, 2016	Biosurfactant facilitated biodegradation of naphthalene by Pseudomonas aeruginosa	Oral	Kyoto, Japan (**availed DST travel Grant**
6	International conference on Environment and Ecology, 2018	Catabolism of phenanthrene and simultaneous production of rhamnolipid biosurfactant	Oral	Gauhati University
7	Bio-innovation for Environmental and Health Sustainable	Degradation of crude oil and simultaneous production of biosurfactant	Poster	CSIR-IITR, Lucknow

16. **Technical Skills:** Expertise in handling, culturing, and maintaining microbial cultures, extraction of biochemical analysis, Molecular analysis (DNA isolation, amplification, PAGE, SDS, etc.). Ability to

handle several sophisticated instruments: FTIR, LC-MS, GC-MS, SEM, AAS. Expertise in extraction of microbial metabolites from culture media. Expertise in carrying out study for microbial remediation of petroleum contaminated samples. Skills on compositional analysis of soil and water samples. Knowledge on basic bioinformatics to obtain phylogenic relationship of microorganisms to those already existing databases. Attended STUTI training programme for handling sophisticated instruments.



Name: Dr. Rupshikha Patowary Hazarika

Place : Guwahati