**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

1. Congenial remediation treatment of petroleum hydrocarbon contaminated formation water: Mechanisms and consequences for degradation and adsorption, Water Resources and Industry, I.F: 5.3
2. 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
3. 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.

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|  | 12. Publications *(List of papers published in SCI Journals, in year wise ascending order).*  |
| SlNo | Authors | Title | Name ofJournal | 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 anefficient bacterialconsortium for thepotential remediation of hydrocarbons fromcontaminated sites’’ | Frontiers inmicrobiology | 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 ofbiosurfactant produced during degradation ofhydrocarbons usingcrude oil as sole source of carbon” | Frontiers inmicrobiology | 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 Patowary**, Mohan Chandra Kalita,Suresh Deka | “Recycling of Bakery Waste as an Alternative Carbon Source for Rhamnolipid Biosurfactant Production” | Journal ofSurfactant and Detergents, (Wiley) | 2019 | 22(2) | 373-384 | 1558-9293 | 1.97 |
| 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 ricefields 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 aesthetic bioremediation approach | Biodegradation(**Under Review**) |  |  |  |  |  |
| 12. | **Rupshikha Patowary,** Arundhuti Devi, Ashis K. Mukherjee | Advanced bioremediation by an amalgamation of nanotechnologyand modern artificial intelligence for efficient restoration of crudepetroleum 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 Patowary**,……, Arundhuti Devi | Congenial remediation treatment of petroleum hydrocarbon contaminated formation water: Mechanisms and consequences for degradation and adsorption | Water Resources and Industry (Accepted) |  |  |  |  | 5.2 |

 13. Books Chapters

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| 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-assistedphytoremediation for asustainable future | N F Islam,**RupshikhaPatowary** ,HemenSharma | 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

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| **S.No****.** | **Conference****name** | **Paper** | **Type of presentation** | **Venue** |
| 1 | National seminaron Bioprospectson Gene Pool | Cost effective strategy for production of biosurfactant by newly isolated bacterial strainSR17 utilizing dairywastewater as the sole medium | Oral | D.K.College, Mirza, Assam. |
|  | Internationalconference on Emerging trends in biotechnology(NHBT-2015) | Uptake of Poly AromaticHydrocarbons by rice (*Oriza**sativa*) crops grown nearLakowa Oil fields of UpperAssam | Poster | NIIST,Trivandrum |
| 3 | RecentAdvancements inEnvironmentalResearch (RAER)2016 | Biosurfactant Mediated Biodegradation of PetroleumCrude Oil | Poster | IIT,Guwahati |
| 4 | Association of Microbiologists of India (AMI),2016 | Biodegradation of napthaleneby *Pseudomonas aeruginosa*SR17 and simultaneous production of biosurfactant | Poster | GauhatiUniversity |
| 5 | International conference on Environment Pollution andPrevention, 2016 | Biosurfactant facilitatedbiodegradation of naphthaleneby Pseudomonas aeruginosa | Oral | Kyoto,Japan(**availed****DST travel****Grant****support**) |
| 6 | Internationalconference onEnvironment andEcology, 2018 | Catabolism of phenanthrene and simultaneous production of rhamnolipid biosurfactant | Oral | GauhatiUniversity |
| 7 | Bio-innovationforEnvironmental and Health Sustainable | Degradation of crude oil andsimultaneous production ofbiosurfactant | 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