

Dr. ShubhraSekhar Chakraborty

General Details

Email ID : shubham@umu.ac.in
Designation : Head & Associate Professor
Department : Faculty of Agriculture



Higher Education

MSc., Ph.D

Area of Interest

Environmental Microbiology, Agriculture microbiology, Analytical instrumentation, Molecular Biology, Water and waste water treatment techniques

Research & Teaching Experience

10 Years 6 months

Research Experience: 3.6 years (UGC MRP Project SRF; ENV SCI RS 04/13, Project code: 5149)

Teaching Experience: 8 years

Publications

1. Shubhrasekhar C., Supriya M., Karthik L., Gaurav K. and Bhaskara Rao K. V., (2013) Isolation, Characterization and Application of Biosurfactant Produced by Marine Actinobacteria Isolated from Saltpan Soil from costal area of Andhra Pradesh, India. Research journal of biotechnology, Vol. 8(1), 18-25.
2. Shubhrasekhar Chakraborty and R. Naresh Kumar, (2016), Assessment of groundwater quality near a MSW landfill site using standard and AHP based water quality index: a case study from Ranchi, Jharkhand, India. Environmental Monitoring and Assessment, 188(6):335 (1-18), DOI 10.1007/s10661-016-5336-x.
3. KshitijRanjan, Shubhrasekhar Chakraborty, MohiniVerma, Jawed Iqbal and R. Naresh Kumar (2016). Co-treatment of old landfill leachate and municipal wastewater in sequencing batch reactor (sbr): effect of landfill leachate concentration, Water Quality Research Journal of Canada, 51 (4), 377-387, DOI: 10.2166/wqrjc.2016.020.
4. S Chakraborty, PK Mohanty, J Iqbal, RN Kumar (2020). Can electrocoagulation be an effective post-treatment option for SBR treated landfill leachate and municipal wastewater mixture? Journal of Water, Sanitation and Hygiene for Development (2020) 10 (1): 86–95. <https://doi.org/10.2166/washdev.2020.057>.
5. R. Naresh Kumar, MohiniVerma, Jawed Iqbal and Shubhrasekhar Chakraborty (2022). How much spatial and temporal variation in groundwater microbiology can occur following open dumping of municipal solid waste? Water Practice & Technology Vol 17 No 7, 1369 doi: 10.2166/wpt.2022.066.
6. MohiniVerma, Shubhrasekhar Chakraborty, Shweta Kumari, Aalok Gupta, Dewanshu Kumar, Jawed Iqbal, J. Rajesh Banu, ArulazhaganPugazhendi, R. Naresh Kumar (2023) Co-treatment of

stabilized landfill leachate and municipal wastewater in a granular activated carbon-sequencing batch reactor (GAC-SBR) *Process Safety and Environmental Protection* 174 (2023) 424–432. DOI: 10.1016/j.psep.2023.04.015

7. Radhakrishnan Naresh Kumar, Somya Sadaf, Mohini Verma, Shubhrasekhar Chakraborty, Shweta Kumari, Veerababu Poliseti, Parashuram Kallem, Jawed Iqbal and Fawzi Banat (2023). Old Landfill Leachate and Municipal Wastewater Co-Treatment by Sequencing Batch Reactor Combined with Coagulation–Flocculation Using Novel Flocculant. *Sustainability* 2023, 15(10), 8205; DOI: 10.3390/su15108205

International Conferences

1. Shubhrasekhar Chakraborty, Kshitij Ranjan, Mohini Verma, Jawed Iqbal and R. Naresh Kumar, (2015) Assessing the feasibility of co-treatment of landfill leachate and municipal wastewater in sequencing batch reactor (SBR). *Proceedings of International Conference on Sustainable Energy and Built Environment*, 12-13 March, ASCE VIT University chapter, Vellore, India. Paper ID: ICES–WR006, ISBN: 978-81-923320-6-2, pages: 574-578.
2. Mohini Verma, Shubhrasekhar Chakraborty, and R. Naresh Kumar, (2015), Evaluation of coagulation-flocculation process as pretreatment option for landfill leachate using alum, ferric chloride and poly-acrylamide grafted gum ghatti. *Proceedings of the 30th International Conference on Solid Waste Technology and Management*, March 15-18, The Journal of Solid Waste Technology and Management, Widener University Philadelphia, PA U.S.A. pages: 1016-1026.
3. Shubhrasekhar Chakraborty, Pratap Kumar Mohanty, R. Naresh Kumar, (2016), Coupled sequencing batch reactor (SBR) and electro-coagulation process for co-treatment of landfill leachate and municipal wastewater. *Proceedings of the All India seminar on Sustainable technology for Cleaner Environment*, February 13th -14th, 2016 organized by NIT Rourkela and Institution of Engineers, pages: 48.
4. Shubhrasekhar Chakraborty, Pratap Kumar Mohanty, R. Naresh Kumar, (2016), Co-treatment of landfill leachate and municipal wastewater by combined sequencing batch reactor (SBR) and electro-coagulation process, *Proceedings of International Conference on Waste Management*, April 1st-2nd, 2016 organized by IIT Guwahati, pages: 125-126.
5. Shubhrasekhar Chakraborty, Dewanshu Kumar, Gopal Pathak and R. Naresh Kumar, (2017), Can sequencing batch reactor (SBR) be effective for N and P removal from municipal wastewater?, *Proceedings of National Conference on Construction Management, Mechanization & Environmental Sustainability*, February 21st and 22nd, 2017 organized by BIT Mesra, Ranchi. *Construction Management, Mechanization and Environmental Sustainability*, page 76, Editors: Kirti Avishek, Mani Mohan, Gopal Pathak, ISBN - 978-93-86210-85-2, Year 2017.
6. Mohini Verma, Shubhrasekhar Chakraborty, Shweta Kumari, Aalok Gupta, Dewanshu Kumar, Jawed Iqbal & R. Naresh Kumar (2021), “Granular activated carbon-sequencing batch reactor (SBR) for co-treatment of old landfill leachate and municipal wastewater”, *Proceedings of International Conference on Advances in Sustainable Research for Energy and Environmental Management (ASREEM-2021)* organized by Department of Chemical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat (India) on August 06 – 08, 2021.

7. Shubhreshkar Chakraborty, RiddhiAnand, Rohit Kumar Mahto (2024). “Assessing the efficacy of Sequencing Batch Reactor (SBR) for nitrogen and phosphorous removal from municipal waste water”, Proceedings of DBT & CSIR sponsored international conference on Environmental Microbiology and Regulatory Aspects, organized by Department of microbiology, Atmiya University, Rajkot, Gujrat, India on 23rd and 24th February, 2024.

Project, Trainings, Workshop and Seminars

1. Participated and presented a research paper entitled “*Isolation and Screening of Biosurfactant producing marine actinobacteria*” in 2nd international SET Conference in April 20th -21st, 2011 organized by VIT University.
2. Attended and participated in an exhibition in the National Conference On Windows of Chemistry-I held on February 7th – 9th, 2008 organized by BankuraSammilani College (Burdwan University).
3. Attended, participated and got 3rd position in a seminar and state level poster competition on Recent Advancement of Biological Sciences & 1st Annual Convention of the Biotech Research Society of India held on March 6th, 2010 organized by Vidyasagar University.
4. Attended international symposium on environmental exposure to mutagens and carcinogens on human health and the conference on “*Environmental Mutagens*” organized by Environmental Mutagen Society of India (EMSI) in February 4-6th, 2011 in VIT University.
5. Participated in the Annual Exhibitions (2007, 2008) of Microbiology department held on September 2008 and November 2007 organized by Bankurasammilani college (Burdwan University).
6. Completed successfully the basics six month programme “vidya”course on computer learning from Aptech computer education in 2005.
7. Participated and presented a research paper entitled “*Characterization, Optimization and Application of Biosurfactant Produced by Marine Actinobacteria*” in 3rd international SET Conference in November 18th -19th, 2011 organized by VIT University.
8. Completed successfully a short term training programme on Analytical Instrumentation in AAS, HPLC, GC, FTIR and UV-VIS Spectrophotometer from VIT-TBI(Technology Business Incubator) sponsored by DST, New Delhi.
9. Have done a six month (Dec-May 2012) research project entitled “Construction of a Reporter System Suitable for Cell Based HIF Activity Assay” from BOSE INSTITUTE, Kolkata.
10. Participated and presented a research paper entitled “Assessing the feasibility of co-treatment of landfill leachate and municipal wastewater in sequencing batch reactor (SBR).” in *International Conference on Sustainable Energy and Built Environment* in March 12th -13th, 2015 organized by VIT University.
11. Work as Teaching Assistant in two week ISTE STTP on Environmental Studies conducted by IIT Bombay (under MHRD National mission of education scheme) from 02nd June-12th June, 2015.
12. Participated and presented a research paper entitled “Coupled sequencing batch reactor (SBR) and electro-coagulation process for co-treatment of landfill leachate and municipal wastewater.” in *All*

India seminar on Sustainable technology for Cleaner Environment in February 13th -14th, 2016 organized by NIT Rourkela and Institution of Engineers.

13. Participated in National Seminar on Recent Advances in Civil and Environmental Engineering (RACEE 2016), held on February 25th- 26th, 2016 organized by Department of Civil and Environmental Engineering, BIT Mesra, Ranchi.
14. Participated and presented a research paper entitled “Co-treatment of landfill leachate and municipal wastewater by combined sequencing batch reactor (SBR) and electro-coagulation process.” in *International Conference on Waste Management*, April 1st-2nd, 2016 organized by IIT Guwahati.
15. Participated and presented a research paper entitled “Can sequencing batch reactor (SBR) be effective for N and P removal from municipal wastewater?” in *National Conference on Construction Management, Mechanization & Environmental Sustainability*, February 21st and 22nd, 2017 organized by BIT Mesra, Ranchi.

Book Chapters

Sl. No.	Name of the teacher	Title of the book published	Title of the chapters published	Year of publication	ISBN number	Whether at the time of publication on Affiliating Institution was same Yes/No	Name of the publisher
1	Dr. ShubhraSekhar Chakraborty	Microbiology & Plant Pathology	Chapter 2: Microscopy – Light, phase contrast, electron, scanning and transmission electron microscopy, staining techniques for light microscopy, sample	2023	978-93-94870-95-6	Yes	Opus Publisher & Distributors, Delhi

			preparation for electron microscopy.				
2	Dr. ShubhraSekharChakraborty	Microbiology & Plant Pathology	Chapter 12: Defense Mechanism with Special Reference To Phytoalexin, Resistance-Systemic, Acquired And Reduced Systemic, Fungicides, Bordeaux Mixture, Lime Sulfur, Tobacco Decoction, Neem Cake And Oil	2023	978-93-94870-95-6	Yes	Opus Publisher & Distributors, Delhi
3	Dr. ShubhraSekhar Chakraborty	Microbiology & Plant Pathology	Chapter 15: Disease Management: Quarantine, Chemical, Biological, Integrated Pest Disease Management	2023	978-93-94870-95-6	Yes	Opus Publisher & Distributors, Delhi
4	Dr. ShubhraSekhar Chakraborty	Biochemistry and Physiology	Chapter 13 – Structure Of Neuron	2023	978-93-94870-35-2	Yes	Opus Publisher & Distributors, Delhi

5	Dr. ShubhraSekhar Chakraborty	Archegoniate s& Plant Architecture	Chapter 15: Fertilization, Structure of Dicot and Monocot Embryo, Endosperm, Doublefertilization, Apomixis and Polyembryony.	2023	978-93-94870-70-3	Yes	Opus Publisher & Distributors, Delhi
6	Dr. ShubhraSekhar Chakraborty	Flowering Plants Identification & Aesthetic Characteristics	Chapter 10 Cladistics (Monophyletic, Polyphyletic And Paraphyletic Groups; Plesiomorphy And Apomorphy)	2023	978-93-94870-65-9	Yes	Opus Publisher & Distributors, Delhi

Sequence submitted in NCBI

Gene Bank Accession No:	Name of the nucleotide:	Species name:
JN656214	16SrRNA partial	<i>Streptomyces VITSSB</i>
KU647674	16SrRNA partial	<i>Klebsiella SSNKBIT</i>

Awards & Achievements:

1. I have received “NIER’s HALL OF FAME AWARD-2021” for best teacher in Agriculture by NIER, India.
2. I have awarded with “BEST PAPER” award in *International Conference on Sustainable Energy and Built Environment* for presenting a research paper entitled “Assessing the feasibility of co-treatment of landfill leachate and municipal wastewater in sequencing batch reactor (SBR)” (VIT Vellore).
3. I have awarded with “BEST PAPER” award in *International Conference on Waste Management* for presenting a research paper entitled “Co-treatment of landfill leachate and municipal wastewater by combined sequencing batch reactor (SBR) and electro-coagulation process” (IIT Guwahati).

4. I have awarded with “BEST PAPER” award in *National Conference on Construction Management, Mechanization & Environmental Sustainability* for presenting a research paper entitled “Can sequencing batch reactor (SBR) be effective for N and P removal from municipal wastewater?” (BIT Mesra, Ranchi).
5. Life member of The Association of microbiologists of India [AMI] (membership no: 3901-2014).
6. Member of the advisory committee of a yearly journal “Bankurakheyali” (ISSN: 2348-389X) deals with historical literature of 3 districts of West-Bengal.

Seed Money Project

S.No	Name of the faculty recipient of Seed Money	Proposal Date DD-MM-YYYY	Date of grant DD-MM-YYYY	Amount granted (INR in Lakhs)	Title	Department	Duration
1	Dr. Shubra Sekhar Chakraborty	12.08.2019	25.09.2019	1.22	Estimation of heavy metals in soil extracts and crops grown near Municipal Solid Waste (MSW) dumped sites of Ranchi and other industrial sites of Ranchi; and Health Risk Assessment of Heavy Metals in Soil and Vegetables	Faculty of Agriculture	1 year
2	Dr. Shubhra Sekhar Chakraborty	01.09.2020	05.10.2020	1.23	Assessment of the effectiveness of waste organic materials as promising substitute to sewage sludge for the treatment of acid mine	Faculty of Agriculture	1 year

					water		
3	Dr. ShubhraSekhar Chakraborty	18.10.2021	22.11.2021	1.29	Innovative Agri. Tech Solutions for Small Farms: A Seed Funding Initiative	Faculty of Agriculture	10 months
4	Dr. ShubhraShekhar Chakraborty	20.09.2022	01.11.2022	1.25	Heritability, Correlation and genetic divergence studies in Okra	Faculty of Agriculture	1 year

Consultancy Project

S.N.	Name of the faculty consultant or trainer	Organization to which consultancy or corporate training provided	Invoice raised Date/Payment of consultancy date	Amount generated in INR	Project Title	Consultancy / Training	Department
1	Dr. ShubhraSekhar Chakraborty	Venture Highway LLP	12.03.2022	250,000	Agricultural skilling of famers	Consultancy	Faculty of Agriculture
2	Dr. ShubhraSekhar Chakraborty	Techmark Engineers & Consultants	28.03.2022	300,000	Farmer centric watershed management	Consultancy	Faculty of Agriculture
3	Dr. ShubhraSekhar Chakraborty	Himalayan Education Services Private Limited	31.03.2023	155,000	"Innovative Crop Science Workshops for Student Engagement"	Consultancy	Faculty of Agriculture

E-Content

Sl No	Name of the Faculty	Name of the module developed	Platform on Which module is developed
1	Dr S S Chakraborty	Function of Chromosome	Institutional LMS (Digicampus)
2	Dr S S Chakraborty	The phenomenon of Cell division	Institutional LMS (Digicampus)
3	Dr S S Chakraborty	Architecture of chromosome	Institutional LMS (Digicampus)
4	Dr S S Chakraborty	Probability of making a gamete	Institutional LMS (Digicampus)
5	Dr S S Chakraborty	Mitosis: The recreation of Autosomal Cell	Institutional LMS (Digicampus)

Professional Events & Activities

1. Conducted National Webinar on “Sericulture for the Economical Up-liftment of the Rural Populace of Jharkhand “26-27 July 2021 as co-coordinator
2. Organized Science day celebration for 2020, 2021, 2022 and 2024.
3. Organized Education trip to several ICAR institutes in Bhubaneswar for B.Sc. Hons. Agriculture students from 1-10 may 2022.
4. Organized several CSR activities through NSS and UBA program.
5. Member of core organizing committee of Annual fest and convocation.

Administrative Responsibilities (Department Level)

1. Placement coordinator of the department.
2. Member of timetable preparation & faculty load distribution committee.
3. Member of departmental purchase committee
4. Member, Ordinance Preparation & Revision Committee, MSc Programme
5. Member, Course Revision Committee, BSc & MSc program
6. Member of board of Academic Studies.

Administrative Responsibilities (Institutional Level)

1. Coordinator of NAAC criteria I
2. NSS program Officer: Unit 1
3. Member of Library Advisory Committee
4. Member of university horticultural committee and took part in initial beautification of the campus.
5. Member of hostel committee.
6. Established and started vermicompost unit in the university premises.
7. Member of UBA cell of the University.
8. Doctoral committee member of Mrs Suman Kumari Sinha, Department of Mathematics.
9. Member of Research & Innovation Cell, UMU, Ranchi
10. Editorial Committee member of University E-Newsletter.

11. Member of Sports committee, UMU, Ranchi.

Subjects Handled till date

1. Introductory Biology
2. Agricultural Heritage
3. Fundamentals of Genetics
4. Fundamentals of Entomology
5. Agriculture Microbiology
6. Environmental Science and disaster Management
7. Livestock and Poultry Management
8. Renewable energy and green technology
9. Food Safety and standards
10. Post Harvest management of fruits, vegetables and spices.
11. Environmental Microbiology.
12. Molecular Microbiology
13. Analytical Techniques
14. Food microbiology
15. Soil and water testing: ELP module
16. Agricultural waste management: ELP module

Personal Profile:

Name : Dr ShubhraSekhar Chakraborty
Father's Name : Dr. GirindraSekhar Chakraborty
Mother's Name : Smt. Nivedita Chakraborty
Date of Birth : 02-03-1990
Gender : Male
Marital Status : Married
Religion : Hindu
Mother Tongue : Bengali
Languages Known : Bengali, English and Hindi
Address : 162 B, kuchkuchia road
Po+dist- Bankura, Bankura: 722101
West-Bengal.

Declaration:

I do hereby declare that the information furnished above is true to the best of my knowledge and belief.

Shubha Sekhar Chakraborty

Date: 17-01-2024

Place: Ranchi

(SHUBHRA SEKHAR CHAKRABORTY)