

## Biodata



**Name:** Dr. Nishant A. Dafale  
Ph.D., M. Sc. (Microbiology)

**Designation:** Principal Scientist & AcSIR faculty  
Environmental Bioprocess (Sub-Vertical),  
CSIR-National Environmental Engineering Research Institute (CSIR-  
NEERI), Nagpur 440020, (India)

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**Area of Expertise:** Microbiology, Biotechnology and Microbial Genomics

**Education** (Post Graduation onwards)

1. **Ph.D.** in Microbiology from RTM Nagpur University, Nagpur. (Place of work: CSIR-NEERI, Nagpur).
2. **M.Sc.** in Microbiology (First Division) from P.G. Dept. of Microbiology, L.I.T. premises, RTM Nagpur University, Nagpur

**Professional career:**

S. No.	Position and Organization	Period
1	Principal Scientist, EBGD, CSIR-NEERI, Nagpur	Dec 2021 to till date
2	Senior Scientist in the <i>EBGD</i> at CSIR-NEERI, Nagpur	Dec 2017 to 2021
3	Scientist in the <i>Environmental Genomic Division</i> at CSIR-NEERI, Nagpur	Dec 2013 to 2017
4	Senior Scientific Officer in Indian Pharmacopoeia Commission (IPC), Ministry of Health and Family Welfare, Govt. of India, Ghaziabad	Sept 2009 to Dec. 2013
	CSIR-SRF and Project Fellow at the CSIR-NEERI, Nagpur	Sept 2002 to Sept 09
6	Dinshaw's Dairy Food Ltd., Nagpur	June 2001 to Aug 02

**Awards:**

- ◆ Awarded **CSIR-Senior Research Fellow (SRF)** by **Council for Scientific and Industrial Research (CSIR)**, New Delhi in 2008.
- ◆ Awarded **Junior Project Fellow (JPF)** by **CSIR-National Environmental Engineering Research Institute**, Nagpur in 2002.

**NABL Assessor:**

- Emplaned as Lead and Technical assessor by Quality Council of India (QCI), NABL, New Delhi. I have been involved in assessment/recommendation of more than 100 govt./private laboratory for NABL (ISO/ISE 17025:2017) accreditation all over India Since 2015.

**Deputation to three different EU Universities under Indo-EU project:**

- University of Cyprus, **Cyprus** from Feb 2-8, 2020; Institute of Technology, Sligo, **Ireland** from Feb 9-11, 2020; & Ulster University, **Belfast, UK**, from Feb 12-15, 2020

**Ph. D Supervisor: (Awarded: 2; Thesis Submitted 3; & 2 pursuing)**

(2: DST Inspire fellow; 1: CSIR-SRF; 2: CSIR/UGC-SRF, 2: DBT-Project-JRF)

**Master's Thesis:** Guided **16 students** from various Universities for their project work (Master's dissertation)

**Recognized Ph. D supervisor:** 1) Microbiology, **RTM Nagpur University, Nagpur**,  
2) Microbiology & Biotechnology, **North Maharashtra University, Jalgaon** and  
3) Interdisciplinary, Academy of Scientific & Innovative Research (**AcSIR**), Ghaziabad at NEERI-Nagpur.

**Recent Few Research Projects:**

□ **Research Projects Ongoing: 5 Completed: 11**

S No	Project Title	Sponsor	Amount	Period
1.	Prospecting rumen culture bank for novel Lytic Polysaccharide Monooxygenase for efficient deconstruction of agriculture waste residue	DBT (Project Leader)	Rs.54.00 lakhs	Sept 2023 to Sept 2026
2.	Functional Metagenomics of Camel Rumen Microbiome For Novel Key Glycoside Hydrolases (GH) to Benefit Animal Nutrition and Biofuels	DBT (Project Leader)	Rs. 31.00 lakhs	July 2017 to Jan 2021
3.	ResPharm: Resolving the fate and studying the impact of pharmaceutical wastes on the environment and local community of a pharmaceutical manufacturing hub	Indo-UK (DBT-NERC) (Project Leader)	Rs.86.00 lakhs	Jan. 2021 to Jan 2024
4.	Photo-irradiation and Adsorption based Novel Innovations for Water-treatment: PANI-WATER (Indo-EU)	Indo-EU (DST-EU) (Co-PI)	Rs. 156.99 lakhs	March 2019 to March 2024
5.	Engineered Bioremediation Approaches for Onsite Treatment of Soil Contaminated with Crude Oil	DBT (Co-PI)	Rs. 262.55 lakhs	March 2019 to March 2024
6.	Assessing influence of open and closed drain systems on ecosystem	CSIR (Project Leader)	Rs. 161.00 lakhs	March 2020 to March 2023
7.	GIS-based mapping of microbial diversity across the Ganga for ecosystem services	NMCG (Co-PI)	Rs. 300.00 lakhs	March 2020 to March 2024
8.	Microbial Diversity of Human Gut	ITC, Bangalore (Co-PI)	Rs. 307.00 lakhs	April 2014 to Dec. 2021
9.	Evaluation of bacteriophage cocktail as a biocontrol for pathogens	CSIR (Project Leader)	Rs. 30.00 lakhs	January 2015 to March 2017

✓ **No. of Publications in SCI journals** (in numerical):

**Total Number of SCI journal Publications: 62**

▪ As corresponding Author: 52 As first Author: 14

✓ **Google Scholar** : Google Scholar citations: 1800 and h-index: 22

<https://scholar.google.com/citations?user=UOefZaoAAAAJ&hl=en>

✓ **Book Chapters:** 9 As corresponding Author: 7

✓ **Gene Bank submission:** Metagenome: 27, WGS: 44, 16srDNA: ~200

✓ **Papers Presented in International/National Conferences:** 22 Nos.

- ✓ **Indian Pharmacopoeia (IP) 2010, 2014 and IP Addendum 2012:-** Significant contribution in IP, a legal book per Drugs and Cosmetics Act 1940 and Rules 1945 for specifying the standards of medicines produced and/or marketed in India.

**Committee member:**

- Microbiology subject expert for curriculum development and modification at Laxminarayan Innovation Technological (LIT) University, Nagpur (2024- till date)
- Member of board of study in Microbiology at RTM Nagpur University (2022-2023).
- Doctoral Advisor Committee (DAC) member for 5 AcSIR Ph.D. students
- Member of theory and practical examination and moderation for master's degree at RTM Nagpur University, Nagpur.
- External examiner for Ph.D. thesis evaluation by various Universities.
- Lifetime member of Indian Science Congress Association, Kolkata, from 2023
- Member of Royal Society of Chemistry (RSC), UK July 2013 to 2015
- Organizing member of international conference "PANIWATER" held at Goa.

**Recent 10 SCI publications:** \*Corresponding author

1. S Bombaywala, A Bajaj, **NA Dafale\*** (2024) Deterministic effect of oxygen level variation on shaping antibiotic resistome. *J. of Hazardous Materials*, 465, 133047; **IF:14.2**
2. S Srivastava, **NA Dafale\*** (2024) Tailored microbial consortium producing hydrolytic enzyme cocktail for maximum saccharification of wheat straw. *Bioresource Technology*, 399, 130560; **IF: 11.1**
3. S Bombaywala, A Bajaj, **NA Dafale\*** (2024) Oxygen mediated mobilization and co-occurrence of antibiotic resistance in lab-scale bioreactor using metagenomic binning. *World J. of Microbiology & Biotechnology*, 40 (5), 1-13; **IF. 4.1**
4. S Srivastava, **NA Dafale\***, HJ Purohit (2020) Functional genomics assessment of lytic polysaccharide mono-oxygenase with glycoside hydrolases in *Paenibacillus dendritiformis* CRN18. *Inter. J. of Biological Macromolecules*. 164, 3729-3738; **IF: 8.02.**
5. RS Bhende, S Bombaywala, **NA Dafale\*** (2023) Unleashing potential of *Pseudomonas aeruginosa* RNC3 and *Stenotrophomonas maltophilia* RNC7 for chlorpyrifos biodegradation by genome analysis and kinetic studies. *Journal of Hazardous Materials*, 132668; **IF: 14.2**
6. S Srivastava, U Jhariya, HJ Purohit, **NA Dafale\*** (2021) Synergistic action of lytic polysaccharide monooxygenase with glycoside hydrolase for lignocellulosic waste valorization: a review. *Biomass Conversion and Biorefinery*. 1-19; **IF: 4.10.**
7. V Bohra, H Tikariha, HJ Purohit, **NA Dafale\*** (2022) Unique pool of carbohydrate-degrading enzymes in novel bacteria assembled from cow and buffalo rumen metagenomes. *Applied Microbiology & Biotechnology*, 106(12), 4643-4654; **IF: 5.56.**
8. V Jha, S Bombaywala, H Purohit, **NA Dafale\*** (2022) Differential colonization and functioning of microbial community in response to phosphate levels. *Journal of Environmental Management*, 321, 115856; **IF: 8.91.**
9. V Jha, **NA Dafale\***, Z Hathi, H Purohit (2021) Genomic and functional potential of the immobilized microbial consortium MCSt-1 for wastewater treatment. *Science of the Total Environment*, 777, 146110; **IF:10.75**
10. U Jhariya, **NA Dafale\***, S Srivastava, R Bhende, A Kapley, H Purohit (2021) Understanding Ethanol Tolerance Mechanism in *Saccharomyces cerevisiae* to Enhance the Bioethanol Production: Current and Future Prospects. *BioEnergy Research*, 14, 670-688; **IF: 3.85.**