

CV Dr. TUSHAR DASH

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Educational qualifications

- PhD (Biotechnology and Biochemical engineering), IIT Delhi, 2019.
- M. Tech. (Industrial Biotechnology), NITK Surathkal, (CGPA 8.42), 2010.
- B. Tech. Biotechnology, IASE University, Sardarsahr, Rajasthan (83%), 2007.

Educational accomplishments

- Qualified Graduate Aptitude Test (GATE), 2010 (Biotech) with 97.9 percentile.
- Qualified Agricultural Research Services (ARS) NET, 2016.

Extra curricular achievements:-

- Won many prizes in essay and debate competitions
- Participated in many scout camps ,camporee and jamboree
- Stood first in interschool Quiz competition organized by rotary club, Bhubaneswar
- Stood first in interschool art competition organized by lalit kala academy
- Passed graduation in Hindustani classical music from Akhil gandharva maha vidyalaya, Chandigarh

Areas of Interest

- Bioprocess Engineering
- Fermentation Technology
- Environmental Biotechnology
- Downstream Processing
- Molecular Biology
- Biochemistry
- Enzyme Technology
- Biotransformation
- Biocatalysis

Trainings

- World Intellectual Property Organisation (WIPO) courses on IPR, 2019.
- Training on Hydroponics, Delhi Govt, 2022
- Hands on training on Downstream Processing for Biopharmaceuticals, DBT, 2022
- Training on Biomethanation for harnessing the potential of organic waste, CES, New Delhi, 2023
- Training on Dumpsite Remediation and Landfill Management, CES, New Delhi, 2023.
- Theme workshop on Emerging Trends of Environmental Biotechnology (TEQIP Sponsored), N.I.T.K. Surathkal, 12-14 th January 2009
- Short term training program on industrial biotechnology (AICTE-MHRD sponsored), N.I.T.K. Surathkal, 25th July – 2nd August 2008
- Hands On Training in Bioinformatics Tools and its Application in Aquaculture Conducted by C.I.F.A., Kaushalyaganga, Bhubaneswar 7th March-9th March 2008.
- Underwent training on different molecular biology tools in plant biotech laboratory at Institute Of Life Sciences, Bhubaneswar 30th November – 14th December 2007.

Publications

- Synthesis of Industrially relevant organic acids by use of microbial whole cells and cross linked enzyme aggregates. Tushar Dash, Pushpalata tripathi, Sujata Sinha. Advances in Biology. Volume 3, 181-195, 2023, Nova Science publishing.
- Biotransformation of Some Important Amides by Permeabilized Cells of *Delftia acidovorans*. Tushar Dash, Munishwar Nath Gupta and Prashant Mishra (Under Proof reading).
- Crosslinked enzyme aggregates of an amidase from *Delftia acidovorans*. Tushar Dash, Munishwar Nath Gupta and Prashant Mishra (Under Proofreading).
- Engineering Phytoremediation Potentiality of Plants through Hyperaccumulation in plant biomass wrt As and Cr. BK Sarangi, Tushar Dash, RA Pandey, The Journal of Plant Science Research 26 (2), 113-143, 2010.

Conferences and Symposiums

- Biotransformation of amides to industrially relevant carboxylic acids using whole cells of *Delftia acidovorans*. Tushar Dash, M.N. Gupta and Prashant Mishra, 18th Tetrahedron Symposium 2017, Budapest, Hungary, 27-30 June, 2017.
- Symposium conducted by IIT Kanpur on IPR Management and practices, 28th February – 1st March, 2008.
- BIOHORIZON-2004 conducted by D.B.E.B. , IIT Delhi , 11th march- 14th march 2004
- “Biotechnology and its effects in climate control - a symposium organized by O.U.A.T. Bhubaneswar , 2nd august - 8th august 2003

Research experience

- PhD thesis: Biotransformation of amides using *Delftia acidovorans* whole cells and cross linked enzyme aggregates (CLEA). Indian Institute of Technology Delhi, India, 2012-2019.

During this tenure the following experiments were carried out in detail:-

- ✓ Permeabilization of the cells using different organic solvents at different concentrations.
- ✓ Immobilization of the whole cells with different agents.
- ✓ Biotransformation studies using different amide substrates and the permeabilized whole cells and immobilized whole cells.
- ✓ Formation of Amidase CLEAS at different glutaraldehyde concentrations.
- ✓ Optimisation studies of different parameters like thermal stability, operational stability etc.
- ✓ Biotransformation studies using different amide substrates and the amidase CLEAs.
- ✓ Formation of CLEAs using organic solvents and studying biotransformation of the different amides.
- ✓ Microscopic examination using FESEM of the CLEAs and the Permeabilized whole cells
- ✓ Easy and energy efficient Microwave based extraction of Amidase from microbes.

- M. Tech. thesis: Phytoremediation of arsenic by *Pteris Vittata* and identification of its molecular signatures. NEERI, Nagpur, 2010.
- B. Tech. thesis: Assessment of genetic diversity among cultivated and wild taxa of *Zingiberaceae* by the use of molecular markers RAPD and ISSR. Regional Plant Resource Centre, Bhubaneswar, 2007.
- Summer Research Fellow, Indian Academy of Sciences (2 month internship): Characterization studies of some bioleaching microbes. Dept. of Materials Engineering, Indian Institute of Sciences, Bangalore, 2009.

Professional experience

- Working as Project Associate-Level-II, R&D Infrastructure Division, Department of Science and Technology, August 2023- Till Date .
- SURFACE SOLUTIONS, Biotech Consultant Head, July 2021-April 2023 Development of new technologies for assisting quick and low cost reclamation of degraded land and industrial dump site.
- KICO, Biology Subject Matter Expert, Head, Feb 2018 – June 2021. Subject related content creation and supervision, Doubt clearance etc..
- Dayananda Sagar College of Engineering, Bengaluru. Lecturer (Biotech.), 2010 to 2011. Guided an undergraduate project ‘Antimicrobial properties of leaves of different medicinal plants on the microbial sample isolated from teeth scrapings of patients.
- Worked as a guest faculty for GATE biotech preparation under TEQIP-III at Bundelkhand University, BITS Mesra , Gauhati University.

Professional know how

- Molecular Biology Tools; Microbiology Tools (plating and microbial characterization); Biochemistry (diverse biochemical tests); Tissue culture (plants and animals); Immunology (diverse immunoassays); and Bioinformatics Tools.

Positions of responsibility

- **Convener** - students committee of IASE university
- **Co-ordinator** -of many symposia and workshops conducted by department of biotechnology , IASE university
- **Class representative**- of Mtech IB, dept of chemical engineering, NITK SURATHKAL
- **AICTE Coordinator** of the Dept of Biotech at DSCE , BANGALORE for 1.5 years
- **SEMINAR coordinator** of the Dept of Biotech at DSCE , BANGALORE for 1.5 years

Personal skills

- Working knowledge of MS OFFICE (MS Word, PowerPoint, Excel).
- Optimistic
- Ambitious
- Reliable and Diligent with Strong Listening Skills.
- Willingness to learn
- Perseverant

References

- PROF. MUNISHWAR NATH GUPTA
Former Professor and head, Department of Chemistry
IIT Delhi, New Delhi -110016
Email id:- mn7gupta@gmail.com

- DR G.S. JAGANNATH RAO
Professor and head, Department of Biotechnology
Dayanand sagar college of engineering, bangalore -078
Email id: - raogsj@yahoo.com

- DR NISHITA ISLOOR
Lecturer , Department of chemical engineering NITK Surathkal
Email id: - isloorn@gmail.com

- DR B.K. SARANGI
Scientist–E (IV), Environmental Biotechnology Division,
National Environmental Engineering Institute (NEERI),
CSIR Nagpur , nehru marg , maharashtra -440020
Email id: - bk_sarangi@neeri.res.in

I do hereby declare the above details furnished by me is true to the best of my knowledge.

Date-

