

Dr. SUBHASISH DUTTA



Present Address

Postdoctoral Research Fellow
Chemical Engg. Division, CIAB Mohali
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Permanent Address

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PERSONAL INFORMATION

Date of Birth : August 26, 1988
Father's Name : Mr. Pradip Kumar Dutta
Nationality : Indian.
Languages known : English, Bengali, Hindi.

ACADEMIC QUALIFICATIONS

Exam Passed	Board/Council	Year of Passing	% of Marks/CGPA
a) Secondary	W.B.B.S.E	2005	84.5
b) Higher Secondary	W.B.C.H.S.E	2007	76
c) B. Tech (Biotechnology)	WBUT, Kolkata	2011	8.49
d) M.Tech (Biotechnology)	NIT Durgapur	2013	8.12
e) PhD (Biotechnology)	NIT Durgapur	2018	N.A.

PROFESSIONAL ACHIEVEMENT

- Guest faculty at Bengal College of Engineering and Technology (BCET) Durgapur in the Department of Biotechnology (September 2016- December 2016)
- Assistant Professor (Grade A), Department of Biotechnology at Haldia Institute of Technology, Haldia. (28/08/2017-07/04/2021)

TRAINING

- Successfully completed summer training on “DNA fingerprinting of Orchids” at “National research centre for Orchids”, Pakyong, East Sikkim.

PROJECT WORK

- Successfully completed B.Tech project on “Monitoring the effect of Industrial pollution on plants”
- Successfully completed M.Tech project on “Studies on the kinetics of Rapamycin production by *Streptomyces hygroscopicus* MTCC 4003.”
- Six month project work on **Biohydrogen production** at Indian Institute of Technology (IIT), Kharagpur.
- Research Intern at Indian Institute of Technology (IIT), Delhi.

CONFERENCE/SEMINAR / WORKSHOP/ SHORT TERM COURSE

1. Attended one day seminar on “**Innovative Alleviations and Potential Explorations in Cancer**” organized by School of Biotechnology and Life sciences, Haldia Institute of Technology, 2009.
2. Attended National Seminar on “**Recent Advances in Biotechnology**” organized by CSIR-Indian Institute of Chemical Biology, Kolkata, 2015.
3. Attended TEQIP-II Short term course on “**The Energy and Environmental Sustainability**” organized by Department of Biotechnology, NIT Durgapur, 2015.
4. Attended 7 day workshop on “**Problem Solving Skills in Bioprocess Engineering**” organized by Department of Biotechnology, Indian Institute of Technology, Madras, 2015.
5. Oral presentation on paper entitled “Studies on Kinetics and strategies for enhanced production of Rapamycin Using *Streptomyces hygroscopicus* MTCC 4003” at **International conference on Recent advances in Chemical and Biochemical engineering**, organized by Department of Chemical engineering, NIT Durgapur, October 2-4th 2015.
6. Oral presentation on paper entitled “Studies on the effect of agitation and aeration for the improved protease production by *Bacillus licheniformis* NCIM-2042” at **International Conference on Advanced Bioprocess engineering and technology**, HIT Kolkata, 20-22nd January, 2015.

7. Poster presentation on paper entitled “Approaches for the improved production of Rapamycin by *Streptomyces hygroscopicus* MTCC-4003” at **International Conference on Advanced Bioprocess engineering and technology**, HIT Kolkata, 20-22nd January, 2015.
8. Poster presentation on paper entitled “Improved protease production by batch fermentation using *Bacillus licheniformis* NCIM-2042: Optimization of agitation and aeration regime. **Bioprocessing India 2015**, 17-19 December, 2015
9. Attended TEQIP-II Short term course on **Current advances in Bioprocess Technology**, organized by Department of Biotechnology, July 20-24, 2016 at NIT Durgapur.
10. Oral presentation at **2nd World congress and exhibition on Antibiotics and Antibiotics Resistance**, during October 13-16, 2016 at Manchester, UK on the topic entitled “Strategies for improved production of Rapamycin using sequential UV mutagenesis by *Streptomyces ghanaensis* MTCC 4003
11. Attended short term course on “**Recent trends in Industrial Biotechnology**” at Department of Biotechnology, NIT Durgapur during 14th – 18th November, 2016.
12. Poster presentation on the topic entitled “Optimization of process parameters for enhanced Rapamycin production by mutant strain of *Streptomyces ghanaensis* (MTCC-4003) via Taguchi methodology” at **CHEMCON 2016, 27-30th Dec, 2016**.
13. Oral presentation on the topic entitled “Biodegradation of 4-chlorophenol in a pack-bed column reactor using *Candida tropicalis* PHB 5 immobilized on sugarcane bagasse particle”, **CHEMCON 2016, 27-30th Dec, 2016**.
14. Attended 3 days’ workshop on “**Design and Analysis of Industrial Experiments**” at Dept. of Mechanical Engineering 13-15th February, 2017.
15. Oral presentation on paper entitled “**Comparative kinetic analysis towards enhanced production of Rapamycin**” in International seminar on Recent Advances in Molecules and Materials (RA2M) on 2-3rd August 2018 at Haldia Institute of Technology, Haldia.
16. Oral presentation on the topic entitled “**Approaches towards the enhanced production of Rapamycin by combined mutational study**”, at CHEMCON-2018, 27-30th December, 2018.
17. Poster presentation on the topics entitled “**Antibiotics: Its Resistance and Emergence**”, “**Enhanced Production of Rapamycin by Combined Mutational Study**” and “**Biosentinel - A Cubesat to Study DNA Damage**” at NHBT-2019, Organized by Dept. of Biotechnology, HIT Haldia, September 21st, 2019.

ACHIEVEMENTS

1. Qualified **GATE (BT)** securing All India Rank **200** in the year 2010 (**98.89** percentile).
2. Qualified **CSIR SRF** December 2013. (CSIR AWARD No: 09/973(0012)/2014/EMR- I).
3. **Life Associate member** of Indian Institute of Chemical Engineers (**IChE-LAM 60995**)
4. Annual member of **Shikshakkalyan Foundation (SKF-274)**
5. Recipient of Senior **Group Champion** award in school athletics sports meet.
6. **Top performing mentor award** for mentoring students for the online NPTEL course on Bioreactor, Industrial Biotechnology and Enhancing Soft Skills and Personality.
7. Delivered a lecture as an **Eminent speaker** at e-FDP programme on “**Waste to Bioenergy**” organized by Sharda University and MIT Aurangabad, Mumbai on 02.07.2020.
8. Delivered a talk as an **Eminent speaker** in an webinar on “Potential prospects in B.Tech/M.Tech Biotechnology in the new Post-Covid Era” held on 30.8.2020, Organized by Dept. of Biotechnology, HIT, Haldia.
9. **CO-convenor** of International Conference **New Horizon in Biotechnology-(NHBT-2021)**, 19-20th April, 2021 at HIT, Haldia.

SUBJECTS OF INTEREST

- Bioprocess Engineering / Bioreactor Design and analysis / Thermodynamics and kinetics.
- Industrial Microbiology, Environmental Biotechnology.
- Fermentation technology

INSTRUMENT/SOFTWARE SKILLS

1. Bioreactor (NBS BIOFLO 110/BIOSTAT-A; Biocommand plus software)
2. HPLC (Waters; Empower 2 software), Mass Spectroscopy
3. Gas chromatography (Perkin elmer)
4. Bright field Microscopy (Biowizard software)
5. PCR (Applied biosystems)
6. GraphPad Prism, Qualitek-4, Design Expert, MATLAB (beginner) etc.

PUBLICATIONS

1. **Dutta, S.** and Dey, A. Rapamycin overproduction by combined mutational study. (**Current Biochemical Engineering, 2020, 6, pp 62-67**)
2. **Dutta, S.,** Bhunia, B., Raju, A., Maity, N. and Dey, A. Enhanced Rapamycin production through kinetics and purification study by mutant strain of *Streptomyces hygroscopicus* NTG-30-27 (**Chemical Papers 73(8) 2019, pp 2053-2063, doi: 10.1007/s11696-019-00767-0**)
3. **Dutta, S.,** Basak, B., Bhunia, B., Chakraborty, S and Dey, A. Kinetics of rapamycin production by *Streptomyces hygroscopicus* MTCC 4003 (**3 Biotech: 4&5, (2014) 523-531**)
4. **Dutta, S.,** Basak, B., Bhunia, B. and Dey, A. Bioprocess engineering aspects of Rapamycin (Sirolimus) production: A review on past achievements and recent perspectives (**Journal of Bioprocess Engineering and Biorefinery, 3(4), 2014, 1-14**)
5. **Dutta, S.,** Basak, B., Bhunia, B., Sinha, A. and Dey, A. Approaches towards the enhanced production of Rapamycin by *Streptomyces hygroscopicus* MTCC 4003 through mutagenesis and optimization of process parameters by Taguchi orthogonal array methodology (**World Journal of Microbiology and Biotechnology, (2017) 33:90**)
6. Basak, B., Bhunia, B., **Dutta, S.** and Dey, A. Enhanced biodegradation of 4-chlorophenol by *Candida tropicalis* PHB5 via optimization of physicochemical parameters using Taguchi Orthogonal Array approach (**International Biodeterioration & Biodegradation 78 (2013) 17-23**)
7. Basak, B., Bhunia, B., **Dutta, S.,** Chakraborty, S and Dey, A. Kinetics of phenol biodegradation at high concentration by a metabolically versatile isolated yeast *Candida tropicalis* PHB5 (**Environmental Science and Pollution Research, 2014, 21(2), 1444-54**)
8. Chakraborty, S Basak, B., **Dutta, S.,** Bhunia, B. and Dey A. Decolorization and biodegradation of congo red dye by a novel white rot fungus *Alternaria alternata* CMERI F6 (**Bioresource Technology 147 (2013) 662–666**)
9. Dey A, Bhunia B and **Dutta S,** Studies on the effect of agitation and aeration for the Improved protease production by *Bacillus licheniformis* NCIM-2042 (**Materials today, Elsevier, (3):2016, pp 3444-3449**)
10. Dey A and **Dutta S,** Strategies for improved production of Rapamycin using sequential UV mutagenesis study by *Streptomyces ghanaensis* MTCC 4003 (**Journal of Drug Metabolism & Toxicology, 2016, 7:3 (Suppl), pp 50**)

RESEARCH PROJECT

1. MODROB project approved by AICTE, 2019 (Subject expert and Technical advisor, Ongoing)
2. AICTE Research promotion scheme 2020-2021 (under Review).

Book Chapter

1. Holistic approaches for enhanced production of Prodigiosin- a natural biocolour (**Springer, Published**)
2. Bioprocess: Control, management and Biosafety issues (**Elsevier, accepted**)
3. Advanced low-cost treatment of nitrogen pollutants by anammox: an economic and technological perspective (**Elsevier, Accepted**)
4. Cyanoremediation: A clean and green approach towards the sustainable environment (**Elsevier, Accepted**)
5. Sustainable technology: foresight to green ecosystem (**Elsevier, Accepted**)
6. Bioelectricity harvesting from food waste using microbial fuel cell: recent advances (**Elsevier, Submitted**)
7. Microbial Fuel Cell amalgamated with other existing technologies for efficient power generation and simultaneous wastewater treatment (**CRC press, Submitted**)
8. Biohydrogen production from anaerobic sludge (**Elsevier, Accepted**)
9. An approach towards the biodegradation of PAHs by Microbial consortia (**Elsevier, Accepted**)
10. An approach towards developing clean green techniques to deal with heavy metal toxicity using the microbiome (**Elsevier, Accepted**)
11. Implementation of Progressive and Advanced Oxidation Techniques for the efficient treatment of cytotoxic effluents (**CRC Press, Accepted**)
12. Discovering unexplored microbial communities and decoding DNA sequence through metagenomics study (**Nova Science, USA, Accepted**)
13. A comparative study between physicochemical and biological methods for effective removal of textile dye from wastewater (**Elsevier, Accepted**)
14. Bioethanol production from marine algae a novel approach to curb global warming (**Springer, Accepted**)
15. A unique collaborative perspective on the utilisation of biochar in accelerated biodegradation of discharge from factories (**Springer, Accepted**)

PATENT Published

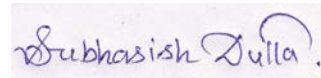
1. Sequential ultraviolet mediated mutagenesis for enhanced production of Rapamycin (Application no: 201631036780, dated March 2019)

HOBBIES

1. Playing football.
2. Computer games.

DECLARATION

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.



Subhasish Dulla.