CURRICULUM VITAE

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India.
Date Of Birth: 11th December, 1993

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Nationality: Indian

Profile Summary: Over 7 years of research experience related to sustainable energy, biomass conversion to biodiesel using different agricultural and municipal waste as substrates. Expertise in fungal biorefineries process optimization, mutagenesis and scale up to fermenter level so as to maximize the lignocellulose to bioenergy output in economically efficient manner. My academic and research experiences have furnished my microbiology and biotechnology theoretical, practical and analytical skills. Well balanced academic and extra-curricular records led me to bag the "best student of the year" award by the Department of Microbiology (2015-16). Continued inquisitiveness and zeal to learn new techniques helped me thrive during my research experience and I wish to flourish future, while significantly contributing in the filed of Biotechnology with new opportunities.

Educational Qualifications:

Degree/ Examination Passed	**Institution**	**Year of Passing**	**Percentage /CGPA**	**Class**
PhD Coursework in Biotechnology	National Centre of Cell Sciences, Savitribai Phule Pune University	2017	A Grade	PhD
CSIR- NET Lectureship	Joint CSIR-UGC NET	2016	92/1514 All India Rank	
Master of Science in Microbiology (MSc)	Abeda Inamadar Sr. College, Savitribai Phule Pune University	2016	74.55% CGPA- 5.450	MSC Microbiology 2nd Year
Bachelor of Science in Microbiology (BSc)	Abeda Inamadar Sr. College, Savitribai Phule Pune University	2014	72.25%	TY. BSC
Higher Secondary Certificate Examination (HSC)	Nowrosjee Wadia College	2011	52.50%	12th Science

Indian Certificate of Secondary Education Examination (ICSE Board)	St. Helena's School	2009	72.57%	10th class

RESEARCH EXPERIENCE:

A. POSITIONS HELD:

1. PhD Scholar – April 2018 to present

Project title- "Scale-up production of biodiesel using waste sugarcane bagasse as substrate" under the guidance of Senior Pof. Ameeta Ravikumar.

Techniques:

- Strategic Process optimization using Plackett Burman Design
- Biochemical characterization using Analytical HPLC, Gas Chromatography, Thermogravimetric analyser etc.
- Scale-up of the Fermentation process to 6.7 litre fermenter level.

2. Project Assistant at Institute of Bioinformatics and Biotechnology, Savitribai Phule Pune University and Pennsylvania State University (October 2016 - March 2019):

Technical Skills Developed:

- Chemical mutagenesis of fungal strain
- Screening of high lipid producing mutants
- Qualitative and quantitative analysis of carbohydrates, lipids and proteins.

Add on Laboratory experiences:

- Setting up a fully functional research laboratory.
- Purchase and ordering of chemicals required, billings and other official financial proceedings.
- Set up and maintenance of instruments required.

Academic Experience at IBB:

- 4 years of work and training experience with MTech and Biotechnology graduation students for their dissertation work and thesis purpose (2016-2020)
- Conducted lectures and Biochemistry laboratory practical for 1st year students (2018-2020).

B. **EQUIPMENTS HANDELED:**

Familiar with the use of following instruments and associated techniques such as Fermenter, HPLC, GC, PCR, Gradient PCR, Ultracentrifugation, UV/Vis Spectrophotometer, Lyophiliser, Rotary Evaporator, Gel Doc, Agarose Gel Electrophoresis and Microscopy techniques (Fluorescence, brightfield, phase contrast etc.)

C. COMPUTER SKILLS:

- Computer skills including MS office, Excel and exceptional power point presentation skills.
- Learning the basics of analysis and graphing software such as OriginLab Pro, Plotlab, R language and Python.
- Imaging Softwares: Image J, Fijji
- Basic Bioinformatics tools

D. EXTRA CURRICULAR ACTIVITIES:

1. Secured 3rd place in college level poster presentation in Zoology (2012).
2. Gene annotation workshop and hands on training at Microbial Culture Collection (MCC), NCCS, Pune (2015).
3. **Awarded best student of the year, Department of Microbiology (2015-16)**

4. PhD coursework at National Centre of Cell Sciences (NCCS), Pune (2018)
5. Seminar on "Omics approaches in Plant Science", Department of Botany, Savitribai Phule Pune University, September 2019.
6. Poster presentation and flash talk at International Conference of Yeast and Filamentous Fungi, University of Hyderabad (27-29th November, 2019).
7. Online workshop on "Bulk and Single Cell RNA Sequencing Analysis" (11 April - 20 April, 2022).
8. 2022 American Oil Chemists' Society (AOCS) Annual Meeting & Expo, 1-4th May, 2022.

COLLIGIATE EXPERIENCE:

A. RESEARCH EXPERIENCE:

1. I have worked under the project titled **"Study of Transposons in Sulfur-oxidizing bacteria"** at ISTRA (Interdisciplinary Science & Technology Research Academy), Abeda Inamadar Sr. College

Techniques:

- Successfully isolated chemolithotrophic bacteria from soil using a specialised nutrient media.
- Identified and characterised the organism by DNA extraction and 16sRNA analysis.

2. MSc dissertation project titled as **"Influence Of ACTN-3 Genotype On Power - Oriented Athletics"** at Abeda Inamadar Sr. College.

- DNA isolation from human blood.
- PCR amplification of DNA and restriction enzyme digestion was conducted for genotypic and phenotypic analysis of athletes and non- athletes.

B. TECHNICAL PROFICIENCY IN LAB:

1. MICROBIOLOGY:

- Skilled with the handling various routinely used analytical techniques in the laboratory such as U.V/Vis spectroscopy, HPLC, Gas chromatography.
- Well acquainted with sterilization procedures with sound knowledge of aseptic techniques.
- Isolation, identification and characterisation of various micro-organisms.
- Isolation of bacteriophage from sewage water.
- Growth Kinetics of Microbes.
- Antibiotics Sensitivity Test
- Protein purification and enzyme assay.
- Chemical mutagenesis of fungal strain

2. INDUSTRIAL MICROBIOLOGY (FOOD TECHNOLOGY):

- Estimation of proteins, carbohydrates, fats

3. MOLECULAR BIOLOGY:

- Isolation of DNA from bacterial, blood and saliva samples.
- DNA and RNA purity estimation.
- Restriction enzyme digestion of DNA.
- Amplification of Genomic DNA by PCR (polymerase chain reaction).
- Plasmid isolation from microbes.
- Bacterial transformation.

Declaration:

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

Rashmi Karamchand Bed

DATE:

SIGN: