Madhavi.Adusumilli | **10530015**
School of Biosciences & Bioengineering | **2 year M.Sc.**
Indian Institute of Technology, Bombay | **Female**
Specialization: M.Sc Biotechnology | **DOB: 24-07-1989**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2011	9.06
Graduation	Acharya Nagarjuna University	Sree Vidya Degree College	2009	83.60
Intermediate/+2	Board of Intermediate Education, A. P.	Sree Vidya Mahila Junior College	2006	87.80
Matriculation	Board of Secondary Education, A. P.	Z P High School	2004	78.30

Academic Project: July 2011 to April 2012 (Pursuing)

Characterization of functional regulatory elements of *Aspergillus niger citA* promoter

Guide: N. S. Punekar, IIT Bombay

- *In silico* analysis of regulatory regions in the promoter of citrate synthase gene
- Functional demonstration of the putative regulatory regions of *citA* promoter using **substitution mutations**
- Identification of transcription start site in *citA* promoter using **RACE** (Rapid Amplification of cDNA ends) **analysis**

Academic Achievements

- Secured All India Rank (AIR) **7** in **IIT - JAM** (Joint Admission for M. Sc), 2010
- Selected for **Merit cum Means** (**MCM) scholarship** of IIT Bombay
- Secured AIR **63** in Combined Entrance Exam for Biotechnology (**CEEB - 2010**) conducted by Jawaharlal Nehru University (JNU), New Delhi
- Secured AIR **55** in **Indian Council For Agricultural Research's** (ICAR) AIEEA-PG-2010
- Secured AIR **20** in **HCU PG Entrance Examination for Biochemistry**, 2010 conducted by University Of Hyderabad

Course Mini-projects and Seminars

- **Genetic Engeneering Project:** Cloning, Expression and Purification of *scoC* gene, IIT Bombay (2011)
- **Microbiology Project:** Isolation and Characterization of microorganisms in Powai lake water, IIT Bombay (2011)
- **Biochemistry Project:** Purification and Assay of enzyme catechol 2,3 dioxygenase, IIT Bombay (2010)
- **Bioinformatics Project:** Comparision of LDH isoenzymes (2011)
- Participated in the **3rd National Conference on Biotechnology and Bioinformatics** BIOBUZZ…'10 conducted by Padmashree Dr. D. Y. Patil University, Navi Mumbai (2010)
- Presented a Seminar on **Gas Chromatography**, IIT Bombay (2010)

Computational Skills

- **Bioinformatics tools:** Sequence alignments - **FASTA**, **BLAST and ClustalW analysis**; Databases – Nucleic acids Research Database, Swiss PDB Viewer; Dynamic programming - algorithm; Profiles (PSSM) and Weight matrices; Hidden Markov models (HMMs); Metagenomics; Phylogenetic tree analysis
- **Biological software:** Vector NTI and BioEdit

Laboratory Skills

- **Chromatography techniques**: Gel filtration, Ion exchange, Thin layer chromatography (**TLC**), Paper chromatography, Fast protein liquid chromatography **(FPLC**), Gas chromatography (**GC**), High pressure liquid chromatography (**HPLC**)
- **Electrophoretic and blotting techniques:** Agarose gel electrophoresis**,** SDS-PAGE, Native PAGE, 2D gel electrophoresis and southern blotting
- **Biophysical techniques**: UV-Visible/ Fluorescence Spectroscopy, Circular Dichroism and Visible/ Fluorescence Microscopy
- **Immunological techniques**: Antibiotic sensitivity test, Antibiotic bioassay, Replica plating, Ouchterlony double immunodiffusion, Typhoid test (Widal test), Detection of hemoglobin percentage, Viable cell count by Hemocytometer and Blood grouping
- **Microbiology techniques**: Growth curve of *Bacillus* and *E. Coli*, Staining techniques, Morphological analysis of microorganism
- **Genetic engineering techniques**: Plasmid isolation, DNA extraction from gel, Polymerase chain reaction (PCR), Competent cell preparation by calcium chloride method and Cloning

Industrial Training

- Undergone training in **chemical**, **microbiology** and **instrumentation** section in quality control department of Bal Pharma Limited, Bangalore (June - July 2011)

  1) Microbiology Department: Membrane filtration and analysis of drugs for any bacterial and fungal contamination

  2) Chemical Department: Chemical analysis of commercial medical drugs using gas chromatography, HPLC, Infra-red Spectroscopy, disintegration and dissolution. This was required to release the drug in market

Knowledge Development

- **Course work during M.Sc. (Total 119 credits):** Genetic engineering, Bioinformatics, Analytical Biochemistry, Molecular Immunology, Molecular Biology, Molecular Enzymology, Bimolecular spectroscopy, Metabolism and Bioenergetics, Molecular Biophysics, Cell biology, Biological thermodynamics and kinetics, Cell signalling and Environmental studies
- **Course work during B.**Sc.: Microbiology, Biotechnology, Chemistry, Molecular Biology and Genetics, Applied microbiology, Applications of Biotechnology

Voluntary Learning Initiative:

- Understanding the concept of IPR at "**Intellectual Property Rights Fundamentals -** 2011" organized by SJM-SOM, IPR Cell, IIT-Bombay for 6 weekends between Aug 28th to Oct 13th

Positions of Responsibility:

- **Alumni secretary** of the Department of Bioscience and Bioengineering, IIT Bombay (2011)
- **Part of the Organizing committee** of **GeneRations 2011,** a national level biotechnology festival, organized by Symbiotek Biodepartment association, BSBE, IIT Bombay (2011)
- **Class representative** in B. Sc. for three consecutive academic years (2006-09)

Extracurricular Activities:

- Awarded **Silver Medal** in Kho-Kho at PG Sports organized by IIT Bombay (2011)
- Performed a group dance in PG FRESHIZZA, Institute wide fresher's competition for post graduates of IIT Bombay (2010)
- Participated in inter hostel GC sports, IIT Bombay (2010)