

Rahul Andharia

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❖ Professional Summary

Completed my bachelor's in Life sciences (Microbiology, Genetics and chemistry) from Bhavans Vivekananda College, Sainikpuri. I always have been a bright and hardworking student and I stood among the top 3 students in my class. The molecular mechanisms of working of a cell has always fascinated me right from my school days. I also have keen interest in Genetics as a result I am drawn towards cancer biology that involves inter-play of Cell Biology, Molecular Biology and Genetics and hence I always want to take up Cancer biology research. I wish to pursue my masters in Molecular and cell biology followed by a PhD in Oncology and Genetics-(how genes play a role in Cancer)

Passion and curiosity defines me in whatever I do, I like to give my 100%. I am a fresher and looking forward to learn and experience the wider road of research and innovation by applying my knowledge and skills for the betterment of society.

❖ Training and Internship

Research Trainee, ACTREC. Mumbai, Maharashtra

Jul. 2019 – Dec. 2019

- Completed 6months Research Training at **ACTREC** (Advanced Centre for Treatment Research and education in Cancer, Tata Memorial hospital, Kharghar, Navi Mumbai.

I worked in **Epigenetics and Chromatin biology lab under PI Dr. Sanjay Gupta**. Under his guidance I got to work with one of his PhD student under a **project “Transcriptional Regulation of Human Histone H3.2c Gene”**.

I learnt and performed techniques like SDS PAGE, Western Blotting, PCR, RNA extraction, cDNA synthesis, CHIP(chromatin immunoprecipitation), Agarose gel electrophoresis, Dot blot, Cloning(Transformation, Restriction digestion, Ligation, Screening, Plasmid Isolation), cell harvesting, cell lysate preparation, Luciferase Assay, Silver staining, Coomassie staining, Histone Isolation, apart from this has observed and understood the basic theory and practical of certain techniques like Real Time PCR, Immunofluorescence(IF), HPLC and Flow Cytometry.

❖ Experimental Skills

- Agarose Gel Electrophoresis
- ELISA
- Widal Test
- Isolation of DNA
- Karyotyping
- Chromatography techniques
- SDS- PAGE
- PCR
- Western Blotting
- Dot Blot
- RNA Isolation
- cDNA synthesis
- CHIP
- Luciferase Assay
- Cloning (Transformation, Restriction digestion, ligation, screening)
- Cell lysate preparation
- Histone Isolation
- Plasmid Isolation(TELTA and kit method)
- Silver staining
- Coomassie staining

Basic Skills:

Strong verbal communication skills

Innovative skills

Critical thinking

Analytical skills

Basics of Python

Ms office

Languages known

English

Hindi

- Bioinformatics Skills:

Primer Designing, Insilco Analysis, ncbi tools, blast

- In-vitro Skills:

Cell and tissue culture, cell passaging, Transfection, Clonogenic assay

- Immunoassay:

ELISA, WIDAL test and western blot

- Basics of Crisper cas9

Awards and Experiences:

- Secured 1st Prize in Quiz competition held on National Science day, 2019, at Bhavans vivekananda College.
 - Selected as a Candidate among the pool of around 400 students for the Reach for Stars Mentorship program which focuses on mentoring and providing career related opportunities.
 - Pursued Internship (Hands on Training) in Cytogenetic, Biochemical and Molecular Techniques from *INSTITUTE OF GENNETIC DISEASES, OSMANIA UNIVERSITY, BEGUMPET(April-June)*
 - Learned different techniques like, chromosome Mapping, Genetic counselling, pedigree analysis, working of Ultrasound, different genetic disorders based on single gene, polygene inheritance, identification of chromosomal defects, various biochemical tests.
 - Participated in International seminar on Drug Designing and Discovery of Vaccines organized by Department of Chemistry and Genetics and Bio-technology.
 - Attended a two-day workshop on Mushroom cultivation.
 - Participated in a two days training program in Emerging Trends in Bioinorganic Chemistry organized by IIT Kharagpur.
 - Participated in a two day training program in Advanced techniques of Molecular biology organized by IIT Kharagpur.
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Publications:

During my Final year of Bachelor's, I worked on a *project titled " Comprehensive Analysis of Fingerprints "* under the Supervision and guidance of Dr Rachana Kumari(PhD), lecturer, Department of Genetics and Biotechnology, Bhavans vivekananda College. Our aim was to study different fingerprint patterns mainly Arches, loops and whorls. Twin studies, comparison of fingerprint patterns among local population, dwelling into family history through Genetic interpretation were some of the key findings of the project. Dermatoglyphics is a vast field and has lot to explore right from process of formation of fingerprint patterns, it's uniqueness to its application in field of Forensics, identification of genetic disease, Twin studies and many more. It was this initial curiosities that led me to pick this as my research project.

The most interesting part was the Data collection and Data analysis work which I did. I analysed various fingerprint based on patterns (Arch, Loop and Whorl) and compared and correlated it with each other and concluded the results accordingly. I enjoy doing Analysis and research intensive work as it has been my passion and strength.

The most interesting observation in the study was that some females in the random sample showed identical fingerprint patterns in all the fingers. Of these females, maximum were showing the whorl pattern followed by loops and then arches. Our finding showed the absence of arches in twins and triplets. Surprisingly, as expected the fingerprints patterns showed 100% concordance between the two hands of an individual even in the random sample, indicating the involvement of genetic component. Therefore, family studies might be effective to determine the role of genetic factors.

The Project was Published as a Research Article in IMRF(International Multidisciplinary Research Foundation) under journal of International Engineering Sciences, Volume 7, SPL issue. (ISSN 2320- 4338, December 19 edition)

