

Gadha Krishna Leons

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PROFESSIONAL SUMMARY

Final-year Ph.D. researcher in Cancer Genomics specializing in the molecular characterization of B-cell Acute Lymphoblastic Leukemia (B-ALL). Proven track record of integrating high-throughput transcriptomics (RNA-Seq) with clinical metadata to identify cryptic subtypes and predictive biomarkers in BCR-ABL1-negative cohorts. Expertise in developing custom bioinformatics pipelines (R, Python, WGCNA) and validating in-silico findings through rigorous wet-lab assays (Sanger, MLPA, qPCR). seeking to leverage expertise in multi-omics integration and precision oncology in a postdoctoral research role.

EDUCATION

- Ph.D. in Cancer Genomics** Apr 2022 - Present
All India Institute of Medical Sciences (AIIMS) New Delhi, India
 - Focus: Study of predictive and prognostic molecular genetic aberrations in BCR::ABL1 negative B-ALL.
- Advanced PG Diploma in Life Science Technologies** 2020-2021
SRM-DBT Platform, SRMIST Chennai, India
- M.Sc. in Applied Genetics** 2017-2019
Bangalore University Bangalore, India
 - CGPA: 7.8 (1st Class Distinction)
- B.Sc. (Genetics, Microbiology, Biochemistry)** 2014-2017
Ramaiah College of Arts, Science and Commerce Bangalore, India
 - CGPA: 8.42 (1st Class Exemplary)

RESEARCH EXPERIENCE

- Junior Research Fellow / Ph.D. Scholar** Oct 2021 - Present
AIIMS, New Delhi New Delhi, India
 - Led comprehensive genomic profiling of B-ALL samples to identify high-risk subtypes (Ph-like) and novel fusions.
 - Developed bioinformatics pipelines using **R** and **Python** to analyze RNA-Seq data (**DGE analysis**, **WGCNA**).
 - Validated in-silico findings using wet-lab techniques including **Sanger sequencing**, **RT-qPCR**, and **MLPA**.
 - Identified prognostic biomarkers by correlating transcriptomic signatures with clinical survival data.
- PG Diploma Researcher** Jan 2021 - July 2021
SRM-DBT Platform, SRMIST Chennai, India
 - Conducted phylogenetic analysis and clustering of SARS-CoV-2 genomes circulating in the South Indian population.
 - Performed molecular docking studies to model protein-protein interactions and analyze spike protein variants.
- Master's Dissertation Researcher** Jan 2019 - July 2019
Bangalore University Bangalore, India
 - Characterized sperm morphological diversity in Caecilians (Amphibia: Gymnophiona) of Western Ghats using microscopy.

TECHNICAL SKILLS

- Bioinformatics:** RNA-Seq Analysis (STAR, DESeq2), Weighted Gene Coexpression Network Analysis (WGCNA), Gene set enrichment (GSEA), Gene Ontology enrichment (ClusterProfiler, Enrichr), Differential Gene expression (DESeq2, EdgeR), Dimensionality reduction (t-SNE, PCA), Sequence Assembly & Alignment (BWA/STAR), Gene abundance estimation (featurecounts), Survival Analysis, Protein Structure Modeling, Protein-Protein Docking
- Programming:** R (Bioconductor, Tidyverse, ggplot2), Python, Linux/Unix, Git/Version Control
- Wet Lab Techniques:** NGS Library Prep (Illumina), Sanger Sequencing, MLPA, RT-qPCR, Flow Cytometry, DNA/RNA Extraction
- General Research:** Cell Culture, Zebrafish Genetic Engineering (CRISPR, Microinjection), Genetic Counseling

PUBLICATIONS

- [1] Leons, G. K., Gupta, S. K., Sharma, P., et al. (In Review). **Decoding the 'B-Other' Black Box: Integrated RNA-Sequencing and Machine Learning Unveils Cryptic B-ALL Subtypes in a Single Centre Study.**
- [2] Gupta, S. K., Leons, G. K., Sharma, P., et al. (2025). **Application of Targeted RNA-Sequencing in High-Risk B-Cell Acute Lymphoblastic Leukemia (B-ALL).** *Int J Lab Hematol*. DOI: 10.1111/ijlh.14551
- [3] Sharma, P., Leons, G. K., Singh, V., et al. (2025). **Gene expression signature of IKZF1 deleted B- cell acute lymphoblastic leukaemia reveals a unique regulation of MUC4.** *Br J Haematol*. DOI: 10.1111/bjh.70014
- [4] Gupta, S.K., Leons, G. K. (2025). **Genetics of B-Cell Acute Lymphoblastic Leukemia (B-ALL): Recent Updates and Indian Perspective.** *Indian J Hematol Blood Transfus*. DOI: 10.1007/s12288-025-01988-y
- [5] Leons, G. K., Sharma, P., Gupta, S. K., et al. (2023). **Detection of a novel SNX2 gene breakpoint in the SNX2::ABL1 fusion transcript in Ph-like B-cell acute lymphoblastic leukemia.** *Pediatric Blood & Cancer*. DOI: 10.1002/pbc.30546
- [6] Sharma, P., Gupta, S. K., Leons, G. K., et al. (2022). **IKZF1::CIITA, a novel fusion transcript in a case of relapsed B-cell acute lymphoblastic leukemia.** *Pediatric blood & cancer*, 70(1), e29872. DOI: 10.1002/pbc.29872
- [7] Gupta, S. K., & Leons, G. K. (2025). **Molecular Diagnostics.** In Sharma SK (Ed.), *Manual of Hematology* (pp. 158-169). Jaypee Brothers Medical Publishers.
- [8] Gupta, S. K., & Leons, G. K. (2025). **Diagnosis of Ph-like B-ALL: The Ideal Approach in the Indian Setting.** In *Recent Advances in Hematology-5* (pp. 92-103). Jaypee Brothers Medical Publishers.

CONFERENCE PRESENTATIONS

- **Oral Presentation** 2025
87th Annual Meeting of the Japanese Society of Hematology (JSH) Kobe, Japan
Transcriptomic Signatures and Fusion Landscape in Relapsed B-ALL: Insights from RNA-Sequencing
- **Poster Presentation** 2025
Molecular Analysis for Precision Oncology Congress (ESMO-MAP) Paris, France
Transcriptomic Profiling of CDKN2A/B-Deleted B-ALL Reveals Key Coding and Non-Coding Biomarkers
- **Oral Presentation** 2024
65th Annual Meeting of the Korean Society of Hematology (ICKSH) Kobe, Japan
Adverse Clinical Impact of RB1 Gene Deletions Alone and with Concurrent IKZF1 Gene Deletions in Pediatric B-ALL
- **Abstract Publication** 2025
European Hematology Association (EHA)
◦ Title: Whole Transcriptome Sequencing Uncovers Key Coding and Non-Coding Biomarkers in IKZF1Plus B-ALL.

HONORS AND AWARDS

- **JGEEBILS Qualified** 2021
Tata Institute of Fundamental Research (TIFR)
◦ Reference No.: GS2021BIOPHD030224
- **GATE Biotechnology (AIR 1289)** 2020
Indian Institute of Technology (IIT)
◦ Scored 475 in Graduate Aptitude Test in Engineering.

CERTIFICATIONS

- **Training in "Engineering Zebrafish with CRISPR Tools"** (CSIR-CCMB) Mar 2020
- **Certificate in Animal Cell Culture Techniques** (CellKraft Biotech) Feb 2020
- **Certificate in Genetic Counseling** (IMAeVarsity)

REFERENCES

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