



**Application Closing Date: 23rd May 2025**

**Position: Project Technical Support-III**

**Project:** Rapid and Affordable Diagnostics for stratifying Childhood Acute Lymphoblastic leukaemia (**RADICAL**), IIRPIG-2024-01-00028

**Funding:** Indian Council for Medical Research, New Delhi

**Duration:** 4 years (2025-2029)

**Principal Investigator:** Dr. Mayur Parihar

Senior Consultant Cytogenetics, Molecular Pathology and Haemato-Pathology, Tata Medical Center, Kolkata - 700160

Clinical Scientist, Genomics, Officer-in-charge Tata Translational Cancer Research Centre

**Appointing Organisation:** Tata Medical Center, Kolkata, Tata Translational Cancer Research Centre

**The Tata Medical Center and the Tata Translational Cancer Research Centre**

The Tata Medical Center (TMC) is a multispecialty institution for tertiary cancer care based in New Town, Kolkata. At TMC, clinical and research activities are integrated to provide state-of-the-art care for patients with cancer. This integration is enabled by the Tata Translational Cancer Research Centre (TTCRC), the research arm of TMC. TTCRC is within a dedicated academic space and spread over 3 floors. At TTCRC, a multidisciplinary team of clinicians, scientists, academics and industry professionals collaborate to develop a systems medicine approach in cancer research. This approach is focussed on developing innovative, indigenous, cost-effective and equitable strategies to improve cancer diagnosis; develop treatments that match disease characteristics and are adapted to treatment response; and, identify prognostic and predictive disease biomarkers. These strategies are multi-dimensional and involve an iterative pathway that include clinical studies, high-throughput laboratory investigations, computational strategies to integrate, analyse and model data, hypothesis-based pre-clinical studies and evidence-based translation of findings to clinical practice. For additional information on work at TTCRC, visit <https://tinyurl.com/TTCRC-systems-medicine> and <https://tinyurl.com/TTCRC-childhood-ALL>.

**Project Summary**

**Problem statement:** B-ALL is the most common childhood cancer and is highly curable. The possibility of a

cure is driven by risk-adapted therapy based on underlying biology and the patient's response to chemotherapy. Next-generation sequencing (NGS) has unravelled the genomic landscape of B-ALL and identified subsets with therapeutic and prognostic relevance. However, short-read NGS approaches require expensive instrumentation and library preparation and have a long turnaround time, making real-time implementation challenging and unaffordable.

**Novelty:** A novel, low-cost, rapid, Nanopore sequencing-based targeted RNA sequencing assay for rapid risk stratification of BALL.

**Objectives:**

1. Develop affordable assays for molecular risk stratification of BALL based on nanopore sequencing with an actionable turnaround time.
2. Establishment and Validation of Assays in Participating Centers
3. Feasibility Testing and Evaluation of Clinical Outcomes

**Methods:** In a multi-centric observational study built upon ICIcLe2 protocol, we will standardize the genomic characterization of paediatric B-ALL based on an affordable and rapid nanopore sequencing-based approach. We will harmonize and validate the protocol amongst participating centers and evaluate clinical outcomes.

**Expected Outcome:** A novel, clinically validated, low-cost nanopore sequencing assay that will permit uniform, genomics-based risk stratification of children with BALL by day 8 after initiating therapy.

**Cancer Genomics Laboratory and the Position**

In this position, you will be required to work as part of the Cancer Genomics Lab (CGL) at TTCRC. CGL has several ongoing national and international collaborative studies. We have a dedicated laboratory facility equipped with Illumina, Sanger and Nanopore sequencers and is an internationally accredited centre for the minimal residual disease detection in childhood ALL (EuroMRD Consortium). A dedicated informatician supports the data analyses. Our primary focus is to refine the genomic landscape of childhood ALL patients using high-throughput technologies. You will closely work with the Department of Cytogenetics in Tata Medical Center, Tata Medical Biorepository (TiMBR), Clinical Research Unit (CRU) group at TTCRC. You will be given a designated desk and computer for carrying out your work.

**Roles and Responsibilities**

Your primary responsibility will be to integrate with the existing laboratory workflow and maintain good laboratory practices.

- (a) Identifying patients eligible for the study
- (b) Check availability of samples from biobank
- (c) Isolation and Quality Control of DNA and RNA required for the RADICAL workflow
- (d) Active participation in library preparation and optimisation of the high-throughput workflows that includes hands-on experiment
- (e) Proper documentation of regular experiments carried out and troubleshooting if required.
- (f) Participation in SOP preparation and helping out with preparation of annual reports.
- (g) Basic data analysis skills

**Minimum required qualifications/experience (ICMR Guidelines)**

1. Three Years Graduate in relevant subject/field + three years' experience  
OR  
Post-Graduate in relevant subject/field
2. For Engineering/IT/CS- First Class Four Years Graduate Degree + Three Years' Experience.

**Desired qualifications/experience**

- (a) M.Sc. (with 1-2 years of experience) in Biological Sciences with expertise in Molecular Biology and Genomics
- (b) Expertise in DNA extraction, qPCR, Sanger Sequencing, NGS library preparation and sequencing using Oxford Nanopore Technology (preferable)
- (c) Soft skills: MS Office, Excel, Laboratory and clinical data documentation, Data analysis tools using R packages, PRISM, SPSS etc. (preferable)

**Necessary qualities**

- (a) Integrity, motivation, enthusiasm, responsibility and reliability
- (b) Focus and commitment in carrying out tasks and duties
- (c) Critical analytical and problem-solving skills, capable of independent work
- (d) Ability to work effectively as part of a multidisciplinary team

**Salary:** Rs 28,000 pm + 30% HRA, increment as per ICMR guidelines.

**Appointment and reporting**

Appointment to the position will initially be for 1 year with scope for renewal in subsequent years subject to satisfactory review of performance through periodic appraisals and availability of funding.

The person would directly report to the group lead/PI of project on a regular basis and update status of the project.

**Enquiries**

- (a) For further details refer to TMC and TTCRC website, visit [www.tmckolkata.com](http://www.tmckolkata.com)
- (b) Submission of applications by post or by e-mail to:  
Mr Suvasish Mukherjee; Head, Human Resources; Tata Medical Center; 14 Major Arterial Road (East-West); Newtown, Rajarhat; Kolkata 700 160  
e-mail: [suvashish.mukherjee@tmckolkata.com](mailto:suvashish.mukherjee@tmckolkata.com)
- (c) For informal enquiries,  
Mr. Satadru Dey ([satadru.dey@ttcrc.tmckolkata.org](mailto:satadru.dey@ttcrc.tmckolkata.org))

| Knowledge/<br>Aptitude/Skills,           | Requirements                                                                                                                                                                                                                                                                                                                                                   | Essential /<br>desirable                                                                                                                     | Information from                                          |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>1. Disposition /<br/>Attitude</b>     | a. Integrity<br>b. Flexibility<br>c. Motivated<br>d. Committed<br>e. Willing to learn new skills<br>f. Works as part of a team<br>g. Receptive to new ideas<br>h. Capable of independent work<br>& to an agreed plan<br>i. Good time management<br>j. Organized, able to prioritize<br>responsibilities<br>k. Works to high technical and<br>quality standards | a. Essential<br>b. Essential<br>c. Essential<br>d. Essential<br>e. Essential<br>f. Essential<br>g. Essential<br>h. Essential<br>i. Essential | Application form<br>CV<br>Profile<br>Interview References |
| <b>2. Education /<br/>Qualifications</b> | M.Sc. in Biological Science (1-4<br>yrs experience)                                                                                                                                                                                                                                                                                                            | Essential                                                                                                                                    | Interview<br>Application form<br>CV                       |
| <b>3. Experience</b>                     | a. Good laboratory practice<br>b. DNA and RNA technology<br>c. Library preparation for<br>sequencing<br>d. Handling Illumina sequencer                                                                                                                                                                                                                         | a. Essential<br>b. Essential<br>c. Desirable<br>d. Desirable                                                                                 | Application form<br>CV<br>Interview & References          |
| <b>4. Skills and ability</b>             | a. Critical thinking<br>b. Problem solving skills<br>c. Readiness to evaluate,<br>develop and test new<br>approaches and strategies<br>d. Mentoring junior team<br>members                                                                                                                                                                                     | a. Essential<br>b. Essential<br>c. Essential<br>d. Desirable                                                                                 | Application form<br>CV<br>Interview<br>References         |