Consultant - Laboratory Haematology & Molecular Pathology

Conceptualized in the year 2004 as a philanthropic initiative for the Eastern and North-Eastern parts of India and the neighbouring countries, the Tata Medical Center (TMC) started operations in Kolkata on May 16, 2011. The hospital is governed by a charitable trust – Tata Medical Centre Trust. It is an integrated Oncology facility with well-trained professional staff and equipped with modern facilities and the most contemporary medical equipment. The hospital was designed by Cannon Design, a renowned architectural firm from North America. It is located on 13 acres of land at New Town in Kolkata, West Bengal.

The hospital is an integrated Oncology facility with well-trained professional staff and equipped with modern facilities and contemporary medical equipment. The Hospital, with a capacity of 437 beds, serves all sections of the society, with 75% of the infrastructure earmarked for subsidized treatment for the underprivileged sections. It provides a wide spectrum of services from diagnosis and therapy to rehabilitation and palliative support. The Institution's objective is to excel in service, education and research.

This state-of-the-art Hospital has been built on carefully landscaped grounds to emphasize the holistic approach in our crusade against cancer. The buildings were designed by Cannon Design, a renowned architectural firm from North America.

Diagnosis and treatment are characterized by a multi-disciplinary approach with Disease Management Teams, wherein experts from different streams participate in decision-making for treatment protocols, using evidence-based medical strategies and appropriate documented clinical guidelines.

Tata Medical Center, Kolkata, has strived to be one of the leading cancer care and research institutions in the country and has benefited West Bengal as well as the adjoining states and neighboring countries.

ABOUT THE DEPARTMENT

The Haematology Laboratory is fully automated and equipped with state-of-the-art technology. It features two Beckman Coulter DxH 900 analyzers and one DxH 800, each integrated with automated Slide Maker & Stainers. These high-throughput, fully automated differential cell counters serve as the backbone of routine haematology testing. The lab also employs Cellavision, a digital haematology imaging system, to complement the cell counters.

Coagulation testing is entirely automated, utilizing Werfen's IL Top 300 and IL Top 350 analyzers. The flow cytometry section is equipped with four instruments: one 3-laser BD FACS Canto II, two 12-colour BD FACS Lyric systems, and one 13-colour Beckman Coulter DxFlex. These systems support a wide range of diagnostic applications including immunophenotyping for leukemia and lymphoma, haematopoietic stem cell enumeration, paroxysmal nocturnal haemoglobinuria (PNH) analysis, EMA binding assay, immune cell subset analysis and cell cycle studies. High sensitivity flow cytometric minimal residual disease (MRD) monitoring is routinely performed in B-ALL, T-ALL, AML, multiple myeloma, and CLL.

The lab also features the Sebia MiniCap capillary electrophoresis system for protein electrophoresis, including immunotyping, aiding in the diagnosis of plasma cell disorders. Immunoglobulin quantification and free light chain (FLC) assays are performed using the OPTILITE nephelometer from The Binding Site.

For platelet function testing, the lab is equipped with an advanced Chronolog platelet aggregometer (Model 700), capable of assessing both whole blood and platelet-rich plasma. Rotational thromboelastometry (ROTEM) is also available and used particularly during prolonged or complex cancer surgeries.

Despite being a cancer-focused center, the lab also performs Hb variant analysis for thalassemias and haemoglobinopathies using the BIORAD D-10 HPLC system. Additional capabilities include kinetic red cell enzyme assays (e.g., G6PD) using a spectrophotometer, automated ESR measurement with Ves-Matic, and a wide range of special stains (MPO, PAS, Toluidine Blue, Perl's, etc.) for morphological diagnosis. Furthermore, bone marrow biopsy specimens have access to an extensive panel of immunohistochemical (IHC) markers, enhancing diagnostic accuracy and depth.

The in-house facilities for molecular haematology and cytogenetic tests for hematological malignancies and solid tumors encompass the entire diagnostic algorithm. The Molecular Haematology has FIVE state of the art NGS Platforms (Ion Torrent PGM, Ion Gene Studio S5, Ion Gene Studio S5 Plus, Illumina NextSeq 550 & Illumina MiSeq) , three Digital PCR Platforms (BIORAD ddPCR; both QX600 & QX 200 and Thermo QuantStudio Absolute Q), Sanger Sequencer (8 capillary ABI 3500), five Real Time PCR Platforms (ABI 7500, Qiagen Rotorgene, Thermo Quant Studio 3, Thermo Quant Studio 7 Pro and Agilent AriaMax). For nucleic acid extraction, the Qiagen QiaSymphony and Thermo KingFisher automated systems are available. Tape Station, Qubit & Nanodrop instruments are used for quality and quantity checks of extracted nucleic acids. Besides there are 8 high-end thermal cyclers in the laboratory. All ancillary equipments to run a high volume molecular laboratory for both solid & liquid tumor molecular diagnosis / monitoring are available. Dept of Cytogenetics performs conventional G-Banding karyotyping, Stress Cytogenetics and FISH for all kinds of haematological and solid malignancies. Cytogenetics have 3 Metasystems (IKAROS & ISIS) analysis plarforms with Carl Zeiss automated microscopes (Axio Imager) and Metacyte Spot Counting / Metaphase Finder softwares in an automated stage. In addition it has an ASI (Applied Spectral Imaging) Karyotyping / FISH digital analysis workstation with an Olympus BX53 microscope. The Laboratory handles close to 5000 molecular and 2500 cytogenetic analysis samples in a year, which involves peripheral blood, bone marrow aspirates and formalin fixed paraffin embedded tissue. The laboratory aims to provide timely, clinically relevant, and quality assured diagnostic test results in the laboratory for in-patients, out-patients or other external clients from out-side institutions at an affordable price. The entire laboratory is connected to LIMS and HMS for seamless transmission of patient reports within a paper-less environment in the hospital. The department aims to provide an intellectually stimulating, safe, secure, academically vibrant work environment to its Fellows, laboratory technologists & scientific officers, and would concentrate on continuous quality improvement, research & development and publications. The department is involved in numerous research projects with cumulative grants of nearly 10 crores. Separate two year Fellowship Programs in Laboratory Haematology, Molecular Pathology and Cytogenetics are running for the past 14 years. The institution encourages membership in international scientific bodies and attendance in national & international conferences with institutional support. The department participate in multiple EQAS Programs in both Lab

Haematology including flowcytometry and Molecular Pathology (UKNEQAS, EMQN, ILCP with TMC Mumbai, ISHBT-AIIMS, ISHBT-CMCV and ILCPs with many other reputed institutions).

In order to fulfill the above objectives, we are looking for a dynamic individual to appoint full time as :

- **Consultant in Laboratory Haematology & Molecular Pathology (Vacancy – 01)**

Qualifications: -

Essential- MD / DNB / or Equivalent in the relevant Specialty (Pathology).

Essential Experience: Minimum 3 years Post MD / DNB experience in Laboratory Haematology & Molecular Pathology.

Desirable Qualification / Experience- Post – Doctoral Fellowship in Laboratory Hematology / Fellowship in Molecular Pathology / DM HematoPathology. DM HaematoPathology candidates should have atleast one year Fellowship in Molecular Pathology.

Job Description:

Laboratory Responsibilities: (expected but not limited to)

The **Consultant** is expected to:

- Do option appraisal of different diagnostic strategies and systems and make recommendations about the inclusion or exclusion of a system in a clinical context,
- Provide guidance or participate in the writing of standard operating procedures as per CLIA / NABL standards,
- Develop evidence based diagnostic algorithms for different clinical situations.
- To analyse, interprete and authorize all laboratory reports related to laboratory haematology.
- Perform a cost benefit analysis of different diagnostic options and make suitable recommendations,
- Help laboratory technical and scientific staff in the routine diagnosis through supervision, guidance and technical support as and when required,
- Ensure participation and satisfactory performance of the laboratory in relevant internal quality control and external quality assurance activities,
- Ensure processing and transport of clinical samples / genetic material in accordance with standard operating procedures and legal requirements.
- Provide clinical interpretation of laboratory reports either through interpretative comments or during verbal communications.
- Provide strategic guidance to users (other clinical colleagues) with regards to diagnostic dilemmas related to haematology.
- Ensure the implementation of appropriate measures for the accreditation of the laboratory with national or international bodies (National Accreditation Board for Testing and Calibration Laboratories (NABL) and Joint Commission International (JCI).
- Analysing, reporting and authorizing the peripheral blood smears, bone marrow aspirates, bone marrow biopsies, flowcytometry, various body fluid examinations.

- The Consultant will be responsible for clinical diagnostic services in molecular pathology. This would involve as per rotation working in various diagnostic areas such as molecular haematology (RT-PCR, Chimerism, MPN, AML, ALL etc.), solid tumour molecular pathology (lung, colon, lymphoma etc.) and HLA

typing. He / She will perform real-time review of clinical case histories involving peripheral blood smears, histopathology slides for tumour adequacy, bone marrow aspirate smears and bone marrow biopsies and correlate with molecular diagnostic reports. He / She will be signing out of molecular pathology reports as per departmental rotations. He / She will be involved in the validation / verification process including internal QC, external QA processes. The Consultant will independently review all the data with the Fellow (Molecular Genetics) for clinical correlation and offer molecular diagnoses. He / She will be supervising all aspects of the bench work in the laboratory including performing, demonstrating, supervising and troubleshooting.

Administrative Responsibilities

- Supervising and overseeing the duties, leaves, appraisals of the technologists and scientific officers.
- Supervising procuring of various reagents and stock maintenance of the same.
- Overseeing strategic planning for the laboratory's technologies, instrumentation, staffing, budgeting and regulatory issues.
- Continous monitoring of quality control and all other aspects required for the accreditation of the laboratory.

Scientific / Technical Responsibilities

- Formulating and updating the Standard operating procedure documents (SOPs) of the various techniques and tests done in the laboratory.
- Involved in all aspects of the bench work in the laboratory including performing, demonstrating, supervising and troubleshooting.

Academic Responsibilities

- Running Fellowship programmes in Laboratory Haematology and Molecular Pathology.
- Screening applications, organizing entrance examinations and selection of Fellows in various subspecialities of the laboratory.

- The consultant is expected to develop, implement, maintain and monitor a teaching / training program for the laboratory staff, junior doctors and for others in relevant areas.
- He / She will actively participate in monthly / fortnightly / weekly intra & inter-departmental conferences / meetings (Clinical Grand Rounds / MDTs / DMGs).The Consultant will supervise Fellows to prepare, present, and discuss cases at inter-departmental conferences / meetings attended by the faculty and fellows of the Departments of Clinical Hematology / Medical Oncology / Surgical Oncology / Radiation Oncology. He / She will actively participate in Journal Clubs / Lab Meetings / Seminars / Symposia as scheduled from time to time. He / She will be expected to assist in ongoing research projects and to develop his / her own research areas and apply for grants. Consultant will also present papers at national conferences and international conferences as per institutional rules.
- He / She will teach / guide students enrolled for DrNB, DNB, PhD, MSc, DMLT and other courses. He / She will train and supervise the Observers / Interns coming in from different institutions.

Audit responsibilities

- Identify potential areas of laboratory and clinical audit.
- Help formulate the methodology and identify resources to conduct the audit & get requisite approval
- Monitor the conduct and evaluate the data,
- Ensure appropriate communication and follow up.
- The Consultant would be involved in laboratory and clinical audit. He / She is expected to participate in research programmes which would involve functioning as Co-PI.

Research Responsibilities

- plan, conduct and guide research programs,
- contribute to the development of research grant applications.
- present papers in scientific conferences in India & abroad.
- publish articles in Pubmed indexed journals**.**
- He / She will be encouraged to write research grant applications, write original articles in peer reviewed journals, guide Fellows in write papers and analysing clinical & laboratory data

Management Responsibilities

This would include:

- business case development for new laboratory / clinical initiatives.
- ensure the laboratories overall clinical relevance and financial viability.
- give strategic direction for future development.
- identify risks and manage risks.
- ensure health and safety of staffs / visitors working / visiting the laboratory,
- ensure the safety and security of laboratory assets,
- deal with staffing, organization and disciplinary issues.
- Provide leadership to the laboratory.
- The Consultant would be expected to help other laboratory staff in writing standard operating procedures, drafting policy documents, carrying out health and safety audits, participate in equipment maintenance and quality control activities. He / She will actively participate in NABL / CAP accreditation processes for the molecular laboratory. The Consultant is expected to integrate high end molecular diagnostic platforms (like NGS, ONT , PacBio, Nanostring etc.) into clinical and research use.

***For more details about the job positions, qualifications, eligibility and application forms, please log on to our website: www.tmckolkata.com. Further informal queries about the job please contact the Consultants in the Laboratory Haematology / Molecular Pathology departments. (033 – 66057754 / 66057755 / 6605 7758 or 7003717795**

You may also Email or Post applications to: **Mr. Suvasish Mukherjee**, Head-Human Resources, Tata Medical Center, 14 MAR (EW), New Town, Kolkata – 700160. Email – **suvashish.mukherjee@tmckolkata.com**. **Last date of Application: - 20th September 2025**