Job advertisement:
Fellowship in Clinical and Molecular Microbiology
at Tata Medical Center, Kolkata, India
https://tmckolkata.com/in/

Conceptualized in the year 2004 as a philanthropic initiative for the Eastern and North-Eastern parts of India and the neighboring 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.

To fulfil the above objectives TMC invites applications for the position of Fellow in Clinical & Molecular Microbiology.

How can I apply?

- **Please apply online and/or email your applications by 15th December 2025 to: https://tmckolkata.com/apps/hrd/careers.php**
- **You may also email your application to:** Mr. Suvasish Mukherjee, Head-Human Resources, Tata Medical Center, 14 MAR (EW), New Town, Kolkata – 700160. West Bengal, India. Email – suvashish.mukherjee@tmckolkata.com
- **In their applications interested candidates should mention:** full name, date of birth, gender, citizenship, proof of identity (Aadhaar card/ Voter card/ Passport number), present and permanent address, mobile number, email address, qualifications from MBBS onwards, work experience, experience in diagnostic microbiology, experience in antimicrobial stewardship, infection prevention & control experience, publications, research & audit experience, managerial experience, experience with quality management, language & communication skills, computer & information technology skills; why they would like to join this fellowship; name of three referees (preferably recent supervisors/ mentors with full name, institution, designation, mobile number, email address)

For enquiries please contact: sanjay.bhattacharya@tmckolkata.com or gaurav.goel@tmckolkata.com

Frequently Asked Questions (FAQs) about the Clinical and Molecular Microbiology Fellowship program at Tata Medical Center in Kolkata, India:

What is Clinical Microbiology and how is it different from laboratory based diagnostic microbiology?

- **Clinical Microbiology includes:**
  - **Diagnostic Microbiology**
  - **Antimicrobial stewardship**
  - **Hospital Infection Prevention and Control**

What is Molecular Microbiology?

- **Laboratory Microbiology involves diagnosis of bacterial, viral, fungal and parasitic infections using molecular techniques such as PCR, DNA sequencing and others.**
- **Because of the rapidity, high sensitivity and specificity of molecular microbiology techniques it is has emerged as an important diagnostic tool in medical microbiology**

Who should apply for the Fellowship in Clinical and Molecular Microbiology?

- **Medical microbiologists who after post-graduation/ senior residency/ middle level career would like to gain additional knowledge and skills in antimicrobial stewardship, hospital infection control, diagnostic stewardship and molecular techniques in medical microbiology**
- **Essential qualifications: MBBS plus MD/DNB in Microbiology**
- **Those candidates interested in future academic positions in medical colleges should apply preferably after senior residency**
- **Those candidates interested in future non- teaching positions in private/ corporate hospitals may apply soon after MD/DNB in Microbiology**

What is the duration of this fellowship course?

- **The fellowship is for two years (24 months)**

How is the fellow going to be evaluated during the course?

- **There is going to be two written and viva examinations at the end of each year**
- **Progression from year 1 to year 2 will depend on:**

- Exam performance
- Performance during routine duty and regular training sessions

What is the fellow expected to learn during the two years training?

- **Diagnostic stewardship**
- **Antimicrobial stewardship**
- **Infection Prevention and Control**
- **Molecular techniques in Diagnostic Microbiology**
- **Infections in bone-marrow transplant settings- diagnosis/ management**
- **Clinical Communication skills**
- **Laboratory Management skills**
- **Biosafety**
- **Quality control and quality management systems**

What are the facilities available for training?

- **Tata Medical Center is a 437-bed oncology hospital**
- **It has modern diagnostic and clinical care facilities in Clinical Hematology, Medical Oncology, Pediatric Oncology, Surgical Oncology, Radiation Oncology, Palliative Care, Nuclear Medicine, Radio-diagnosis, Endoscopy services, Infectious Diseases, Laboratory Sciences Services (Hematology, Cytogenetics, Molecular Genetics, Histopathology, Biochemistry, Clinical Pathology, Flow Cytometry, HLA typing)**
- **Microbiology department has the following sections:**
  - **Bacteriology**
  - **Virology**
  - **Serology**
  - **Parasitology**
  - **Mycology**
  - **Mycobacteriology**
  - **Environmental Microbiology**
  - **Sterility testing of various materials**
- **HIS (Hospital Information System) and LIS (Laboratory Information Systems)**

The fellow can learn about the following equipment/systems/ procedures in Diagnostic Microbiology:

- **BactAlert system for automated blood culture and Mycobacterial culture**
- **Vitek system for automated bacterial and yeast identification and antimicrobial susceptibility testing**

- **MALDI- TOF system**
- **Type II A2 biosafety cabinets and laminar air flow cabinets**
- **Broth Micro-dilution Testing system- for colistin and antifungal susceptibility**
- **Direct Susceptibility test from positive blood cultures**
- **LED fluorescence microscope and compound light microscope**
- **Lyophilizer, minus 80C freezer and minus 20C freezer**

What facilities are there for Molecular Microbiology?

- **Automated nucleic acid extraction systems**
- **Refrigerated centrifuge**
- **Nanodrop, spectrophotometer, Qubit fluorometer, Tapestation, Ion Chef for sample preparation in next generation sequencing**
- **End point PCR systems**
- **Gel electrophoresis and gel documentation systems**
- **Real-time PCR systems**
- **CBNAAT systems: Qiastat, BioFire, GeneXpert**
- **Droplet Digital PCR system**
- **Sanger sequencer: ABI 3500**
- **Next generation sequencers: MiSeq (Illumina), Ion Gene Studio S5**

How is Clinical Microbiology and Infection Prevention and Control training imparted to fellows?

- **Ward rounds including patient assessment at bed side**
- **Positive blood culture communication and clinical liaison**
- **AMSP and diagnostic stewardship ward rounds in Intensive Care Unit**
- **Patient referrals to Clinical Microbiology and Infectious Diseases**

What are the common infectious diseases/ clinical syndromes encountered in this training center?

- **Meningitis- encephalitis syndrome**
- **Respiratory Tract infection**
- **Blood stream infection**
- **Gastro-intestinal infection**
- **Intra-abdominal infection**
- **Skin and soft tissue infection**
- **Urinary Tract infection**
- **Vector borne diseases: Malaria; Dengue**
- **HIV/AIDS**
- **Viral exanthems and enanthems**
- **Viral hepatitis**

- **Sepsis**
- **Healthcare Associated Infections**
- **Sexually Transmitted Diseases: including those due to Human Papilloma Virus infections**
- **Infections associated with Bone Marrow Transplantation**

What are the various types of molecular tests available in the Microbiology department?

- **Bacteriology:**
  - **mecA gene PCR and spa gene PCR**
  - **van A gene PCR**
  - **carbapenemase resistance gene PCR: NDM-1, OXA-48, KPC, OXA-23/24/58, IMP, VIM**
  - **BioFire (CSF, stool, pneumonia) and Qiastat panel (atypical pneumonia)**
  - **16S rRNA sequencing based ID of bacteria**
  - **Tropical fever PCR panel: Leptospira, Rickettsia, Salmonella**
- **Virology:**
  - **Respiratory virus PCR (BioFire and Qiastat panel)**
  - **Viral load: CMV, BK virus, HBV and HCV**
  - **HPV detection and genotyping**
  - **HSV and varicella zoster virus PCR**
  - **Tropical fever PCR panel: dengue, chikungunya, Zika**
- **Parasitology:**
  - **Cryptosporidium, Cyclospora, Entamoeba histolytica, Giardia (BioFire panel)**
  - **Tropical fever PCR panel: Plasmodium**
- **Mycology:**
  - **Pneumocystis jirovecii PCR**
  - **Aspergillus PCR**
  - **Candida PCR and Candida auris PCR**
  - **Fungal identification by ITS gene sequencing**
- **Mycobacteriology:**
  - **GeneXpert PCR for MTB and rifampicin resistance**
  - **Identification of atypical mycobacteria by 16S gene sequencing**

What other special tests are available in the lab?

- **Beta- D glucan assay (Quantitative)**
- **Galactomannan antigen ELISA**

What aspects of Infection Prevention and Control training opportunities are there in this fellowship program?

- **Water quality monitoring using TDS meter, digital chlorine meter, microbiology by membrane filtration technology**
- **Air quality monitoring using air particle counter and settle plate method**
- **Healthcare associated infection surveillance**
- **Hospital Infection Control Committee and team meetings**
- **Working with nursing department and infection control nurses**
- **Working with Occupational health (staff health) services**
- **Infection Prevention and Control with the following support services:**
    - **Laundry**
    - **Central Sterile Supply Department**
    - **Housekeeping**
    - **Engineering**
    - **Food and Beverages**
    - **Security**
    - **Pharmacy**
    - **Nutrition**
    - **Physiotherapy**

Who are the trainers in the Clinical and Molecular Microbiology Fellowship program?

- **Clinical Microbiologists:**
    - **Dr. Gaurav Goel: MD, DNB, MNAMS**
        - **Email: gaurav.goel@tmckolkata.com**
    - **Dr. Sanjay Bhattacharya, MD, DNB, DipRCPath, FRCPath, CCT (UK)**
        - **Email: sanjay.bhattacharya@tmckolkata.com**
- **Infectious Disease consultant:**
    - **Dr. Soumyadip Chatterji, MD, DM (Infectious Diseases)**
        - **Email: soumyadip.chatterji@tmckolkata.com**

What are the working hours?

- **Monday to Friday: 09 AM to 0530 PM**
- **Saturday: 09 AM to 0230 PM**
- **Educational/ training sessions start around 8 AM to specified days of the week**
- **Out of hours duty, Holiday duty and Sunday duties are divided between existing fellows (total three)**

What are the regular training programs?

- **Tuesday 8 -9 AM: BMT case discussion**
- **Wednesday 0830- 0930 AM: Journal Club**

- **Friday 03:00 PM- 0400 PM: Microbiology Department teaching**
- **Saturday 8:30 – 9:30 AM: TaLeS (Tata Lecture Series)**
- **Last Saturday of the month: 0830- 0930 AM: Morbidity and mortality review**
- **Monthly Infection Control Team meetings**

What is the daily activity list for the fellow?

- **Microscopy: Gram stain, ZN stain, KOH wet mount, CFW wet mount, urine and stool microscopy**
- **Bacteriology and Mycology: examination of culture plates**
- **Communication of positive blood cultures and clinically important preliminary and final results**
- **Laboratory bench round with Microbiology consultants**
- **Participation in teaching or training activity**
- **Ward rounds for AMSP or diagnostic stewardship**
- **Communication of Infection Control issues**
- **Notification of notifiable diseases**
- **Quality control, validation and authorization of final laboratory results using LIS (Laboratory Information System)**
- **Clinical documentation using HIS (Hospital Information System)**
- **Teaching training DMLT and other post-graduate students in Microbiology**

What is the training, research and audit opportunities in this fellowship?

- **Fellows would be provided with hands-on training opportunities in molecular microbiology from second year onwards**
- **Fellows would be given one or more research topics which need to be completed within the duration of the fellowship program**
- **Fellows would be provided with guidance to publish their research in national/ international journals and present them in scientific conferences**
- **Fellows would be provided with institutional financial support once a year to attend conferences in person (subject to acceptance research abstract for oral/ poster presentation**
- **Fellows would be guided to apply for ESCMID funded yearly observership opportunities in Clinical Microbiology in ESCMID Collaborative Centers: https://www.escmid.org/education/exchange-programmes/observership-programmes/funded-observership/**
- **For list of research grants received and publications from the department of Microbiology please refer to the departmental webpage in the institute website https://tmckolkata.com/in/microbiology/**

Is there any hospital accommodation/travel facility?

- **No> fellows have to make their own accommodation/travel arrangements**
- **There are rentable flats available in nearby places**
- **The hospital is well connected by public and private transport**

What will the fellow get at the end of the fellowship program?

- **The fellow would be given a certificate at the end of successful completion of the fellowship program provided:**
  - **They have passed the examinations**
  - **Completed at least 18 months of the 2-year course**
  - **Completed a training log book**

Who provides the fellowship certificate?

- **Currently the fellowship is provided by Tata Medical Center and not by a university**
- **The idea of the fellowship is to provide pos-graduate training opportunities to doctors in the field of medical microbiology in those areas which are not adequately covered in the current under-graduate or post-graduate curriculum but are essential to the practice of medical microbiology in the modern world**
- **The fellowship is an important job and training experience in private sector hospitals and healthcare providers, especially for those interested to pursue clinical and molecular microbiology as a career**

Method of selection:

- **Screening through an Online interview**
- **Final selection: onsite interview in person at Tata Medical Center in Kolkata**