

Head of the Department : **Professor Jyotsna Agarwal, MD**

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History:- The department started in year 2011, with offering serological services, and gradually expanded to current, state of the art Microbiological Diagnostic, Teaching and Research facilities. The department is located at sixth floor, hospital building, Dr RMLIMS. Department publishes an annual newsletter with hospital antibiograms etc. Microbiology Department collaborates with National Vector Borne Diseases Control Programme and is designated as State Sentinel Surveillance Lab for diagnosis of dengue, by CMO, Lucknow. The department of Pathology & Microbiology of RMLIMS, due to its state of the art diagnostic services have earned the recognition as the “State Referral Centre for Laboratory Investigations (SRCLI)” since 2013 and currently has multiple nodal centres (13 District Hospitals & Government Institutes of the state) for patient sample testing which is not available in these hospitals. The department of Microbiology is also involved with the Uttar Pradesh Health System Strengthening Project in which 13 centres are working under “State Referral Centre for Laboratory Investigations (SRCLI)” whose expenses are borne by the UPHSSP.

FACILITIES

Bacteriology Lab

- Bacteriology lab has facilities for isolation and identification of various pathogenic bacteria and determining their antimicrobial susceptibility by conventional as well as automated methods. It has automated continuous monitoring system of blood culture for growth of aerobic bacteria. Automated culture method for anaerobic bacteria is also available. Rapid test for *C. difficile* toxin is also available

Serology Lab

- Serology lab has latex agglutination tests for ASO titres, CRP and Rheumatoid factor. It also has serological tests available for syphilis including TPHA, enteric fever(WIDAL and rapid) and leptospirosis. Procalcitonin quantitative testing by VIDAS automated analyzer is available and Anti CCP antibody test is also carried out. Chikungunya IgM ELISA is also done

Immunology Lab

- Immunology lab has HIV facility for testing as per NACO guidelines. Complete TORCH profile is also done. Dengue NS1Ag and IgM Ab ELISA are available.

Mycobacteriology Lab

- Mycobacteriology lab has state of art facilities. Conventional and Automated Culture (MGIT 320) is done for pulmonary as well as extrapulmonary samples. First /Second line anti-mycobacterial susceptibility testing by MGIT automated method is done.

LPA molecular testing for identification of MDR patients is done in pulmonary samples. Real-time PCR for Tuberculosis is done in recommended samples. The laboratory also works in collaboration with Revised National Tuberculosis control Programme (RNTCP). Under this programme lab is attached with ten designated districts of eastern UP for performing follow up liquid cultures of sputum samples of suspected MDR patients.

Mycology Lab

- Routine culture and identification of fungi and automated identification and susceptibility testing of yeasts is available. Latex agglutination test for *Cryptococcus neoformans* is done regularly.

Parasitology Lab

- Identification of blood and enteric parasites is available. Rapid test for antigen detection of Malaria and *Microfilaria* and ELISA for Cysticercosis and *Echinococcus* are also available.

Virology Lab

- Virology lab has ELISA testing for Hepatitis A, B, C, and E by manual as well as automated method. All markers of Hepatitis B are available ie HBe, HBc, HBs. JE IgM ELISA is available. We will soon be starting CD4 counts facility.

Molecular diagnostics:

- Department has a well equipped, fully functional common molecular diagnostic section. Currently it offers viral load estimation for Hepatitis B and C by IVD approved Cobas Techman Real-time PCR system.

Hospital Infection Surveillance Lab: It is an active and important part of the department work profile. It conducts surveillance of various ICUs, OTs and kitchen etc. Hand Hygiene programs for staff/doctors is also done from time to time.

Name of faculty	Section In charge/ co-in charge
Prof. Jyotsna Agarwal	Virology/Molecular diagnostics, Hospital infection Surveillance
Dr. Vineeta Mittal	Mycobacteriology, Immunology
Dr. Manodeep Sen	Bacteriology, Parasitology, Hospital infection Surveillance
Dr. Anupam Das	Bacteriology, Mycology
Dr. Jaya Garg	Serology, Immunology, Virology, Hospital infection Surveillance

Department has 5 senior residents (Post MD Microbiology)

Courses Offered:

- **MBBS:** RMLIMS got its first MBBS batch in year 2017, who would be starting Microbiology classes from the year 2018
- **MD:** 5 MD seats have been approved by the MCI, and first batch of students joined

in May 2017

- **DMLT:** since 2013
- **Training/Dissertation for Graduates/Post graduates in Microbiology:** MSc Microbiology and Biotechnology students from different universities undergo training as well as dissertation in the department.

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Academic Activities

a) Symposium/workshop/CME/Public health lectures Organized:

- On Occasion of World hand Hygiene day on May 5th 2018, a **“Hand Hygiene Awareness”** programme was conducted for the nursing staff/students. Dr. Manodeep Sen took a lecture emphasizing the importance of hand Hygiene. Also a poster competition for the nursing students was organized on the theme, the best 3 posters were awarded by the Chief Guest, Prof. Malviya, Director Dr. RMLIMS.
- Half day CME was organised on 17th March, 2018 **“Fungal Sepsis: an update”**. Chief Guest was Prof. Malviya, Director Dr. RMLIMS. Renowned Mycologist, Prof. Arunaloke Chakrabarti from PGIMER, Chandigarh was the Guest of Honor. Dr. Anupam Das presented the RMLIMS data on Fungal sepsis. On this occasion, the ‘Annual News Letter’ of the department was also released. A PG quiz was also conducted.
- Half day course on 24th February, 2018 for PG Residents/hospital service senior residents on **‘Specimen collection and Hand Hygiene’** was conducted. All five faculty participated in this teaching programme. It was very well attended by the Residents and appreciated too. We hope to continue this as a regular annual exercise for every new batch of residents
- **Lecture Series organised on occasion of Antibiotic awareness week:** Department of Microbiology has organised a Lecture series on Antibiotic Awareness in collaboration with Department of Anaesthesiology & Critical Care on 18th November 2017 as a part of World Antibiotic Awareness Week. Chief Guest was Prof. Malviya, Director Dr. RMLIMS; It was attended by health care professionals, microbiologists and hospital administrators etc. Lecture series focused on antibiotics awareness and its rational use to avoid increasing drug resistance. Lectures were taken By Prof. Jyotsna Agarwal Head, Dept. of Microbiology and Dr. Mamta Harjai, Asso. Prof. Dept. of Anaesthesia and critical care medicine.
- **Public health lectures Organized :**

Department of Microbiology, Dr. Ram Manohar Lohia Institute of Medical Sciences

(Dr RMLIMS) celebrated World Health Day 2016 and World TB Day together on 7th April, 2016 at Mini auditorium, Gomtinagar, Lucknow upon the theme of "Diabetes and Tuberculosis".

- **UPMICROCON 2016 Organised :**

Department of Microbiology, Dr. Ram Manohar Lohia Institute of Medical Sciences (Dr RMLIMS) celebrated World Health Day 2016 and World TB Day together on 7th April, 2016 at Mini auditorium, Gomtinagar, Lucknow upon the theme of "Diabetes and Tuberculosis".

- **Public health lectures Organized :**

World hepatitis day is celebrated every year on 28th July. On this occasion, Gastro medicine and microbiology department of Dr RMLIMS organised a patient awareness, screening and vaccination programme. This programme was inaugurated by Director RMLIMS and a book on hepatitis B awareness written by Dr Prashant Verma was released by Director and Medical Superintendent. On this day a large number of patients were screened free of charge and patients with negative report were given first dose of hepatitis B vaccination.

- **Workshop Organised**

Workshop on ANTIMICROBIAL STEWARDSHIP on 5th October 2013 was organized by the Department of Microbiology, Dr Ram ManoharLohia Institute of Medical Sciences, Lucknow. Target audience of this workshop were infectious disease physicians, microbiologists, hospital administrators, nursing administrators & pharmacists. This workshop was based on rational use of antibiotics by doctors.

- **Symposium Organised**

Department of Microbiology, Dr. RMLIMS organised a symposium on "Vector borne disease" at 12.30PM on 5th April, 2014 on eve of World Health Day at Mini Auditorium, ground floor, Dr. RMLIMS, Lucknow. The symposium was targeted for clinicians and lab Physicians involved in diagnosis and treatment of Vector Borne Diseases. During this ceremony, First newsletter from dept of micro was inaugurated by Director and MS. On the occasion of world TB week 2013, a symposium 'Update on Tuberculosis' on 18th March 2013 was organized by the Department of Microbiology, Dr Ram Manohar Lohia Institute of Medical Sciences, Lucknow, which covered almost all aspects of this dreaded disease. A number of noted dignitaries working in various aspects of Tuberculosis actively participated in the Symposium by way of delivering lectures & discussions. Chief Guest of the symposium was Dr Harsharan Das (IAS), Principal Secretary & Ex-Officio Director General Department of science & Technology Govt of UP Lucknow. The Guest of honour Professor D Behera, Chairman National Task Force, TB control addressed the audience on menace of '**Drug resistance in tuberculosis.**'

- **Organized a Guest lecture** on 11.5.2012 upon "Risk stratification in patients for empirical antimicrobial therapy" by Dr Ankur Gupta, Medical advisor, MSD.

b) Teaching of Technician, Nurses & other Paramedical staff:

Bench side teaching for trainee/technicians occurs regularly. Nurses of the hospital are routinely taught basic microbiology and optimized techniques for blood collection in vacutainers. Time to time necessary instructions for control of hospital infections are discussed with Medical Superintendent and chief nursing officer.