



NIGERIAN INSTITUTE OF MEDICAL RESEARCH

THE FOREMOST **RESEARCH INSTITUTE** IN NIGERIA

Clinical Trial Centre



Bio-Bank



Emerging Viral Disease Laboratory



NIMR

AT A GLANCE

@NIMRNigeria



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Second Edition

...the Foremost Research Institute in Nigeria



NIMR MAIN AUDITORIUM

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NIGERIAN INSTITUTE OF MEDICAL RESEARCH

VISION

To be an institution of excellence in basic, applied and operational research for the promotion of National Health and Development in Nigeria.

MISSION

To conduct research into diseases of public health importance in Nigeria and develop structures for the dissemination of research findings while providing the enabling environment and facilities for health research and training in cooperation with the federal and state ministries of health and in collaboration with universities, allied institutions and organized private sector nationally and internationally.

CORE VALUES

Honesty, Integrity, Leadership, Excellence
Respect, Fairness, Dignity, Teamwork,
Innovation, Relevance, Hard work,
Fair Reward and Recognition
Accountability and Transparency,
Communication: Internal & External
Equity



NIMR



PROF. BABATUNDE LAWAL SALAKO
MBBS (IB), FWACP, FRCP (LOND), FRCP (EDIN), MNIM
Director-General/Chief Executive Officer

WHO WE ARE

- The nation's foremost Institute of Medical Research
- We conduct medical research of public health importance in Nigeria for national development.
- We collaborate with several institutions nationally and internationally to facilitate enabling environment for medical research
- We attract some of the brightest and best brains nationally and internationally in research collaborations

RESEARCH FOCUS

Malaria, HIV/TB, Reproductive Health and Oncology, Child and Adolescent Health, Non-Communicable Diseases, Health System and Policy, Clinical Trials, Neglected Tropical Diseases, Emergency and Preparedness Response, Immunology and Vaccinology, Diagnostics Kits Development.

Recent Achievements:

Inventions

- NIMR Yellow Fever RFPCR Kit
- NIMR Lassa Fever RFPCR Kit
- NIMR MPOX Kit
- NIMR BIOTECH DNA
- NIMR BIOTECH RNA Extraction Kit suitable for COVID-19 Preparation Kit
- NIMR SARS CoV-2 Isothermal Molecular Assay (SIMA)
- NIMR SARS CoV-2 Detection Assay (SCODA)
- NimCure Mobile Application for Remote-Observed-Therapy for TB treatment management.
- NIMR BIOTECH-Electrophoretic Machines for Haemoglobin Genotyping
- NIMR BIOTECH-Hematocrit Centrifuge
- NIMR BIOTECH-Biological Incubator
- NIMR BIOTECH-Laboratory Fitted Oven



Centres and Facilities at NIMR

- HIV Treatment Centre
- TB DOTs Clinic
- Mammalian Tissue Culture Laboratory
- ARBOR Virus Tissue Culture Laboratory
- NIMR/MTN Oligosynthesis Laboratory
- NIMR Toxicology Laboratory
- CHVG National Reference & ISO 15189 Accredited Laboratory
- Centre for Tuberculosis Research
- Centre for Infectious Diseases Research
- Biosafety Level 3 Laboratory (BSL-3 Central Research Laboratory)
- WHO Prequalification Laboratory for In-vitro Diagnostics
- WHO National HIV Drug Resistance Facility
- Clinical Diagnostic Laboratory
- Molecular Epidemiology Laboratory
- Molecular Entomology & Vector Control Laboratory
- Molecular Parasitology Research Laboratory
- Biobank
- Blood Genetics and Transfusion Research Centre (SMART)
- Specialist Clinics
- Clinical Observation Centre for Randomized
- Clinical Trial
- Centre for Traditional Complimentary & Alternative Medicine
- Centre for Research in Non-Communicable
- Diseases & Metabolic Diseases (CReNMD)
- Centre for Reproductive and Population Health Studies (CRePHS)
- Centre for Excellence in Child & Adolescent Health Research (CECAR)
- Cancer Research Centre
- Researcher's Suite

Biochemistry & Nutrition Department

Department of Biochemistry and Nutrition is a multidisciplinary entity that seeks to use cutting edge technologies and sound expertise in basic and translational research in providing impactful outputs via its units:

Biochemistry & Immunogenomics

Unit: focuses on biochemical analysis of biological molecules, polymorphisms in red blood cell related diseases, molecular mechanisms of malaria parasite infectivity and pathogenesis.

Malaria Research & Epidemiology

Unit: monitors the prevalence of malaria in communities via the use of molecular diagnosis, therapeutic efficacy, resistance detection of re-infected and recrudescence in Nigeria.

Centre for Research in Traditional, Complementary and Alternative Medicine (CRTCAM)

Unit: trains and conducts research into safety and authenticate efficacy claims and compound testing on selected natural products and active ingredients.

Molecular Oncology & Diagnostics

Unit: conducts basic and translational molecular oncology research thereby providing solutions in oncology research using avant-garde biochemistry, pathology, computational and molecular biology tools.

Nutrition Unit: conducts investigation in nutritional quality, safety, and associated disorders such as deficiencies of vitamins, minerals, and in-born errors of metabolism.

Non-Communicable Diseases & Cosmetology Unit:

Unit: focuses on research and evaluation as well as partnership and collaborations designed to eliminate dangerous chemicals linked to chronic diseases (Non-communicable diseases) from cosmetics and personal care products and provide safe alternative solutions.

Immunology Unit: focuses on the cellular immune responses in some tropical diseases in humans and animals such as performance of malaria antigen detection vs. parasite enumeration by microscopy.

Biochemistry & Nutrition Department

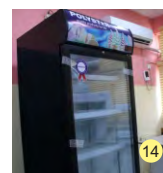
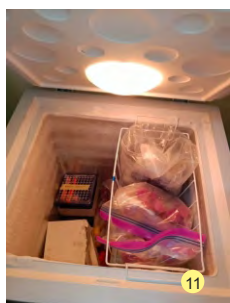
1. **Attune Nxt Flow Cytometer:** Acoustic principled flow cytometer with increased sensitivity. Its applications range from immunophenotyping in blood cells, anticancer studies, mechanistic evaluation of protein expression in gene expression studies.
2. **CO2 Incubator:** Used for the culture and maintenance of mammalian cell lines.
3. **Nano drop:** Used to measure nucleic acid concentrations in samples and to measure purity of nucleic acids in samples.
4. **Hot-air oven:** For drying.
5. **Electrophoresis Machine:** To separate charged molecule like DNA.
6. **MRC Refrigerated Centrifuge:** A multi bucket with varying speed up to 21000g (RCF).
7. **Biospectrum Imaging System:** Imaging and analysis of chemiluminescence, bioluminescence, fluorescence and colorimetric samples.
8. **Upright Light Microscope with Digital Camera:** Microscopic imaging with digital camera++ To store, cool samples or specimens for preservation.
9. **Stricox incubator (50L):** Provides an optimal condition of temperature, humidity, and other environmental conditions required for the growth of organisms.
10. **Reagent Storage Refrigerator:** To store, cool samples or specimens for preservation.
11. **(-20) Tissue Culture Reagent Freezer:** For storing biochemical reagents and samples that are not stable at warmer temperature.
12. **AKTA Go Compact FPLC:** Compact liquid chromatography system to perform routine protein purification.
13. **Cleaver Electrophoresis Powerpack:** Suitable for a wide range of electrophoresis applications.
14. **Refrigerator for Drug Discovery Laboratory:** To maintain a defined, internal storage temperature (typically in the +1°C to +15°C range) in order to provide secure storage and protection of temperature-sensitive products, samples, specimens, chemicals, drugs, solutions, and other substances.
15. **CX2II Olympus binocular microscope:** Used to observe magnified images of specimens in various routine and research application.
16. **Gel Imager:** Laboratory gel imagers, or gel documentation systems, are used by research labs to visualize and photo-document nucleic acid samples separated through gel electrophoresis, count microbial colonies, separate protein samples on western blots, and identify mixtures through thin layer chromatography.

Biochemistry & Nutrition Department

17. **Multi-channel pipette:** Used to fill multi-well plates used in tissue culture, drug screening, or enzyme assays. These pipettes can be calibrated to draw up and dispense amounts ranging from a few microliters to several hundred microliters.
18. **CO2 Incubator:** This is used in the laboratories to grow biological cell cultures.
19. **Varioskan multimode fluorimeter/spectrophotometer:** Used to reduce common errors in the lab including automated dynamic range selection which adjusts the optimal reading range based on signal intensities and built-in safety controls which alerts one to potential errors before its occurrence.
20. **Microplate heating shaker:** Ideal for cell lysis, mixing tissue samples or cytogenetic suspensions, and vortexing cell suspensions.
21. **Class II Cabinet:** An enclosed, ventilated laboratory workspace for safely working with materials contaminated with pathogens requiring a defined biosafety level.
22. **Shaker, Cuvette Eppendorf Bio spectrum, E-porator:** Used for bacteria plasmid cloning.
23. **ICP-OES Atomic Absorption Spectroscopy :** Inductively coupled plasma optical emission spectroscopy (ICP-OES), is used for analyzing a sample for its elemental content.
24. **Gas Chromatography Mass Spectroscopy:** Gas chromatography mass spectrometry (GC/MS) is an instrumental technique used to identify, quantify and separate complex mixtures of chemical.
25. **Oligo Maker:** for synthesizing oligonucleotides, genes, and probes essential in genomics, genetics, and various sequencing applications.



Equipment in Biochemistry & Nutrition Department



Central Research Laboratory

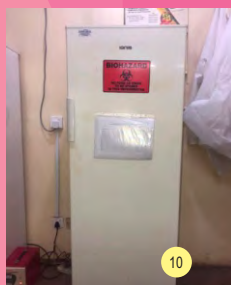
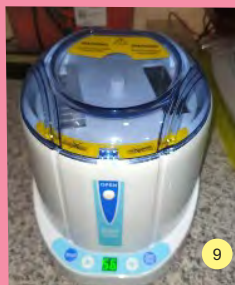
Supports other laboratories in the institute by providing access and use of key equipment for research innovation and training. We also offer customised training and give research support involving the use of capillary sequencing, HPLC to researchers within and outside Nigeria.

1. **HPLC Agilent 1260 Infinity II:** used to identify and validate protein bio-makers, it is used to discover, identify, characterize and quantify protein or antibodies.
2. **Motic SMZ-171 Microscope:** Used for tissue and cell examination. It helps to differentiate normal tissues from pathological, cancerous or abnormal growth tissues using very high magnification.
3. **GenXpert:** Used for Human Papiloma Virus (HPV) test, HIV Viral Load, and Tuberculosis Test.
4. **SeqStudio PC model:** is an all-in-one easy to use reagent cartridge that includes capillaries, universal polymer, buffer, and pump required to run on the seqstudio generic analyzer system.
5. **Roll-in incubator:** used for CO₂ incubators are mainly used for cell culture and provide control over factors such as temperature, co₂ for maintaining proper PH level.
6. **Gradient thermal cycler:** It allows a temperature step in a protocol to be programmed such that the temperature varies across the block.
7. **Gradient thermal cycler:** It allows a temperature step in a protocol to be programmed such that the temperature varies across the block.
8. **PIPETMAX Automated Liquid Handling Platform:** PIPETMAX® is an automated pipetting solution for the efficient processing of high-throughput biological assays. It will help you to improve on the accuracy, reproducibility, and consistency among all samples processed.
9. **Qubit flex fluorometer (Thermo scientific):** Accurate and sensitive quantification of DNA, RNA, and protein with flexible throughput.
10. **LABNET MPS, 1000™ Plate Spinner:** Designed specifically for quick and easy centrifugation of samples in PCR plates or microplates.
11. (-20) Non-frost freezer
12. **PIPETMAX Autonated Limited Handling Platform :** PIPETMAX is an automated pipetting solution for the efficient processing of high-throughput biological assays. It will help you to improve on the accuracy, reproducibility, and consistency among all samples processed.

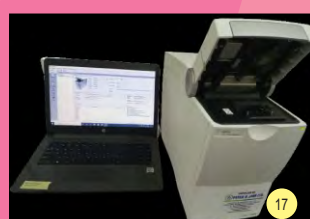
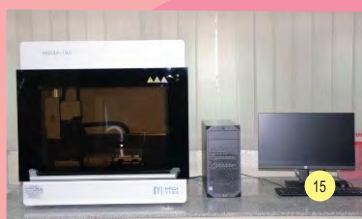
Equipment in Central Research Laboratory

13. **Massive Parallel Sequencing MGI-G50:** Used to determine a portion of the nucleotide sequence of an individual's genome. It also utilizes DNA sequencing technologies that are capable of processing multiple DNA sequences in parallel
14. **Bio-Rad Thermal Cycler:** This is used for DNA sequencing, cloning, generation of probes, quantification of DNA and RNA, studying patterns of gene expression and detection of sequences tagged sites.
15. **DNA Library Prep Robotic:** First step of next generation sequencing which allows DNA or RNA to adhere to the sequencing flow cell and allows the sample to be identified.
16. **Agilent Bioanalyzer:** For sizing, quantification and quality control of DNA and RNA.
17. **Biochrom EZ Read 400:** a PC-controlled, single channel, filter-based microplate reader designed for ELISA, protein, and cell biology-based absorbance assays.
18. **Digital Heating Magnetic Stirrer :**used for mixing liquids using a rotating magnetic field.
19. **Analytic Weighing Balance:** is a precision measuring instrument used in quantitative chemical analysis, to determine the mass of solid objects, liquids, powders, and granular substances.
20. **Water Bath:** used to incubate samples at a constant temperature over a long period of time.
21. **QuantStudio™ 3 Real-Time PCR System:** is designed for users who need an affordable, easy-to-use real-time PCR system that doesn't compromise performance and quality.
22. **PH Meter:** is used to measure hydrogen ion activity in solutions - in other words, this instrument measures the acidity/alkalinity of a solution.
23. **Laminar Airflow Cabinet:** is an enclosed workstation that is used to create a contamination-free work environment through filters to capture all the particles entering the cabinet.
24. **Microplate reader:** is a laboratory instrument that is used to measure chemical, biological or physical reactions, properties, and analytes within the well of a microplate.
25. **Heating Block:** is used to heat samples of preservation and reaction, DNA amplification, and electrophoresis.

Equipment in Central Research Laboratory



Equipment in Central Research Laboratory



Clinical Diagnostic Laboratory

Clinical Diagnostic Department (CDD) provides quality and efficient clinical laboratory diagnostic services for both staff and members. The Laboratory also provides support for research and training of interns, undergraduate and post graduate students in collaborations with Universities and other higher institutions.

There are seven (7) sections within the laboratory; these are:

Hematology Section:

For routine and specialized diagnosis of blood disorders e.g. Investigation of clotting disorders (clotology), haemoglobinopathies, enzymopathies etc.

Medical microbiology (bacteriology, parasitology and mycology) Section:

For investigation of microbial causes of infectious diseases and drug susceptibility testing.

Chemical Pathology/endocrinology Section:

For investigation of hormonal disorders i.e metabolic hormones, reproductive hormones, thyroid hormones, tumor markers, etc.

Immunology Section:

For assay of alloantibodies / isoantibodies, autoantibodies, allergens, markers of inflammatory reactions e.g. alpha feto proteins etc.

Serology Section:

For investigation of serological markers of several infectious agents such as Chlamydial, H. pylori, HIV, Viral Hepatitis etc.

Food handlers' fitness laboratory services:

For screening of staff of food companies, cafeterias, kitchens, pre-employment screening of domestic staff etc.

Kits/Reagent evaluation Section:

To validate/evaluate reliability/suitability for use in Nigerian medical diagnostic laboratories. Staff of the laboratory are members of the National External Quality Assurance (EQA) team for evaluation of laboratory diagnostic kits.

Equipment in Clinical Diagnostic Department

1. **TC Matrix Automated Chemistry Analyzer:** For Liver Function Test, Lipid Profile and other Cardiac Markers.
2. **Bio Safety Cabinet Class 2B:** To ensure biosafety environment when used to process highly infectious clinical samples such as sputum for fungal and Tuberculosis studies.
3. **Sysmex Automated Hematology Analyzer (5 Parts):** For full blood count with differentials, platelets counts, and other hematology parameters.
4. **ISE Chemistry Analyzer:** For electrolytes.
5. **Semi-Automated Biochemistry Analyzer:** Used for analyzing chemistry parameters such as Liver and Kidney function tests, cardiac markers, etc.
6. **Architect II1000:** For immunoassay e.g. Hepatitis Antibody Profiles.
7. **iCHROMAI:** For immunoassays and Cancer biomarkers.



Clinical Sciences Department

The Clinical Sciences Department function in three key areas:

- Research
- Clinical Service
- Capacity Development

There are five Research Units in the Department:

- Child and Adolescent Health Research Unit
- Communicable Diseases Research Unit
- Maternal and Reproductive Health Research Unit
- Non-Communicable Diseases Research Unit
- Epidemiology and Biostatistics Research Unit

HIV Treatment

The Department has one of the largest HIV care and treatment centers in the country with cumulative enrolment above 25,000.

HIV Adolescent Clinic

The very first adolescent clinic for teens infected and affected by HIV holds every 2nd Saturday of the month.

TB DOTs Center

Comprehensive TB services are provided at our DOTs Centre.

Research Clinics

The Department runs the following Research Clinics:

- Child and Adolescent Health
- Hepatitis and Gastroenterology
- Hypertension/Cardiology and
- Nephrology
- Reproductive Health Research

The Department has an effective Memorandum of Understanding (MOU) with the Federal Medical Centre, Ebute-Metta for Clinical Services and Clinical Research.

Demographic and Health Surveillance

System (DHSS): A Demographic and Health Surveillance System (DHSS) has been established at Ijede in Ikorodu, LGA, Lagos with the following initial results:

52 Enumeration Areas characterized have been characterized with 2,172 households with a population of 8,214 ((M: F ratio = 1:1) age < 20 years = 47.5%, women of child-bearing age = 1,653 (20.1%).

Routine surveillance is going on at the site.

Laboratories

The Department has a Research Laboratory with capacity for hematology, clinical chemistry, serology, parasitology and molecular techniques (PCR Machine).

Clinical Sciences Department



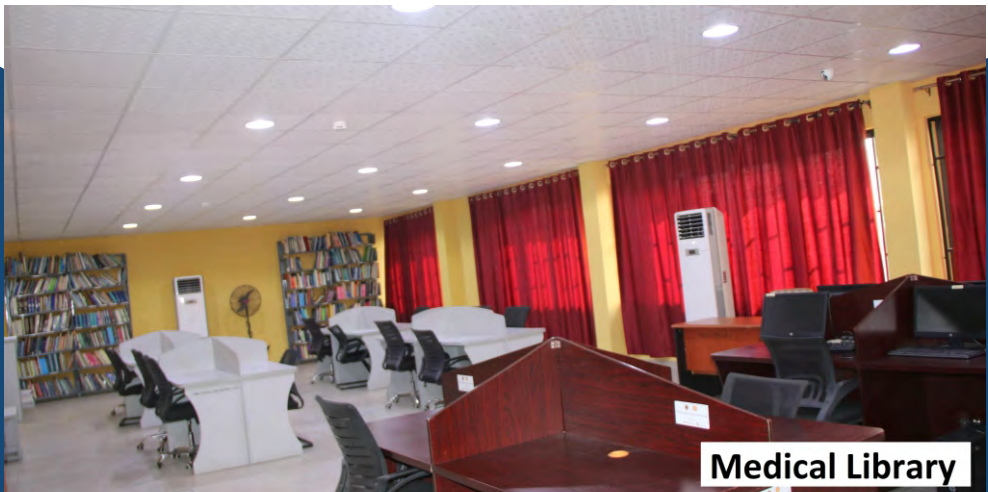
Library & Information Communication Technology Department

The Department comprises six (6) Divisions:

Reader Services, Technical Services, Desktop Publishing, Website Management, System Network and Maintenance, Communication & Media Divisions.

The Expertise of the department includes:

- * Medical Librarians
- * Information Scientists
- * System Designers
- * Computer Programmers
- * Database Management Experts
- * Communication Professionals
- * Public relations Professionals
- * Health Information Management



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Microbiology Department

The department houses two national reference laboratories namely: Center for Human Virology and Genomics (CHVG) and Center for Tuberculosis Research (CTBR). Both research centers are internationally recognized as they have ISO 15189 accreditation.

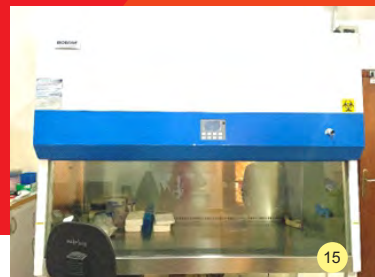
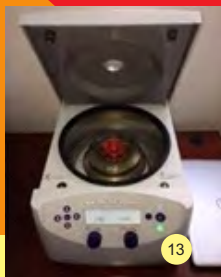
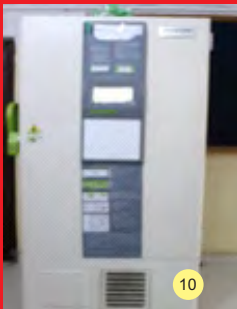
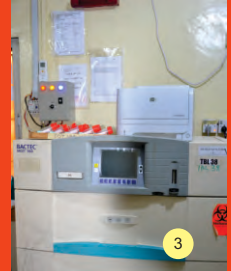
CHVG is one of the 14 laboratories globally, and only laboratory in West Africa listed for WHO Prequalification. The third division in the department is named Diarrhoea, Immunology and Parasitology Research (DIPR) Division. DIPR aspiring for international accreditation. Research, training and services are the three pillars upon which the department stands. The department is also involved in

- * Molecular surveillance of pathogens
- * Sequencing and Bioinformatics
- * Tissue Culture Preparation of viral and bacterial panels
- * Evaluation of Invitro Diagnostics
- * Training and auditing of Quality Management Systems
- * Biorepository

Equipment in Microbiology Department

1. **GeneXpert Assay:** To detect mycobacterium tube.
2. **Giant Autoclave:** To sterilize media/reagents.
3. **MGIT 960 BACTEC TB System:** For liquid culture and DST of Mycobacteria.
4. **3130 XL Sequencer:** HIV Drug resistance testing.
5. **Biomic V3:** It is a semi-automated bacteria identification system by BD Technical.
6. **Gelamire Flow Laboratories twin 30:** For laminar flow. For preparing reagents; used to prevent contaminants.
7. **GT Blot:** To detect mycobacterium tuberculosis, Isoniazid and rifampicin resistance.
8. **Cobas C 311 Analyzer:** For clinical chemistry.
9. **Cobas 6800 & 8800:** For running HIV viral load.
10. **(-86) 338 L Biobase UltraLow & (-86) 937 L Biobase UltraLow Freezer:** For the storage of drugs, enzymes, chemicals, viruses, bacteria, cell preparations, and tissue samples.
11. **Eppendorf Microcentrifuge 5430:** Reliably in the separations of liquids based on density.
12. **Quant Studio 5 qPCR Equipment:** Used for maximum dye versatility and also enables improved data accuracy and sensitivity.
13. **Class III Glove Box:** Class III Biological Cabinets offers the highest level of personnel, product, and environmental protection for total containment of high-risk agents and potent compounds.
14. **Applied Biosystems Genetic Analyzer 3500XL:** is a 24-capillary sequencing platform that can be used for a wide variety of applications, including HIV drug resistance testing.
15. **Biobase Biosafety Cabinet:** is an advanced containment system designed to ensure the safe handling of infectious agents.

Equipment in Microbiology Department



Molecular Biology & Biotechnology Department

Molecular Biology and Biotechnology Department (MB & BT) is involved in research and training. It has five research laboratories which are supported by NIMR Central Laboratory, Central Public Health Laboratory, Lagos and Molecular Diagnostics and Clinical Chemistry Research Laboratory, University of Lagos.

The Laboratories are;

Molecular Epidemiology and Food

Safety Laboratory:

is involved in the Molecular epidemiology of infectious agents of majorly bacterial diseases particularly *Helicobacter pylori*, *Campylobacter jejuni/coli*, *Enterohaemorrhagic E. coli* and *Salmonella* (typhoidal and non-typhoidal) diseases. The Laboratory has won several grants most notable of which are TWAS, IFS, Humboldt, INSERM, ICGEB, DFG, TeTFUND, NIMR and ACE (collaborating partner).

The Laboratory is also involved in capacity building of students, lecturers and researchers from the six geo-political zones in the country and collaborates with Researchers both nationally and internationally.

Genetics & Theranostic Laboratory:

support research activities and training in biogenic synthesis of nanoparticles, genetic analysis of immunological factors associated with susceptibility to communicable and non-communicable diseases as well as genetic transfer experiments and subsequent expression in *E. coli*. Expertise in this laboratory include multiplex-PCR design, nanoparticle synthesis using chemical and biological methods, gene sequence

variation analyses and genome mining. The Lab has a remote operated, cloud supported Thermal cycler (SimpliAmp) for running multiple PCR assays, multiplex PCR assay, touchdown PCR and reverse transcriptase PCR assays. SDS-PAGE system is also available for protein isolation and characterization.

Molecular Diagnostic Laboratory:

focuses on the development of diagnostics for pathogen identification, running cytokine assays and detecting novel proteins using locally made DNA extraction kits, gradient PCR, ELISA system and Western blotting apparatus.

Respiratory Disease Research

Laboratory: focuses on identification, characterization and genomic epidemiology of some selected respiratory bacterial pathogens (e.g. *S. pneumoniae*, non-tuberculous mycobacteria etc) of public health threats in Nigeria.

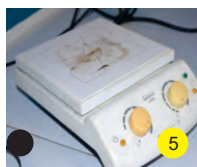
Probiotic Research Laboratory:

focuses on the identification and characterization lactic acid bacteria from food sources and subsequent exploration as probiotics in pre-clinical experiments using anaerobic culture system and PCR among other tools.

Equipment in Molecular Biology & Biotechnology Department

1. **QPCR:** (Qualitative PCR or Real-time PCR) Thermal cycler for real-time amplification and analysis of PCR runs.
2. **Semi dry western blotter:** allows for quick and easy simultaneous western blotting.
3. **SimpliAmp Thermal Cycler:** Cloud enabled, remote accessible and easy-to-use thermal cycler which uses veriflex temperature control technology to enable simple and accurate condition amplification.
4. **Liquid scintillation Centre:** Used in a procedure called the Urea Breath test (UBT) "for counting" *H.pylori* levels in patients.
5. **Magnetic stirrer with heater:** Equipped with a heating platform and magnetic stirring base for simultaneous heating and stirring of reagents or mixtures.
6. **White Light Box:** Used to provide perfect amount of light for photography of electrophoresis gels.
7. **Thermal cycler with Gradient Capability:** Gradient enabled thermal cycler for amplification of DNA in PCR runs.
8. **UV Transilluminator with photo documentation system:** Equipped with an ultraviolet lamp for visualization of DNA 'bands' on agarose gel after electrophoresis.
9. **Nanodrop Spectrophotometer:** Instrument is used to measure the concentration of DNA, RNA, and protein in a 2- μ L drop on a pedestal.
10. **Water bath:** Used to incubate samples at a constant temperature over a long period of time.
11. **PCR Workstation:** PCR workstations prevent background and cross contamination by keeping all contaminants in the air away from samples.
12. **Fluorescence Microscope:** an optical microscope that uses fluorescence and phosphorescence instead of, or in addition to, reflection and absorption to study the properties of organic or inorganic substances.
13. **TEMPO filler and Reader:** for food pathogen detection.
14. **Vitek Immunodiagnostic Assay System (VIDAS):** for the detection and and quantification of food borne pathogens.

Equipment in Molecular Biology & Biotechnology Department



Public Health & Epidemiology Department

The Department of Public Health and Epidemiology has three units: Molecular Parasitology, Entomology/Vector Control, and Epidemiology/ Health Policy and Systems.

Molecular Entomology Laboratory

focus is on malaria and arbovirus disease vectors: dengue, yellow fever and Zika. The laboratory is equipped with Photo-microscopes, PCR thermal cyclers, photo documentation, gel electrophoresis system, spectrophotometers, incubator and -80oC freezers. Several equipments in NIMR Central Research Laboratory including HPLC and DNA sequencers are also available for research on insect's molecular biology. The Laboratory has proficiency in vector biology surveillance and skill in molecular techniques. Our "experimental platforms" provide excellent channels for evaluating the effectiveness of new vector control tools including insecticide nets and repellants. We offer training opportunities and educational materials to help the public learn about vectors, vector-borne diseases, and their control.

Oncho/STH Laboratory

runs ELISA assay for the Ov16 antigen for the detection of antibody in a

sentinel population of children as a marker of either interruption or continued transmission of *Onchocercavolvulus*.

Molecular Parasitology Research Laboratory

focuses on epidemiology and molecular studies of schistosomiasis, lymphatic filariasis soil-transmitted helminthiasis, toxoplasmosis, toxocariasis and Buruli ulcer. The laboratory also serves as a reference center for the molecular diagnosis of Buruli Ulcer in Nigeria.

Our laboratories offer undergraduates, postgraduates and Public Health Officers training opportunities and educational materials to help learn about vectors, parasites, vector-borne diseases, and their control. All the laboratories in the department are reference laboratories for the Federal Ministry of Health and are involved in the National control programmes of the various diseases.

Equipment in Public Health & Epidemiology Department

1. **Photo Documentation System**: used for documenting gel pictures.
2. **PCR Thermal Cycler**: for amplification of DNA.
3. **Immunowash Microplate Washer & Imark Microplate Reader**: used for enzyme linked immunosorbent assay.
4. **Nano Drop**: used for quantification of DNAs in samples.
5. **CFX Connect Real-Time System**: Real-time PCR.
6. **Microplate Reader**: used to measure chemical, biological or physical reactions, properties, and analytes.



Research Innovation & Product Development (RIND) Unit

The Mandate of the unit is to translate research ideas into tangible biomedical products by producing affordable easy-to-use indigenous medical products to improve the narratives of research and development in Nigeria.

Our aim is to explore the huge human & material resources of Nigeria to provide cost-effective solutions and save the much-needed foreign exchange for the country as regards production and availability of basic medical equipment and reagents. **NIMR-RIND** has developed a number of medical products and services such as: Biomedical Equipment, Diagnostic kits and Services:

Equipment

1. **NIMR BIOTECH-Electrophoretic Machines:** Haemoglobin Genotypes can be determined using the cellulose acetate electrophoresis technique. A small quantity of blood is placed on a tile and mixed with two drops of saponin to lyse the blood. With the aid of an applicator stick, the haemolysate is placed on the cellulose acetate paper and electrophoreses in Tris buffer solution for 2-5 minutes at 220v. Hemolysate from blood samples of known HbAA, HbAS, HbAC, HbSS and HbSC are used as control. The advantages of this equipment includes its Fast band separation time (2-3mins) and its 100% Sensitivity, specificity easily available and pocket friendly.
2. **NIMR BIOTECH-Hematocrit Centrifuge:** The equipment is used for fast assessment of blood level in diagnosis of anaemia with centrifugal rotation from 1000-10000rpm/minutes³
3. **NIMR BIOTECH-Biological Incubator:** The equipment is used in microbiology laboratory for incubation of culture plates
4. **NIMR BIOTECH-Laboratory fitted Oven:** The equipment is used in laboratories for drying of glass wares and other drying purposes
5. **NIMR BIOTECH-Bucket Centrifuge:** *Some of the Equipments have been tested and validated by external quality assessment (NIMR BIOTECH-Electrophoretic machines), others are being validated.*

Research Innovation & Product Development (RIND) Unit



Diagnostic Kits:

NIMR BIOTECH Point-of-Care Diagnostic Kits:



NIMR BIOTECH NimCure Project :



NIMR BIOTECH-DNA/RNA Extraction Kits:



RIND SERVICES: We also carry out direct repairs, servicing and maintenance of the following:

- Laboratory equipment
- Theatre lamp
- Baby incubators
- Suction machines
- Autoclaves
- Hydronicbeds
- Operating tables etc



RESEARCHER'S SUITE

A twin two story building with 24hours uninterrupted internet connectivity. The Researcher's suite was built to accomodate Researchers Nationally & Internationally to do bench work, conduct research retreat and proposal writing meeting in the institute

Contact Us  +234 802 974 3020





ANIMAL HOUSE

NIGERIAN INSTITUTE OF MEDICAL RESEARCH

ANIMALS HOUSE

COMMISSIONED BY:

DR. OSAGIE EHANIRE
(HON. MINISTER OF HEALTH)

TODAY, 9TH MARCH, 2020



MEDICAL E-LIBRARY & ADMINISTRATION COMPLEX



Corporate Marketing & Communication Unit

NIMR Corporate Marketing & Communication Unit is to explore all avenues of raising funds legitimately for the institute. The general public is the target audience.

The department is made up of marketing & operational arm.

STRENGTH: *Strategic Location, *Strong Brand & Public Presence, *Committed Staff, *Strong Marketing Drive.

The Unit is a member of RIND committee: The aim is to source for sponsorship, advertise and market the institute product.

Conference Rooms, Car Park, Open Ground Facilities available for training, events, occasions and parties.



Auditorium

- Over 300 Seater Capacity ◀
- Fully Air-conditioned ◀
- Comfortable Seats ◀
- PA System ◀
- Projector ◀



Conference Rooms

- 10 - 45 seater ◀
- Conference Rooms ◀
- Ambient Environment ◀
- Fully Airconditioned ◀
- Projector & PA System ◀





CAR PARK

- 80 + Car Park ◀
- Fully Secure ◀
- Well Demarcated ◀



Seminar Room

- 20 - 30 seater ◀
- Seminar Rooms ◀
- Ambient Environment ◀
- Fully Airconditioned ◀
- Projector & PA System ◀

...the Foremost Research Institute in Nigeria

NIGERIAN INSTITUTE OF MEDICAL RESEARCH

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